



**Psychological Flexibility and Self-compassion in
Appearance Concerns after Burn Injuries**

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Abstract

This thesis investigated psychological flexibility and self-compassion in appearance concerns soon after burn injuries. Three studies were conducted with NHS ethics approval and pre-registration. A multi-centre prospective cohort study ($n = 175$) revealed that increased psychological flexibility and self-compassion during hospital admission were associated with decreased appearance concerns cross-sectionally and prospectively over six months. Psychological flexibility predicted appearance concerns over time. To gain more in-depth information, a qualitative study ($n = 15$) explored appearance concerns within three months of injury. Appearance concerns were influenced by the need for social acceptance and desire to conform to societal ideals and contributed to difficulties responding to appearance concerns with psychological flexibility and self-compassion. Early psychological interventions for appearance concerns were considered acceptable to many, within a therapeutic relationship. However, obstacles to engagement existed. Based on these findings, an early acceptance and commitment therapy (ACT) intervention (ProACTIVE) for appearance concerns after burn injuries was developed, and a mixed-methods acceptability study ($n = 13$) suggested that ProACTIVE was acceptable. Individuals valued the therapeutic relationship that ProACTIVE created and early support was considered important. Ratings of helpfulness were high and qualitative data suggested that ProACTIVE was helpful in allowing exploration and reflection on the impact of appearance changes, developing psychological flexibility and self-compassion, and preparing people for being around others. Positive affect increased and negative affect decreased. The importance of psychological flexibility and self-compassion in appearance concerns has been highlighted. Whilst further study is needed to determine its effectiveness, an acceptable early intervention (ProACTIVE) for appearance concerns has been developed and adopted in multiple NHS burns services.

Declarations

I, the author, confirm that the thesis is my own work. I am aware of the University's Guidance on the Use of Unfair Means (<https://www.sheffield.ac.uk/study-skills/assessment/academic-integrity/academic-integrity>). This work has not previously been presented for an award at this, or any other, university.

Published/Submitted Papers Within the Thesis

Permission from publishers has been obtained to include the following published papers from the publishers, presented within this thesis in the following order:

Shepherd, L., Sirois, F., Harcourt, D., Norman, P., Aaron, D., Adkins, K., Cartwright, A., Hodgkinson, E., Murphy, N., & Thompson, A. R. (2025). A multi-centre prospective study investigating the roles of psychological flexibility and self-compassion in appearance concerns after burn injuries. *British Journal of Health Psychology*, 30(1), e12754. <http://doi.org/10.1111/bjhp.12754>

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Shepherd, L., Sirois, F., Harcourt, D., Norman, P., McCracken, L., & Thompson, A. R. (submitted). A mixed-methods study investigating the acceptability and effectiveness of an early acceptance and commitment therapy (ACT) intervention to aid adjustment to appearance changes after burns. *Body Image*.

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Statement of Contribution to the Published/Submitted Papers

This PhD was completed through a Clinical Doctoral Research Fellowship (ref. NIHR300282) funded by Health Education England and run by the National Institute for Health and Care Research. The fellowship is part of an Integrated Clinical Academic Programme that aims to develop clinical-academic research leaders of the future. The

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All published papers within this thesis were derived from original research completed as part of the PhD whilst under supervision at the University of Sheffield. For all studies and resulting published/submitted papers, I formulated the research aims, designed the methodology, collected data, analysed data, managed project administration, drafted the original draft of the papers, and reviewed/edited the papers. I also submitted the papers to the journals and led on revising and responding to peer reviews. Furthermore, I developed the intervention resources described in Submitted Manuscript 4. For all studies and resulting published papers, supervisors (Professors Andrew Thompson, Fuschia Sirois, Paul Norman, and Diana Harcourt) contributed to formulating the research aims and designing the methodology, provided supervision on data analysis and reviewed/edited the papers. Professors Andrew Thompson and Lance McCracken also reviewed/edited the intervention resources described in Submitted Manuscript 4.

Intervention Materials

Appendices AG and AH are not under the same licence as the rest of the thesis as they are copyright to Nottingham University Hospitals NHS Trust all rights reserved, and Nottingham University Hospitals NHS Trust should be contacted for all reuse permissions.

Conference and Invited Presentations of the Thesis Research

Shepherd, L. (2022, May 17-18). *Exploring the roles of psychological flexibility and self-*

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Shepherd, L., Sirois, F., Harcourt, D., Norman, P., Aaron, D., Adkins, K., Cartwright, A., Hodgkinson, E., Murphy, N., & Thompson, A. R. (2023, June 21-23). *The roles of psychological flexibility and self compassion in appearance distress following burn injuries: A multi-centre cohort study* [Oral presentation]. British Burn Association Annual Conference 2023, Dublin, Ireland.

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1. Introduction

1.1 Thesis structure

The research presented in this thesis aimed to investigate the roles of psychological flexibility and self-compassion in the development of appearance concerns after burn injuries and develop an acceptable early psychological intervention for appearance concerns in adults after burn injuries that could be further evaluated in subsequent research. This introductory chapter provides an overview of the: epidemiology of burn injuries; psychological difficulties that can occur in adults post-burn; psychological impact of living with any type of visible difference; psychological processes reported as being associated with appearance concerns in the wider visible difference literature, and after burn injuries specifically; prospective cohort or longitudinal studies that have investigated the roles of psychological variables in appearance concerns after burns; studies that have investigated the roles of psychological flexibility and self-compassion on appearance concerns across the wider visible difference literature; qualitative research that has explored appearance concerns after burn injuries, particularly focusing on studies that have focused on appearance concerns in the early stages post-injury; psychological interventions for appearance concerns in those with visible differences more generally, and after burn injuries specifically; and the importance of considering the acceptability of early psychological interventions for appearance concerns after burn injuries. The current chapter then summarises the state of the literature prior to the commencement of the PhD research reported in this thesis, and the aims of the thesis are presented.

Following this introductory chapter, methodological considerations are outlined, including the adoption of mixed-methods, philosophical positioning of the research,

reflexivity, and patient and public and expert by experience involvement throughout the thesis research.

Four manuscripts are then presented, alongside their corresponding supplementary materials. Three manuscripts have been published in high-impact international peer-reviewed journals. The fourth manuscript has been submitted for publication. The first manuscript (published in *British Journal of Health Psychology*; impact factor 2024: 2.5) is a prospective multi-centre cohort study that aimed to investigate whether low levels of psychological flexibility and self-compassion during hospital admission predict subsequent appearance concerns following discharge from hospital in adults who have experienced burn injuries. The second manuscript (published in *Body Image*; impact factor 2024: 5.4) describes a qualitative study that aimed to explore early psychological experiences associated with appearance concerns after burn injuries, through the lens of psychological flexibility and self-compassion. The third manuscript (published in *Burns*; impact factor 2024: 2.9) is based on the findings of the previously detailed study, which also aimed to investigate the acceptability of early psychological interventions for appearance concerns in those who have recently experienced burn injuries. The fourth manuscript (submitted to *Body Image*; impact factor 2024: 5.4) is a mixed-methods single-armed acceptability study that aimed to explore the acceptability of 'ProACTive,' an early acceptance and commitment therapy (ACT) intervention that aims to enhance psychological flexibility and self-compassion, to help individuals adjust to changes to appearance and prevent appearance concerns after burn injuries.

Following the presentation of the manuscripts, a final chapter provides a general discussion and contribution of the findings within the thesis, theoretical and clinical implications, overarching conclusions and directions for future research. Reference sections

are embedded after the introductory, methodological considerations and general discussion chapters for ease of readership.

1.2 Burn Injuries and Epidemiology

Burn injuries are a serious public health problem globally (Mock, Peck, Krug, & Haberal, 2008). Most typically involving damage to the skin, they can also affect the lungs and airways, muscles, bones and internal organs. Burn injuries are typically caused by heat sources such as flames, scalds, contact with hot objects, chemicals and electricity. Ranging from minor to severe, severity is dictated by the extent of skin burned, bodily site, depth of the injury, the age of the individual and any co-existing disorders the individual may have (Stylianou, Buchan, & Dunn, 2015).

The World Health Organisation (WHO, 2008) reported that burn injuries are the ‘forgotten global public health crisis.’ Burn injuries are the fourth most common significant injury, after road traffic accidents, falls and injuries related to violence (WHO, 2008). In 2017, heat-related incidents resulted in nearly nine million injuries and more than 120,000 deaths worldwide (James et al., 2020). Over 95% of burn injuries occur in low- or middle-income countries where health care systems are limited and a large burden of death, disability and suffering exists (James et al., 2020; Mock et al., 2008). In high-income countries, burn injuries remain a significant cause of morbidity, despite prevention campaigns, improved burn care treatment and reorganisations of services leading to reduced incidences of burn injuries, hospital stays and deaths, as well as improved functional and aesthetic outcomes (Mock et al., 2008; Sheridan, 2002; Smolle et al., 2017).

In the United States of America, around 486,000 people were burnt in 2016, with 40,000 being hospitalised and 3,275 resulting in deaths (American Burn Association, 2024).

In England and Wales, over 81,000 people received specialised burn care between 2003 and 2011, of whom nearly 58,000 were admitted to hospital (Stylianou et al., 2015). These figures reported by Stylianou et al. (2015) represented data that was retrospectively analysed to monitor burn injuries requiring specialised burn care treatment within England and Wales, to assist National Health Service (NHS) planning. Stylianou et al. (2015) found that more adults than children are treated within British burns services. Male patients accounted for 63% of patients requiring specialised burn care and the median age of patients was 21 years. The mortality rate of people admitted to hospital was 1.51% and the median length of hospital stay was one day. Burn injuries in children are most often caused by scalds (e.g., hot liquids) or contact with hot objects (e.g., oven tops) whereas in adults scalds, flame and contact burns dominate (Stylianou et al., 2015). More recently, James et al. (2020) reported that the United Kingdom had an age-standardised incidence rate of 100-150 per 100,000 people in 2017, which represented a 0-15% reduction between 1990 and 2017.

Minor burn injuries are typically treated at home or within community services (e.g., by General Practitioners). However, serious burn injuries are complex, requiring specialised burn care services that can provide hospital admission where necessary and a multidisciplinary approach to care (Stylianou et al., 2015). Burn care has been conceptualised into separate phases of: evaluating the injury and emergency resuscitation where required; closing the wound(s) through medical and surgical interventions; and rehabilitation and reconstruction (Sheridan, 2002). It has been argued that successful burn care requires attention to both acute burn care and rehabilitation and recovery (Sheridan, 2002).

The research within this thesis focuses on adult burn injuries, who more often require treatment within British burns services compared to children (Stylianou et al., 2015) and, as detailed later in Section 1.3, often experience psychological difficulties (Attoe & Pounds-Cornish, 2015; Klinge, Chamberlain, Redden, & King, 2009; Tarrier, 1995; Van Loey & Van

Son, 2003). The research within this thesis relates to the psychosocial impact of burn injuries and needs within this context, with recruitment for all studies taking place in NHS burns services in England and Wales.

1.3 Psychosocial Consequences of Burn Injuries in Adults

Burn injuries are serious and often occur through unexpected and traumatic accidents. Medical treatment involves painful procedures (e.g., dressing changes), surgery and rehabilitation (e.g., physiotherapy) during the hospital admission and in the longer-term. Death rates have decreased but serious and permanent physical and functional difficulties can often arise. Considering all of the above, it is well-established that the psychological impact of, and negative impact on quality of life caused by, burn injuries is significant (e.g., Klinge et al., 2009; Mock et al., 2008; Smolle et al., 2017; Spronk et al., 2018; Stylianou et al., 2015; Tarrier, 1995; Van Loey & Van Son, 2003).

Reviews of the literature have concurred that psychological difficulties following a burn injury in adults are considerable but not inevitable (Attoe & Pounds-Cornish, 2015; Klinge et al., 2009; Tarrier, 1995; Van Loey & Van Son, 2003). Tarrier (1995) argued that at least 30-40% of people following burn injuries will experience psychological difficulties, although this was based on a narrative review. In an integrative review of studies published between 1997 and 2008 which detailed their search methods, Klinge et al. (2009) reported that aspects of pre-burn personality (e.g., neuroticism), unhelpful coping strategies (i.e., avoidance and denial) and poor social support influenced difficulties in adjusting psychologically following a burn injury, whilst the relationship between psychological adjustment and burn injury severity was considered to be poorly understood. Van Loey and Van Son (2003) published an integrative review of articles published after 1990 with some

detail about their search methods and similarly concluded that there appeared to be no linear relationship between severity of injury and the development of psychological difficulties. Attoe and Pounds-Cornish (2015) conducted an integrative review of studies published between 2003 and 2013 with clear search methods and further concluded that avoidant coping strategies, personality traits (e.g., neuroticism) and pre-existing psychological difficulties predicted poorer psychological adjustment following burns. They further argued that initial post-burn distress predicted negative adjustment in the longer-term, and that burn injury (e.g., the size, depth or location of the burn, length of hospital admission and time since burn) and demographic information (e.g., gender and age) were of limited use in clinical practice in determining how an individual may adjust psychologically. All reviews excluded studies that were not in the English language which may limit their generalisability cross-culturally.

The reviews above highlight a range of psychological difficulties that can occur following a burn injury. These include delirium, acute stress reactions, anxiety, depression, poor compliance with medical procedures, post-traumatic stress disorder (PTSD), distress related to pain or functional impairment, grief or denial associated with loss of health or vocational status, decreased quality of life, and difficulties associated with adjusting to a changed appearance due to acute burn wounds and subsequent scarring (Attoe & Pounds-Cornish, 2015; Klinge et al., 2009; Tarrier, 1995; Van Loey & Van Son, 2003).

Studies that have explored the prevalence rates of specific psychological difficulties are common. In particular, rates of anxiety, depression and PTSD have been examined. Rates of clinically significant anxiety within the first two weeks following a burn injury have been reported to be between 22% and 40% (e.g., Tedstone & Tarrier, 1997; Wisely, Hoyle, Tarrier, & Edwards, 2007). When measured three months post-burn, this has been reported to be 22%

(Tedstone & Tarrier, 1997). At one year post-burn, rates have been reported to be between 13% and 35% (e.g., Maes, Mylle, Delmeire, & Altamura, 2000; Williams & Griffiths, 1991).

Rates of clinically significant symptoms of depression within the first month post-burn have been reported to be between 2% and 40%. Rates have ranged from 7% to 13% at two to three months post-burn. One year post-burn reported rates have ranged between 11% and 65% (e.g., Berini-Marzouk, Giacalone, Thieulard, Wassermann, 1981; Fauerbach et al., 1997; Klein & Charlton, 1980; Patterson et al., 1993; Tedstone & Tarrier, 1997; Ward, Moss, & Darko, 1987; White, 1982; Wiechman et al., 2001; Wisely et al., 2007). Rates of both anxiety and depression were reported to be present in almost a fifth of burns patients six months after discharge from hospital (Wallace & Lees, 1988).

Rates of PTSD have been reported to be between 2% and 15% within one to three weeks post-burn, and between 15% and 45% of patients after one year (e.g., Baur, Hardy, & Van Dorsten, 1998; Bryant, 1996; Taal & Faber, 1998a; Tedstone & Tarrier, 1997; Van Loey, Maas, Faber, & Taal, 2003; Wisely et al., 2007). More recently, a systematic review and meta-analysis showed that the overall pooled prevalence of PTSD over the first two-years post-burn was 20.5% and that the prevalence decreased by around 0.37% per month over time (Boersma-van Dam et al., 2024). This evidence suggests that a significant proportion of adults following a burn injury may experience symptoms of anxiety, depression or PTSD.

However, rates of psychological comorbidities vary between studies. Most studies use psychometric measures rather than clinical assessment to measure psychological difficulties and therefore the variation in prevalence rates could be due to the use of different measures for the same construct or whether studies measure symptoms that are considered to fall within a significant or clinical range versus those that would meet diagnostic criteria for a

psychiatric disorder. Furthermore, differences may exist between different countries where there may be differences in burn injury populations, health care received or available, and cultural factors that may be relevant in determining how individuals adjust following a burn injury. Some studies are limited by high attrition rates in longitudinal studies, small sample sizes or an under-representation of females. Furthermore, some studies used measures of psychological distress that are not validated or standardised. There is also limited qualitative research to explore experiences more richly and an under-representation of cultural considerations and studies conducted in less developed countries. A lack of studies designed to test specific hypotheses related to psychological adjustment also exist, along with a lack of research that focuses on post-traumatic growth or identifying variables that influence positive psychological adjustment (Attoe & Pounds-Cornish; 2015; Klinge et al.; 2009).

A further point to consider is the use of terminology and the tendency for psychiatric and diagnostic criteria to be applied within the context of the psychological consequences of burn injuries. Whilst providing a common language, such terms have been argued to be unreliable, can create stigma, worsen long-term prognosis, impose Western beliefs about distress on other cultures, and be unhelpful in aiding decisions related to interventions (Timimi, 2014). An alternative (or complimentary) to psychiatric diagnoses is psychological formulation. This involves using psychological theories to avoid pathologising psychological difficulties and hypothesising about a person's difficulties within the context of their personal, social, and cultural experiences in addition to life events and the sense they have made of them (Johnstone, 2018). Whilst this debate is outside the scope of this chapter, it is important to consider this in appreciating and understanding individuals' responses to a burn injury in order to avoid pathologising normal emotional reactions and adjustment processes that individuals can experience.

In terms of the need for psychological support within the adult burn injury population, one study reported that 63% of individuals required some form of psychological support during their hospital admission (Wisely et al., 2007). Another study reported that 40% of patients were sufficiently distressed two years after hospital discharge to require psychological interventions (Wallace & Lees, 1988). It has been reported that psychological well-being follows one of three trajectories in the two years following a burn injury: a third do well with no obvious difficulties; a third struggle in the first year and then return to pre-injury levels of wellbeing; and a third continue to have difficulty coping and require psychological intervention (e.g., Fauerbach et al., 2005; Fauerbach et al., 2007; Mason et al., 2012). A recent systematic review explored health-related quality of life following burns and concluded that this is affected by both the severity of the burn injury and psychological difficulties (Spronk et al., 2018). Taking all of the evidence into account, there is a strong case for effective psychological interventions being needed for people who have experienced burn injuries. Of course, not everyone who experiences a burn injury will suffer psychological difficulties and post-traumatic growth can occur, where psychological recovery exceeds pre-burn well-being (e.g., Baillie, Sellwood, & Wisely, 2014).

As aforementioned, another type of psychological difficulty that can occur after a burn injury is distress or concerns associated with adjusting to a changed appearance. This can be associated with the appearance of the acute unhealed wounds, changes to skin colour (e.g., pigmentation changes), or burn scarring which is often permanent (Attoe & Pounds-Cornish, 2015; Klinge et al., 2009; Tarrier, 1995; Van Loey & Van Son, 2003). A phased model of adjustment to a change in appearance following a burn injury is described by James Partridge, former Founder of the UK charity Changing Faces, in his personal account of being burnt. Partridge (1990, 2005) described the first few months as being focussed on survival, physical recovery and rehabilitation, when early appearance concerns are present.

As the physical recovery progresses, it is argued that burns patients then begin to shift between a pre-burn/temporarily scarred identity to incorporating an identity of someone with a permanent visible difference. This is when anger, shame, grief and fear can occur. A final stage then involves a transformation of the sense of self and rebuilding of self-esteem (Partridge, 1990; 2005). Distress or concerns associated with appearance changes following burn injuries is not surprising given the research evidence related to the psychological impact of living with a visible difference.

1.4 The Importance of Considering the Psychosocial Impact of Burn Injuries

As a consequence of the above, psychosocial considerations of burn injuries are integral to the National Burn Care Standards (British Burn Association, 2023) which state that specialised NHS burns services should have psychological support for patients and their families/carers embedded within the multidisciplinary team to facilitate psychological assessment and interventions. A specialist psychological service should be available from hospital admission through to after discharge, and access to psychiatry during hospital admission is also recommended. The importance of early identification of psychological difficulties following a burn injury is also made explicit in British burn care by a national care quality indicator linked to commissioning. This states that all burns patients admitted to hospital for over 24 hours should be assessed for psychological difficulties prior to hospital discharge (British Burn Association, 2023).

Similarly, European guidelines state that designated burn centres should have a clinical psychologist available on a daily basis to provide psychological assessments and interventions to prevent or reduce negative emotional reactions and promote psychosocial adjustment and wellbeing (European Burns Association, 2017). Furthermore, American

guidelines state that in designated ‘burns centers’ a psychiatrist or clinical psychologist should be available for consultation on a 24-hour basis and that a continuity of care programme including psychological evaluation must be provided (American College of Surgeons, 2007). Finally, in guidance for burn care services in low- and middle-income countries (Interburns, 2013), it is stated that burns patients should receive holistic treatment which includes psychological care acutely whilst in hospital and after discharge.

1.5 The Psychosocial Impact of Living with a Visible Difference in Adults

1.5.1 Stigma

It has been argued that stigma is an attribute that discredits an individual “from a whole and usual person to a tainted discounted one” (Goffman, 1963, p. 3). Similarly, stigma is proposed to occur when a person has (or is believed to have) an attribute or characteristic that represents a social identity that is different or de-valued by others (Crocker, Major, & Steele, 1998). Further, it occurs within a social, rather than individual, context (Major & O’Brien, 2005).

Major and O’Brien (2005) argued that stigma affects individuals through negative treatment and direct discrimination from others, self-fulfilling prophecies or expectations being confirmed, negative stereotypes being automatically activated which can lead to behaviour change in the stigmatised individual, and threats to an individual’s social identity. Major and Brien (2005) presented a model of stigma-induced identity threat that integrated previous models (Crocker et al., 1998; Major, Quinton, & McCoy, 2002; Steele, Spencer, & Aronson, 2002) along with the transactional model of stress and coping (Lazarus & Folkman, 1984; Smith, 1991). This model argues that collective representations, situational cues and personal characteristics all contribute to identity threat appraisals. These are interpreted as

potentially harmful to an individual's social identity, as well as exceeding that individual's resources to cope with these demands. If activated, identity threat appraisals can then lead to non-volitional (e.g., anxiety, vigilance) and volitional (e.g., attempts to regulate emotions, cognitions or behaviours) responses. These can then attenuate or exacerbate subsequent outcomes (e.g., self-esteem, health, academic achievement).

There is stigma associated with looking visibly different (Goffman, 1963; Major & O'Brien, 2005). Changing Faces, a UK charity that provides support and education around disfigurement, conducted a study that examined explicit and implicit attitudes of the general public to people with a facial disfigurement using a survey and an implicit attitude test designed to measure unconscious bias (Changing Faces, 2008). Results suggested that explicit attitudes towards people with facial disfigurement were no different to attitudes towards people without a facial disfigurement. However, the implicit attitude test showed that the majority of people had an underlying negative attitude towards people with a facial disfigurement. They were judged as less attractive, less likely to succeed, less socially skilled and less likely to lead happy lives. A similar study showed no correlation between implicit and explicit attitudes towards people with skin conditions but an implicit preference for people with clear skin (Grandfield, Thompson, & Turpin, 2005). However, it is possible that implicit attitudes may differ from explicit attitudes, and it may be argued that implicit attitude tests lack ecological validity. Stigma or feelings of isolation and shame in relation to visible differences has been widely considered in various visible difference populations including cancer survivors (e.g., Reynolds & Harris, 2020), skin diseases (e.g., Pereira, Miot, Coutinho, & Schmitt, 2019) and burn injuries (e.g., Bergamasco et al., 2002; Dahl et al., 2012; Dunpath, Chetty, and Van Der Reyden, 2015; Furr, 2014; Martin et al., 2017; Mercado et al., 2022; Taal & Faber, 1998a, 1998b; Watson & Perrin, 2022).

Goffman (1963) argued that anxiety about social acceptance is an important concern for stigmatised people with visible differences. Although some visible differences are concealable (e.g., by clothing or camouflage make-up), Pachankis (2007) has argued that the threat of potential discovery of a concealable stigma combined with the salience of stigma and consequences of others' discovering it creates cognitive (e.g., preoccupation, vigilance) and affective responses (e.g., anxiety, shame) which has behavioural (e.g., impression management, social avoidance and isolation, impaired relationships) and self-evaluative (e.g., negative view of self) implications.

Both Major and O'Brien's (2005) and Pachankis' (2007) models may be useful in helping to explain the social impact and psychological reactions and processes in relation to being an individual living with a visible difference. Both models have strengths in incorporating multi-dimensional aspects of stigma, including intrapersonal and interpersonal issues. Major and O'Brien's (2005) model also incorporates the importance of individual variations in responses to, or ability to cope with, potentially stigmatising situations. However, concealable stigmas are more difficult to explain using Major and O'Brien's (2005) model, which is addressed in Pachankis' (2007) model. However, neither model was specifically developed to explain the stigma caused by visible differences which may limit their applicability and miss any nuanced factors that captures the stigmatising experience of living with a visible difference. The social impact of living with a visible difference is further considered below.

1.5.2 Social Impact

In acknowledging that most humans strive to present themselves and their appearance to others in positive ways, it is implicit that physical appearance contributes to other people's impressions even if these impressions can subsequently be modified (Rumsey & Harcourt,

2004). Given the stigma associated with looking visibly different, individuals living with an appearance considered to deviate from the norm are required to manage their own emotional responses to their appearance in addition to dealing with the behavioural reactions of others (Pruzinsky, 1992). Social responses commonly include stares, unsolicited questions, negative comments, teasing, pity and avoidance (e.g., Rumsey & Harcourt, 2004; Lansdown, Rumsey, Bradbury, Carr, & Partridge, 1997; Thompson & Kent, 2001). This can lead to uncomfortable social interactions that can in turn contribute to a reduction in social skills as well as social avoidance for both parties (Bull & Rumsey, 1988; Newell, 2000).

Psychological explanations for the social responses of others towards people with a visible difference have included information processing theory, where seeing someone with a visible difference takes longer for the observer to assimilate into existing cognitive schemas due to a negative cognitive bias towards people who look different, creating a longer gaze/stare (Partridge, 1990). A cognitive threat detection mechanism, as part of an evolutionary response, has also been proposed (Kurzban & Leary, 2001; Park, Faulkner, & Schaller, 2003). In an experimental study, the role of disgust sensitivity, the tendency to experience stronger experiences of the disgust emotion in response to disgust-eliciting stimuli, was suggested as important (Shanmugarajah, Gaiind, Clarke, & Butler, 2012). In this study, individuals with higher levels of disgust sensitivity reported increased levels of disgust in response to the images portraying individuals with visible differences compared to those with lower levels of disgust sensitivity.

Thompson and Kent (2001) summarised three further possibilities offered by Robinson, Clarke and Cooper (1996) to explain negative reactions towards and avoidance of people with visible differences. Firstly, the ‘just world hypothesis’ which leads lay people to consider that the visible difference must be deserved in some way (Goffman, 1963). Secondly, fear of the visible difference being contagious (Bernstein, 1976). Thirdly,

uncertainty about how to behave when meeting someone with a visible difference (Langer, Fiske, Taylor, & Chanowitz, 1976). Thompson and Kent (2001) described an additional evolutionary explanation which argues that humans have the desire to form alliances with people who are deemed socially attractive and have a higher social ranking and avoid alliances with those who are deemed unattractive (Gilbert, 1997).

Being rejected is an aversive and unpleasant event (Richman, Martin & Guadagno, 2016), with negative effects including feelings of hurt, depressed affect, anger, emotional numbness and difficulties with self-regulation (Richman & Leary, 2009). This is considered to be a consequence of the fundamental need to be valued and accepted by others due to the evolutionary advantages of social groups (Richman, Martin & Guadagno, 2016). In response to rejection, multiple motives may be activated as described in Richman and Leary's (2009) multi-motive model. Individuals may seek social reconnection, acceptance or belonging (prosocial behavioural responses). However, when rejection is perceived as continuous, anti-social or socially avoidant behavioural responses may present (Richman & Leary, 2009). Furthermore, expectancies of rejection can influence an individual's ability to orient toward, perceive and detect cues of acceptance from others which can hinder development or restoration of a sense of belonging (Maner, DeWall, Baumeister, & Schaller, 2007; Richman, Martin & Guadagno, 2016). Inattentiveness to acceptance cues from others may therefore be more problematic than identity threat (Crocker et al., 1998; Major & O'Brien, 2005; Major et al., 2002; Steele et al, 2002). This highlights the likely complexities of the social impact of living with a visible difference. However, as with other models, Richman and Leary's (2009) model is not specific to visible differences and it is possible that generic models of stigma may miss nuanced information specific to the challenges of living with a visible difference.

1.5.3 Psychological Reactions and Processes

People with visible differences are known to experience higher levels of psychological distress compared to the general population including anxiety, depression, low self-esteem, poor body image and appearance concerns (e.g., Lansdown et al., 1997; Rumsey & Harcourt, 2004; Rumsey & Harcourt, 2012; Thompson & Kent, 2001). Distress associated with being visibly different in adults can lead to anxiety, shame and social avoidance that can interfere with work, socialising, and relationships, although it is acknowledged that many individuals adjust well (Rumsey & Harcourt, 2012). The consensus within the wider visible difference literature is that it is the subjective perception of the severity of an appearance change and psychological variables that are more useful in determining distress related to appearance concerns rather than objective measures of severity (Moss, 2005; Rumsey & Harcourt, 2004; Thompson & Kent, 2001).

In a literature review, Thompson and Kent (2001) concluded that how individuals adjusted to a visible difference depended on how they interpreted their visible difference, their self and their interactions with others. These interpretations were considered to be influenced by the interaction between underlying cognitive self-schemas; discrepancies between perceptions of actual, ideal and ought selves (Higgins, 1987) and how important these discrepancies are to the individual; and the social context (Thompson & Kent, 2001).

Identifying cognitive and behavioural processes associated with appearance concerns in those living with visible differences has been a focus in the literature. Earlier research of psychological processes associated with appearance concerns was reviewed by Thompson and Kent (2001), who highlighted that much of the research had been conducted using cross-sectional designs, limiting any conclusions to maintaining factors rather than variables implicated in the development of appearance concerns. Longitudinal and qualitative studies were indeed advised by Thompson and Kent (2001), in order to learn more about the process of adjustment and the development of appearance concerns. A number of methodological and

conceptual issues in previously published studies were also discussed by Thompson and Kent (2001) and included: the difficulty establishing cause and effect; the lack of control for potentially confounding variables (e.g., post-traumatic stress, pain, functional impairment, pre-existing psychological difficulties); lack of comparison groups; small sample sizes; the use of generic measures of distress that may not identify nuanced issues faced by those with visible differences; and the presumption that appearance concerns are stable over time rather than variable. However, some more recent studies have larger sample sizes and utilise measures that have been validated and standardised in populations living with visible differences (e.g., Moss, Lawson, White, & The Appearance Research Collaboration, 2014; Moss & Rosser, 2012).

Cognitive and behavioural factors considered to be associated with appearance concerns include: a heightened fear of negative evaluation from others (Kent & Keohane, 2001; Leary, Rapp, Herbst, Exum, & Feldman, 1998); appearance self-consciousness; increased social comparisons (e.g., “others are worse off”); interpretive bias/external attributions (e.g., an exaggerated tendency to attribute the negative behaviour of others to their visible difference and more negative interpretations of others’ responses); attentional bias to threat; overestimation of the likelihood of rejection; increased perceived importance of appearance; increased negative appearance-related cognitions; lower perceived social acceptance; increased beliefs about the self not meeting ideal standards; and increased avoidance and concealment (Clarke, Thompson, Jenkinson, Rumsey, & Newell, 2013; Lawrence, Fauerbach, & Thombs, 2006; Moss, Lawson, White, & The Appearance Research Collaboration, 2014; Moss & Rosser, 2012; Rapee & Heimberg, 1997; Rumsey & Harcourt, 2004; Thompson & Kent, 2001). Other vulnerabilities such as a pessimistic disposition, shame-proneness, lower perceived social support and pre-existing low self-esteem have also

been reported (e.g., Clarke et al., 2013; Porter, Beuf, Lerner, & Norlund, 1990; Thompson & Kent, 2001; van der Donk, Hunfeld, Passcher, Knecht-Junk, & Nieboer, 1994).

In a review of the literature, Rumsey and Harcourt (2004) described cognitive-behavioural models that have been specifically developed to explain people's experiences of living with a visible difference. Newell and Marks (2000) compared a group of individuals with a visible difference to groups of patients with social phobia and agoraphobia and concluded that individuals with a visible difference were comparable to the sample of social phobia patients. Newell and Marks (2000) argued that anxiety and anticipation of negative social outcomes, which lead to social avoidance, were possible mediators in appearance concerns in those with a visible difference. Kent (2000) argued that perceived stigma in addition to a triggering event (e.g., being invited to a social event) led to anxiety, which in turn led to avoidance and concealment behaviours which serve to maintain appearance concerns. White (2000), in considering appearance concerns in individuals with cancer, suggested that individuals who place more importance on their appearance and whose cancer affects a more valued area of the body experience negative thoughts, distress and unhelpful coping strategies (e.g., avoidance) that serve to maintain appearance concerns.

Thompson et al. (2002) additionally described the psychological stages that individuals with a visible difference undergo. Thompson et al. (2002) argued that initially, uncertainty and anxiety arises. This is followed by a sense of difference, and awareness of the social implications of being visibly different. Subsequently, behavioural attempts to minimise their differences (such as avoiding social situations or concealing the difference) occur. Finally, a fragile sense of acceptance can be achieved.

1.6 Appearance Concerns in Adults Following Burn Injuries

Changes to appearance in those who have sustained burn injuries are sudden and unexpected. Distress surrounding appearance changes following burn injuries is known to be common (e.g., Patterson et al., 1993; Thombs et al., 2008). As is the case in other areas of visible difference, terminology is relevant given that several concepts have been used to describe the distress or concerns that individuals experience because of the appearance of their burns wounds, scars or other changes to the skin. Terms have included poor body image, body image dissatisfaction, appearance concerns, appearance-related distress and appearance anxiety (e.g., Orr, Reznikoff, & Smith, 1989; Lawrence et al., 1998; Fauerbach et al., 2002; Macleod, Shepherd, & Thompson, 2016; Shepherd, Reynolds, Turner, O'Boyle, & Thompson, 2019; Thombs et al., 2008). For consistency, the term 'appearance concerns' will subsequently be used throughout this thesis to describe distress associated with an altered appearance.

1.6.1 Prevalence and Impact

Studies that have explored the prevalence rates of appearance concerns following burn injuries are surprisingly lacking. This is because appearance concerns within the wider visible differences literature are perceived to fall on a continuum rather than it being a dichotomous variable that is either present or absent. Although norms exist for some measures, there are no published cut-off scores for what defines a clinical problem (e.g., Carr, Moss, & Harris, 2005; Lawrence et al., 1998). However, one study reported that 29% of 40 adult burns patients experienced what was interpreted to be a clinically significant degree of appearance concerns during hospital admission, using a non-standardised questionnaire (Shepherd, Tew, & Rai, 2017). Moreover, a longitudinal study reported a similar rate following hospital discharge, indicating that around a third of patients reported some degree of negative impact associated with appearance changes (Connell, Coates & Wood, 2013). In a survey of 166 burn care psychosocial professionals across the UK and United States of

America, respondents reported that appearance concerns were most likely to manifest during the hospitalisation phase or early after discharge from hospital, with problems around social interactions and social anxiety starting within the first six months post-injury (Lawrence, Qadri, Cadogan, & Harcourt, 2016). In the same study, the mean frequency of appearance concerns reported by the burn care psychosocial professionals was 3.9 on a scale of one (never) to five (very often), suggesting appearance concerns occur frequently (Lawrence et al., 2016).

The first study to track changes in appearance concerns over the first year following a burn injury was by Thombs et al. (2008). In this study, appearance concerns were reported to be consistent over the year but worse for women and those with larger burn injuries. Other studies have reported similar findings (Connell et al., 2013; Connell, Phillips, Coates, Doherty-Poirier, & Wood, 2014; Dahl, Wickman, Bjornhagen, Friberg, & Wengstrom, 2016). Further, Lawrence et al. (1998) reported that those with increased appearance concerns had lower psychological adjustment two months after hospital discharge, measured by the Satisfaction with Appearance Scale (SWAP) and the SF-36 Health Survey (Ware, Snow, Kosinski, & Gandek, 1993).

Furthermore, Fauerbach et al. (2000) compared quality of life two months post-burn in those with and without appearance concerns, controlling for pre-burn quality of life, size of burn and the presence of a facial injury. Fauerbach et al. (2000) found that those with increased appearance concerns had lower psychosocial adjustment and lower physical functioning two months post-burn compared to those without appearance concerns. When depression and post-traumatic stress symptoms were added in as two additional covariates, the effect of appearance concerns on psychosocial adjustment remained, but the effect was eliminated for physical functioning (Fauerbach et al., 2000). Appearance concerns have also been reported as being the most salient predictor of psychosocial functioning after one year,

mediating the relationship between pre-burn and post-burn psychosocial functioning (Thombs et al., 2008). Finally, early appearance concerns have been associated with long-term disability and difficulty returning to work (Esselman et al., 2007; Mason et al., 2012).

There is limited empirical evidence specifically focused on social difficulties following burn injuries because of appearance concerns. However, demoralisation, loss of social networks, bereavement related to appearance changes and social avoidance has been reported to occur in those with visible burn scarring (Bernstein, Breslau, & Graham, 1988; Ye, 1998). One year after burn injuries, Jonsson, Schuldt, Linder, Bjornhagen, and Ekholm (1997) reported that socialisation was lower in a sample of adults following burn injuries compared to a group from the general population. Another study reported that loneliness affected one in four adults following burn injuries, with 30% reporting a solitary lifestyle one to two years post-injury (Taal & Faber, 1998b). Social challenges for individuals following burns have been reported across multiple life domains including work, recreation and leisure, and relationships with strangers, acquaintances, family, and romantic and sexual partners (Marino et al., 2017).

1.6.2 Objective Severity

The relative importance of burn injury characteristics on appearance concerns has been called into question (e.g., Lawrence et al., 1998). A recent systematic review explored associations between the characteristics of the burn injury and appearance concerns in 33 studies (Cleary, Kornhaber, Thapa, West, & Visentin, 2020). Total body surface area burnt (% TBSA) was the most frequently reported burn injury characteristic. Other characteristics included the location or visibility of the burn injury on the body. In this systematic review, 14 studies showed no statistically significant association, 12 reported a relationship between increased appearance concerns and increased burn injury characteristics, six showed mixed associations, and one reported lower appearance concerns in burns survivors compared to

those without burns (Cleary et al., 2020). Findings on the association between appearance concerns and objective characteristics of burn injuries are therefore mixed.

In contrast, factors such as perceived social support, male gender and not being of racial or ethnic minority status may be more predictive of better subsequent adjustment (e.g., Lawrence et al., 2004; Orr, Reznikoff, & Smith, 1989; Heinberg, Fauerbach, Spence, & Hackerman, 1997; Mata-Greve et al., 2022). However, perceived social support (e.g., Ayhan, Savsar, Sahin, & Iyigun, 2022) and gender (e.g., Shepherd, 2015) are not always found to be related to appearance concerns. Moreover, research suggests that psychological factors may be more important in determining appearance concerns.

1.7 Psychological Variables Associated With, or Prospectively Related to, Appearance Concerns after Burn Injuries

Longitudinal or prospective cohort studies starting in the early stages following a burn injury have the potential to identify psychological variables that would place an individual at risk for subsequent appearance concerns. Identifying individuals at an early stage post-injury or during hospital admission would be clinically advantageous. To date, only five longitudinal or prospective studies have been reported in the literature, none of which has been conducted in the UK. Three were conducted in America by the same research team, one in the Netherlands and one in India. These studies are summarised in Table 1 and further discussed below.

Table 1

Longitudinal or Prospective Cohort Studies Investigating the Role of Psychological Variables on Appearance Concerns

Authors	Psychological independent variables	Measure of appearance concerns (or related construct)	Statistical analyses
Fauerbach et al. (2002)	Emotion-focused coping	SWAP	MANOVA
Thombs et al. (2008)	Appearance salience	SWAP	RM-ANCOVA
Amoyal et al. (2011)	Coping styles*	SWAP	Pearson correlations
Hoogewerf et al. (2014)	Perceived scar severity; Depression	Rosenberg Self-Esteem Scale	Structural equation modelling
Kurian et al. (2019)	Self-monitoring**; Appraisal of social support; Coping strategies	SWAP	Spearman's rho correlations

Note. SWAP: Satisfaction with Appearance Scale (Lawrence et al., 1998). *Only cross-sectional analyses were conducted. **The only variable to be tested prospectively.

First, Fauerbach et al. (2002) explored the role of emotion-focused coping on appearance concerns in 78 burns patients (mean TBSA: 15%) who received burn care at an American burns centre. Two types of self-reported emotion-focused coping strategies (suppression of emotions/distraction and extensively focusing on thoughts related to distressing emotions) were measured using the brief COPE questionnaire (Carver, Scheier, & Weintraub, 1989) during hospital admission. Appearance concerns were measured using the Satisfaction with Appearance scale (SWAP; Lawrence et al., 1998) one week and two months after discharge from hospital. Fauerbach et al. (2002) found that those using both emotion-focused coping strategies were younger and had larger burn injuries. Age and % TBSA were entered as

covariates in analyses. A multivariate analysis of variance (MANOVA) revealed that those who used both emotion-focused coping strategies during hospital admission did not have different levels of appearance concerns one week after hospital discharge, compared with those who used one or none of these strategies. However, a MANOVA revealed that those who used both of these coping strategies had greater appearance concerns two months after hospital discharge, compared with those who used one or none of these strategies. Those who used both of these coping strategies also had greater perceived social discomfort, measured by a subscale of the SWAP (Lawrence et al., 1998), compared to those who used one or none of the strategies.

Second, Thombs et al. (2008) studied 79 burns patients (mean TBSA: 16%) from the same American burns centre over three time-points: during hospital admission; six months after hospital discharge; and 12 months after hospital discharge. Three self-report questionnaires were completed at these three time-points: the Importance of Appearance subscale of the Multidimensional Body-Self Relations Questionnaire (Brown, Cash, & Mikulka, 1990) measured importance of appearance; the SWAP (Lawrence et al., 1998) measured appearance concerns; and the Mental Composite scale of the SF-36 Health Survey (Ware et al., 1993) measured psychosocial functioning. Pearson correlation analyses explored associations between appearance concerns and the other variables being measured. Repeated measures analysis of covariance (RM-ANCOVA) analyses were used to investigate appearance concerns over time, and the relationship between appearance concerns and the other variables being measured over time. Path analysis was used to explore the role of appearance concerns as a mediator of pre-burn psychosocial functioning and psychosocial functioning 12 months after hospital discharge. Thombs et al. (2008) found that greater appearance concerns were associated with burn size (% TBSA), gender, and the importance of appearance at all time-points. Appearance concerns did not significantly differ across time. The RM-ANCOVA model revealed significant differences in appearance concerns according to gender, burn size

(% TBSA) and the importance of appearance. Appearance concerns, adjusted for % TBSA and importance of appearance, increased in females over time but decreased in males. Those with smaller % TBSA burns improved in appearance concerns over time whereas those with larger % TBSA burns had worsened appearance concerns over time. Path analysis tested the role of appearance concerns at 12 months after hospital discharge as a mediator of pre-burn and 12 months post-burn psychosocial function. The model also included gender, % TBSA and importance of appearance as predictors of appearance concerns, and gender as a predictor of importance of appearance. Gender, % TBSA, importance of appearance and pre-burn psychosocial functioning accounted for 40% of the variance in appearance concerns. Appearance concerns mediated the relationship between pre-burn and 12 months post-burn psychosocial functioning, accounting for 44% of the variance in 12-month post-burn psychosocial functioning (Thombs et al., 2008).

Third, Amoyal et al. (2011) followed 362 adults (average TBSA: 15%) who were also treated at the same American burn centre. It served to replicate and extend Fauerbach et al.'s (2002) study and investigate coping styles after burns. Coping styles, including active coping (e.g., 'I've been coming up with a strategy about what to do'), avoidant coping (e.g., 'I've been refusing to believe it has happened') and venting (e.g., 'I've been expressing my negative feelings'), were measured using the brief COPE questionnaire (Carver et al., 1989) at discharge from hospital and six, 12 and 24 months later. Appearance concerns were measured by the SWAP (Lawrence et al., 1998) at the same time-points. Using Pearson correlation analyses, Amoyal et al. (2011) reported that both self-reported active and avoidant coping was related to increased appearance concerns, whereas the use of acceptance was associated with lower appearance concerns, at the time of hospital discharge. However, statistical values at baseline are not provided in the published paper. Furthermore, avoidant coping and venting at six months (avoidant coping: $r = .18$, venting: $r = .18$), 12 months (avoidant coping: $r = .43$,

venting: $r = .31$) and 24 months (avoidant coping: $r = .26$, venting: $r = .48$) post-discharge were related to increased appearance concerns at the same time-points post-discharge. Finally, active coping was associated with increased appearance concerns at 12 months ($r = .36$) and 24 months ($r = .41$) post-discharge (Amoyal et al., 2011). Prospective correlation analyses, investigating whether coping styles at hospital discharge were associated with subsequent appearance concerns were not conducted.

Limitations to the above three studies include them all being conducted by the same research group, who studied individuals receiving care at a single burns centre in America. Therefore, the findings may not be generalisable. Furthermore, the psychological variables measured were limited to particular coping styles measured by a particular questionnaire (the brief COPE questionnaire; Carver, Scheier, & Weintraub, 1989) and perceived importance of appearance. In addition, the measure of appearance concerns used in all three studies was developed by the same research group as that which conducted the studies, which may have produced bias or produced results that may only be relevant to that specific measure of appearance concerns. Finally, important confounding variables that are likely important in individuals with burn injuries, such as PTSD symptoms, were not measured or controlled for in the analyses.

Fourth, Hoogewerf et al. (2014) investigated the roles of self-esteem and perceived scar severity in relation to depression. Therefore, the study did not aim to explore appearance concerns specifically. However, the study is worth considering given that self-esteem and perceived scar severity could feasibly be considered indices of appearance concerns. Hoogewerf et al. (2014) followed 132 patients (mean TBSA: 12%) in the Netherlands with facial burns over three time-points: three weeks; three months; and six months post-injury. Three weeks post-burn, pre-burn depression (measured by the question ‘Have you ever suffered from depression?’ with response options being ‘Yes’ or ‘No’) and post-burn depression

symptoms (measured by the Hospital Anxiety and Depression Scale; Zigmond & Snaith, 1983) were measured. Three months post-injury, perceived scar severity (measured by the Patient and Observer Scar Assessment Scale; van der Wal et al., 2012) and self-esteem (measured by the Rosenberg Self-Esteem Scale; Rosenberg, 1989) were measured. Six months post-injury, depression symptoms were measured again. Structural equation modelling was used to assess the relationships between perceived scar severity and self-esteem three months post-burn and depression symptoms six months post-burn, controlling for gender, pre-burn depression and post-burn depression symptoms. Hoogewerf et al. (2014) presented the path model which revealed that three weeks post-burn depression symptoms predicted perceived scar severity ($r^2 = .09$) and self-esteem ($r^2 = .45$) three months later. However, the relationship between perceived scar severity and self-esteem, when both were measured three months post-burn, was not statistically significant ($r^2 = .43$).

This study suggests that individuals with early depression symptoms may more negatively evaluate their scars three months post-burn, shown by increased perceived scar severity scores. However, perceived scar severity and self-esteem were not significantly related. Appearance concerns were not measured specifically, and perceived scar severity and general self-esteem were only measured three months post-injury. This limits the ability to draw conclusions about the importance of early depression symptoms on subsequent appearance concerns. Furthermore, the sample studied was restricted to those with facial burns. Therefore, it is likely not representative of the wider burn injury population.

Fifth, a pilot study was conducted by Kurian et al. (2019) involving 18 burns patients with a mean TBSA of 22.9% admitted to a burns centre in India. The study explored the relationships cross-sectionally between appearance concerns and self-monitoring during hospital admission. It also explored associations between appearance concerns, measured by the SWAP (Lawrence et al., 1998), and self-monitoring, appraisal of social support and coping

strategies measured by the Coping with Burns Questionnaire (CBQ; Willebrand et al., 2001) one month later. The study also prospectively tested the relationship between self-monitoring, measured during hospital admission, and appearance concerns one month later. Spearman's rho correlation analyses revealed that reduced total scores on the CBQ, indicative of limited coping strategies ($r = -.61$), as well as reduced scores on the instrumental support subscale of the CBQ, suggesting lower instrumental support ($r = -.57$), were associated with increased appearance concerns during hospital admission. Furthermore, lower total scores on the CBQ ($r = -.61$) and lower subscale scores representing reduced re-evaluation/adjustment ($r = -.56$) and self-control ($r = -.75$) one month later were related to increased appearance concerns at this same time point. A greater change in impression management between hospital admission and one month later was also related to increased appearance concerns one month later ($r = .61$). However, the longitudinal relationship between self-monitoring during hospital admission and appearance concerns one month later was not significant ($r = .02$). Self-monitoring was not related to appearance concerns at hospital admission ($r = -.21$) or one month later ($r = -.05$) when measured cross-sectionally and social support appraisal was not related to appearance concerns one month later ($r = -.11$). A limitation of this study is the particularly small sample size which may have increased the likelihood of type 2 errors being made. Furthermore, individuals were recruited from one burns centre in India, limiting its generalisability to the wider burn injury population.

More longitudinal or prospective cohort studies are needed to identify potential psychological risk factors and mediators in the development of subsequent appearance concerns. The number of these studies is currently small and the range of psychological variables explored is limited. Furthermore, there have not been any longitudinal or prospective cohort designs of this nature conducted in the UK to date. Therefore, it is unknown whether the results from the existing literature are generalisable to individuals who sustain burn injuries

in the UK. This gap in the literature is important to address given the differences in the structure of burns services and burn care delivery that will likely exist across different countries. Moreover, in all studies detailed above the mean TBSA burnt in the samples studied ranged from 12-16%. This is significantly higher in comparison to the median TBSA burnt seen in UK burns services, which falls at 1.5% (Stylianou et al., 2015). Again, existing research findings may not therefore be generalisable to individuals after burns injuries in the UK. This also has implications for the measure that has typically been used to measure appearance concerns (the SWAP: Lawrence et al., 1998) which explores how distressed individuals are about each body area in turn. This measure may therefore be less appropriate for use with burn injury populations who typically have a smaller % TBSA burnt, such as the UK burn injury population (Stylianou et al., 2015).

Further research is required to expand upon the currently limited range of psychological risk factors for appearance concerns that have been identified, whilst controlling for confounding variables. Currently, coping strategies have been studied the most, with emotion-focused, active and avoidant coping, as well as limited coping strategies, all being associated with appearance concerns (Amoyal et al., 2011; Fauerbach et al., 2002; Kurian et al., 2019). Coping strategies can be seen as driven by broader constructs relating to how individuals respond to internal experiences (e.g., emotions and thoughts), such as psychological flexibility (Hayes et al., 1999) and self-compassion (Neff, 2003). Indeed, difficulties responding to internal experiences with psychological flexibility and self-compassion are generally associated with maladaptive coping strategies, such as avoidance and denial (e.g., Ewert, Vater & Schroder-Abe, 2021; Rueda & Valls, 2020). The constructs of psychological flexibility and self-compassion are therefore worthy of investigation, and the research within this thesis examines these in the context of appearance concerns in adults after burn injuries.

1.8 Psychological Flexibility in Appearance Concerns

Psychological flexibility is a multi-faceted construct, and it has been argued that lower psychological flexibility is associated with psychological distress or mental health difficulties, whereas increased psychological flexibility is considered to be related to psychological well-being (Hayes, Strosahl, & Wilson, 1999). Psychological flexibility is the theoretical underpinning of a third-wave psychological therapy called acceptance and commitment therapy (ACT), which aims to increase an individual's psychological flexibility to increase psychological wellbeing and reduce psychological distress (Hayes et al., 1999).

Psychological flexibility consists of six core processes, the visual representation of which is known as the 'hexaflex' (Hayes et al., 1999). The hexaflex comprises: the willingness to experience internal experiences including those that are distressing (*acceptance*); the ability to stand back from and observe thoughts (*defusion*); having a present moment focus (*contact with the present moment*); an awareness of the self as separate to one's internal experiences (*self-as-context*); knowing what matters (*values*); and behaving in line with one's values (*committed action*; Hayes et al., 1999).

In clinical practice, acceptance techniques might include experiential practices where the individual allows, and be open to, unpleasant inner experiences (e.g., emotions, bodily sensations, or thoughts) rather than avoiding or controlling them, creating the ability for the individual to relate to their inner experiences in a way that is less effortful and more helpful. More structured acceptance exercises include the 'passengers on the bus' where individuals identify their unpleasant inner experiences and name them as metaphorical 'passengers' on their 'bus of life' that they can choose to allow on their bus rather than focusing on avoiding or controlling them, so that they can focus on engaging in behaviours in line with their personal values with their 'passengers' present. Defusion exercises are techniques aimed at

helping the individual create some distance from unpleasant thoughts so they have less impact on what they do and so the individual can see thoughts as words or mental events rather than truths. Techniques can include noticing (e.g., “I’m noticing I’m having the thought that...”) and naming thoughts, singing thoughts, saying thoughts in a silly voice, and thanking the mind for thoughts. More structured exercises include imagining thoughts as leaves on a stream that can float away, get stuck, or return, that the individual can observe from the side of the stream.

Contact with the present moment techniques aim to increase an individual’s awareness of their experiences in the here-and-now, facilitating a more mindful awareness and acceptance of them (e.g., mindful breathing or noticing inner experiences as they occur). Self-as-context techniques might include asking the individual to notice what part of them notices their inner experiences, bringing them into contact with their ‘observer self,’ perspective-taking (e.g., considering what another person’s or timepoint perspective might be around the inner experience), or using metaphors to similarly facilitate an awareness that there is a part of the self that is a constant with changeable content (e.g., likening unpleasant emotions or thoughts to clouds in the sky that float in the unchanging sky that represents the self). These exercises aim to increase an individual’s ability to relate to their inner experiences as part of their experience rather than being defined by them. Discussions, possibly through visual aids (e.g., the ‘values compass’ with different life domains), aim to help the individual identify their personal values and consider whether they are behaving in ways that align to these (committed action), and if not, the individual is helped to engage in more meaningful behaviour (Harris, 2009; Hayes et al., 1999). Enhancing psychological flexibility through ACT (Hayes et al., 1999) may help adults with appearance concerns after burn injuries relate to their unpleasant inner experiences (e.g., worry, shame, self-

consciousness, fears around other people's reactions, or uncertainty about their appearance) in ways that enable them to engage in value-based living, despite their appearance concerns.

More recently, the six core processes of the 'hexaflex' have been simplified and unified into three pillars, a 'triflex,' of psychological flexibility which includes: *being open* with acceptance and defusion; *being present* with contact to the present moment and self-as-context; and *doing what matters* with value clarity and committed action (Harris, 2009; Hayes et al., 2011). Experiential avoidance (unwillingness to remain in contact with private experiences) is viewed as a key mediator of psychological distress within the theory and ACT interventions aim to reduce this (Hayes et al., 1999). A diathesis-stress model of experiential avoidance has been proposed, suggesting that experiential avoidance makes people vulnerable to stressors, in that individuals who typically try to avoid internal distressing experiences may continue this approach when faced with stressful life events (Biglan, Hayes, & Pistorello, 2008).

Prior to commencing this PhD research, only two studies had explored the potential role of psychological flexibility in the maintenance of appearance concerns in people with visible differences, using quantitative methodologies. First, Montgomery, Norman, Messenger, et al. (2016) examined the ability to be mindful in 120 patients with a skin condition (e.g., psoriasis, eczema, dermatitis). Mindfulness is one element of psychological flexibility, being present (Harris, 2009; Hayes et al., 1999). Mindfulness was measured using the Five Facet Mindfulness Questionnaire (FFMQ; Baer et al., 2006). Subjective severity of the skin condition, including its visibility and the extent to which participants received negative comments, was also measured using an unpublished scale. Social anxiety, as an indicator of appearance concerns, was measured using the Brief Fear of Negative Evaluation questionnaire (Carleton et al., 2011), as was an unpublished Skin Shame Scale. Pearson correlation analyses revealed that increased levels of mindfulness (on multiple subscales of

the FFMQ; Baer et al., 2006) were associated with lower levels of social anxiety ($r = .24 - r = -.64$) and skin shame ($r = -.33 - r = -.37$). Increased subjective severity of the skin condition was associated with higher social anxiety ($r = .41$) and skin shame ($r = .65$). Controlling for subjective severity of the skin condition, hierarchical regression analyses revealed that mindfulness explained an additional 41% of the variance in social anxiety and 13% of the variance in skin shame (Montgomery et al., 2016).

Second, Shepherd et al. (2019)'s study involved 78 burns patients who completed questionnaires measuring acceptance (Acceptance and Action Questionnaire-II; AAQ-II; Bond et al., 2011), cognitive fusion (Cognitive Fusion Questionnaire (CFQ); Gillanders et al., 2014) mindfulness (FFMQ; Baer et al., 2006), committed action (Committed Action Questionnaire; McCracken, Chilcot, & Norton, 2015) and appearance concerns (Derriford Appearance Scale, short form; Carr, Moss, & Harris, 2005). Pearson correlation analyses revealed that reduced acceptance (increased experiential avoidance; $r = .80$), cognitive defusion ($r = .76$), mindfulness ($r = .27 - r = -.61$) and committed action ($r = -.55$) were related to increased appearance concerns.

Over the course of this PhD, five further studies have shown that facets of psychological flexibility (acceptance, cognitive defusion, mindfulness, and valued action) were associated with increased appearance concerns (Çelikbaş & Akbayrak, 2025; Keeling et al., 2025; Policardo et al., 2024; Vasiliou, Russell, Cockayne, et al., 2023; Zucchelli, White, & Williamson, 2020). First, Zucchelli et al. (2020) conducted a study with 220 adults with various causes of visible difference. Participants completed questionnaires measuring acceptance (The Brief Experiential Avoidance Questionnaire; Gámez et al., 2014), cognitive fusion (CFQ; Gillanders et al., 2014), perceived noticeability of their visible difference (using an unpublished single-item visual analogue scale), appearance concerns (The Appearance Subscale of the Body Esteem for Adolescents and Adults (BESAA-A); Mendelson, Mendelson, & White,

2001), behavioural avoidance due to appearance concerns (The Body Image Life Engagement Questionnaire; Diedrichs et al., 2016) and appearance-related coping strategies (attempts to cover, camouflage correct, seek reassurance and engage in social comparisons related to their appearance; The BICSI Appearance-Fixing Subscale; Cash et al., 2005). Bootstrap mediation analyses were conducted, controlling for age, gender, perceived noticeability of the visible difference and whether the visible difference was congenital/acquired. Zucchelli et al. (2020) found that cognitive fusion partially mediated the relationship between appearance concerns ($r = -.50$) and appearance-related coping strategies ($r = .23$) but not behavioural avoidance ($r = .18$), and acceptance partially mediated the relationship between appearance concerns ($r = -.29$) and behavioural avoidance ($r = .34$) but not appearance-related coping strategies ($r = .13$).

A second study explored the role of psychological flexibility and stigmatised experiences in 105 individuals with visible skin conditions (Vasiliou et al., 2023). Psychological flexibility was measured using the Comprehensive Assessment of Acceptance and Commitment Therapy Processes (CompACT; Francis, Dawson, & Golijani-Moghaddam, 2016) and stigma was measured by the Perceived Stigmatization Questionnaire (Lawrence et al., 2006). This study did not explicitly measure appearance concerns. However, there is stigma associated with looking visibly different (Goffman, 1963; Major & O'Brien, 2005) and Vasiliou et al. (2023) also measured stigmatised outcomes (depression and generalised anxiety). Pearson correlation analyses revealed that increases in two of the three subscale scores of psychological flexibility, as measured by the CompACT (Francis et al., 2016), was related to less perceived stigma (openness to experience: $r = -.33$; behavioural awareness: $r = -.27$), and that increased perceived stigma was related to increased depression ($r = .34$) and generalised anxiety ($r = .29$). Hierarchical multiple regression models, including demographic and clinical information (step 1), stigma (step 2) and the three subscale scores of psychological flexibility as measured by the CompACT (Francis et al., 2016; step 3), revealed that the

predictors explained 57% of the variance in generalised anxiety and 38% of the variance in depression. Age, skin condition severity, stigma and all three subscale scores of psychological flexibility on the CompACT (Francis et al., 2016) were significant predictors of generalised anxiety, and stigma and two subscale scores on the CompACT (openness to experience and behavioural awareness; Francis et al., 2016) were significant predictors of depression.

Third, Policardo et al. (2024) investigated the relationship between psychological flexibility (measured by the Acceptance and Action Questionnaire-II; AAQ-II; Bond et al., 2011) and body image in 114 women who had completed breast cancer treatment. Lower psychological flexibility was related to increased body image concerns ($r = .52$). Regression analyses revealed that body image explained 26% of the variance in psychological flexibility. Analyses also revealed that the relationship between body image and psychological flexibility was mediated by body compassion.

Fourth, Keeling et al. (2025) explored the roles of psychological flexibility and self-compassion in appearance concerns of 121 military veterans and 197 civilians with appearance-altering injuries, using a modified version of the Body Image Acceptance and Action Questionnaire (Sandoz et al., 2013), the Self-Compassion Scale – Short Form (Raes et al., 2011) and the BESAA-A (Mendelson, Mendelson, & White, 2001). The impact of appearance concerns on life engagement, social anxiety, appearance-related stigma, post-traumatic stress and depression were also measured. Regression analyses revealed that body image psychological flexibility was a significant predictor of appearance concerns, the impact of appearance concerns on life engagement and social anxiety in both groups. Self-compassion predicted social anxiety and depression in both groups but only predicted appearance concerns and the impact of appearance concerns on life engagement in the civilian group.

Fifth, Çelikbaş and Akbayrak (2025) investigated the mediating roles of experiential avoidance and mindfulness in cognitive fusion and appearance concerns in 90 individuals with acne vulgaris. Experiential avoidance was measured by the Acceptance and Action Questionnaire-II (AAQ-II; Bond et al., 2011), cognitive fusion was measured using the Cognitive Fusion Questionnaire (CFQ; Gillanders et al., 2014), the Five Facet Mindfulness Questionnaire-Short Form was used to measure mindfulness (FFMQ; Baer et al., 2006) and the Social Appearance Anxiety Scale (SAAS; Hart et al., 2008) measured appearance concerns. Correlation and mediation analyses revealed that increased cognitive fusion ($r = .57$) and experiential avoidance ($r = .60$) and lower mindfulness ($r = -.62$) were related to higher appearance concerns. Çelikbaş and Akbayrak (2025) also found that experiential avoidance and mindfulness mediated cognitive fusion and appearance concerns.

A further study investigated the role of one component of psychological flexibility, acceptance, on quality of life in 120 lipoedema patients, who have visible differences created by an excess build-up of fat most commonly in the lower limbs. Psychological flexibility was measured by the AAQ-II (Bond et al., 2011). Satisfaction with life and social connectedness was also measured. In addition, body image psychological flexibility, body shape preoccupation, intimacy and committed action were measured but findings related to these measures were not reported in the published paper. Nevertheless, given the study population is a group with visible differences due to a medical condition the results are worthy of mention. Dudek, Bialaszek, and Ostaszewski (2016) reported Pearson correlation analyses which revealed that increased acceptance was related to increased quality of life ($r = .48$), satisfaction with life ($r = .28$) and social connectedness ($r = .56$). Hierarchical multiple regression analyses revealed that, over symptom severity, psychological flexibility and social connectedness explained an additional 10.7% of the variance in quality of life and both were significant predictors.

A limitation to all these studies is that they were cross-sectional in design and therefore are limited to being able to make conclusions about the likely direction of associations between psychological flexibility and appearance concerns. Whilst these are useful in aiding understanding of the role of psychological flexibility in the maintenance of appearance concerns once these are already present, no studies prior to commencing this thesis had prospectively explored the potential role of psychological flexibility in the development of subsequent appearance concerns. This was envisaged to allow a greater understanding about the predictive value of psychological flexibility on appearance concerns within the context of a sudden or anticipated change to appearance (e.g., following a burn injury). Furthermore, no qualitative studies had been conducted to explore psychological flexibility in relation to appearance concerns explicitly, which is discussed later.

Studies which may be suggestive of difficulties in psychological flexibility in those experiencing appearance concerns following burn injuries may also be useful to draw upon, despite psychological flexibility not having been measured explicitly. For example, Bergamasco, Rossi, Amancio, et al. (2002) found that almost two thirds of adults following burn injuries engaged in avoidance coping, which included denial, minimisation, rationalisation and repression, surrounding their appearance changes in the first three months of being burnt. This may be indicative of experiential avoidance (a crucial element of psychological inflexibility). Similarly, Fauerbach et al.'s (2002) finding that emotion-focused coping was prospectively associated with appearance concerns after burn injuries may also infer experiential avoidance. As detailed earlier in Section 1.7, Fauerbach et al. (2002) found that using suppression and distraction to manage distressing emotions and extensively focusing on associated thoughts were all related to increased appearance concerns two months after hospital discharge. This again might suggest difficulties in acceptance and cognitive defusion that may serve to increase appearance concerns. Furthermore, Amoyal et al.'s (2011)

prospective cohort study reported that avoidant coping was related to increased appearance concerns at the time of hospital discharge and six- and twelve-months post-discharge. These results could also be considered suggestive of experiential avoidance (i.e., low psychological flexibility).

It is also noteworthy that some studies have used the term ‘acceptance’ in relation to coping with appearance concerns following burn injuries in a different way to that defined by the theory of psychological flexibility (Hayes, Strosahl, & Wilson, 1999). For example, Dahl et al. (2012) and Kornhaber et al. (2014a) have both used this term to describe an acceptance of individuals’ particular situations and adjustment with regard to appearance changes following burn injuries. This is in contrast to the definition of acceptance described in the theory of psychological flexibility, which relates to the willingness to experience internal experiences and developing an accepting relationship with these experiences (Hayes, Strosahl, & Wilson, 1999). For example, Shepherd et al.’s (2019) and Zucchelli et al.’s (2020) studies found evidence for the protective role of acceptance of distressing emotions about appearance in adults following burn injuries (Shepherd et al., 2019) and with visible differences (Zucchelli et al. 2020).

In summary, the emerging evidence prior to commencing this thesis suggested that difficulties responding to distress with psychological flexibility may be implicated in appearance concerns in those with visible differences, including burn injuries. However, to date, no longitudinal or prospective cohort designs had been utilised, and research had solely focused on exploring the role of psychological flexibility in the maintenance rather than the development of appearance concerns. If psychological flexibility was found to be associated with the development of appearance concerns this would provide a clear rationale for early psychological interventions to target this. Indeed, as detailed later in Section 1.13.2, there is interest gathering in the potential use of ACT (Hayes, Strosahl, & Wilson, 1999) as an

intervention for appearance concerns (e.g., Powell, Vasiliou, & Thompson, 2023; Shepherd et al., 2020; Zucchelli et al., 2018; Zucchelli et al., 2021). However, as detailed above, there has been limited research that has explicitly explored the underlying theoretical basis of ACT (psychological flexibility) in appearance concerns in those with visible differences to provide supporting evidence for these interventions.

1.9 Self-Compassion in Appearance Concerns

Self-compassion is defined as the ability to respond to difficulties and personal struggles with self-kindness rather than harsh self-criticism, see one's experience as part of a common humanity rather than feeling alone in one's suffering, and take a balanced perspective on painful thoughts and emotions rather than becoming immersed in them (Neff, 2003). Self-compassion has been shown to be positively associated with self-reported health and wellbeing (Sirois, 2020). Together these three bipolar components of self-compassion work synergistically to defuse negative thoughts and responses to difficulties, promote self-acceptance, and help feel less isolated, which in turn can reduce stress, promote adaptive coping and improve well-being (Ewert et al., 2021; Sirois, Molnar, & Hirsch, 2015; Zessin, Dickhauser, & Garbade, 2015). Before commencing this thesis, no research had explicitly investigated the role of self-compassion in appearance concerns after burn injuries.

Furthermore, the possible role of self-compassion in appearance concerns in other populations living with a visible difference is under-studied. This is surprising given that shame has been consistently reported as a common emotional reaction to living with a visible difference, including following burn injuries (e.g., Bergamasco et al., 2002; Hunter et al., 2013; Kornhaber, Childs, & Cleary, 2018; Partridge, 1990; 2005; Taal & Faber, 1998a; 1998b). Furthermore, guilt has been frequently reported following burn injuries by both burn survivors and parents of burn-injured children (e.g., Mason, 1993; McGarry et al., 2015;

Bakker et al., 2012; De Young et al., 2014; Sveen & Willebrand, 2018). Studies have also highlighted the association between guilt and post-traumatic stress symptoms in parents of burn-injured children (Bakker et al., 2012; De Young et al., 2014), which is further relevant given the prevalence of post-traumatic stress in burns patients and the possible association between PTSD and appearance concerns in individuals following burn injuries (e.g., Dahl et al., 2016; Shepherd, 2015; Macleod, Shepherd, & Thompson, 2016). Additionally, increased self-compassion has consistently been found to be associated with reduced PTSD symptomatology (Winders et al., 2020), which is again important given the prevalence of PTSD in burns patients.

When commencing this PhD, only a small number of studies had examined the role of self-compassion in appearance concerns. Three studies were conducted by a single research group in Australia and have focused on body image distress in breast cancer survivors. In an initial study by Przezdziecki et al. (2013), 279 women with breast cancer completed measures of self-compassion (Self-Compassion Scale; Neff, 2003), psychological distress (Depression, Anxiety and Stress Scale – short form; Henry & Crawford, 2005) and body image (Body Image Scale; Hopwood et al., 2001). Correlation analyses revealed that lower self-compassion was related to poorer body image ($r = -.46$). Mediation analysis revealed that body image disturbance was indirectly associated with psychological distress, through low self-compassion (Przezdziecki et al., 2013). Secondly, Todorov et al. (2019) asked 195 women with breast cancer to complete measures of self-compassion (Self-Compassion Scale – Short Form; Raes et al., 2011), hope (State Hope Scale; Snyder et al., 1996) and body image (Body Image Scale; Hopwood et al., 2001). Correlation analyses revealed that lower self-compassion was related to increased body image disturbance ($r = -.53$). Furthermore, self-compassion significantly predicted body image and explained 14.5% of the variance in a multiple linear regression model (Todorov et al., 2019). Thirdly, Sherman et al. (2017) studied 75 women with breast cancer

following nipple-sparing mastectomy and immediate breast reconstruction. Measures of self-compassion (Self-Compassion Scale – Short Form; Raes et al., 2011), psychological distress (Depression, Anxiety and Stress Scale – short form; Henry & Crawford, 2005) and body image (Body Image Scale; Hopwood et al., 2001) were completed. Correlation analyses revealed that increased self-compassion was associated with reduced body image disturbance ($r = -.47$). Multivariate analyses of covariance also revealed that the impact of appearance concerns on psychological distress was significant under low but not high levels of self-compassion (Sherman et al., 2017).

As this PhD progressed, two further studies using the same sample of breast cancer survivors were published by Zhu et al. (2023a, 2023b) to investigate the relationships between self-compassion, coping styles, body surveillance, body shame and body image concerns in over 300 breast cancer survivors in China, and also explore the mediating roles of coping styles, body surveillance and body shame in the relationship between self-compassion and body image concerns. Self-compassion was measured using Neff's self-compassion scale (Neff, 2003). Coping styles was measured by the Medical Coping Modes Questionnaire, which has subscales measuring confrontation, avoidance and acceptance-resignation (Feifel, Strack, & Tong Nagy, 1989). Body surveillance and body shame were measured by the body surveillance and body shame subscales of the Objectified Body Consciousness Scale (McKinley & Hyde, 1996). Body image was measured by the Body Image Self-rating Questionnaire for Breast Cancer (Zhou et al., 2018).

In the study by Zhu et al. (2023a), correlation analyses revealed that lower self-compassion was related to greater body image disturbance ($r = -.87$), and higher self-compassion was associated with increased confrontation coping ($r = .88$) and reduced avoidance coping ($r = -.85$) and acceptance-resignation coping ($r = -.89$). Increased confrontation coping ($r = -.92$) and reduced avoidance coping ($r = .89$) and acceptance-

resignation coping ($r = .91$) were associated with reduced body image disturbance. Path analysis revealed that self-compassion had significant direct effects on body image disturbance through confrontation coping, avoidance coping and acceptance-resignation coping. Self-compassion also indirectly affected body image disturbance through confrontation coping, avoidance coping and acceptance-resignation coping. The total indirect effects accounted for 68% of the total effect of self-compassion on body image disturbance with the individual indirect effects accounting for 40%, 25% and 35% of the total indirect effects, respectively. This study highlights how self-compassion can indirectly influence body image disturbance through different coping styles.

Zhu et al. (2023b) additionally reported correlation analyses which showed that lower self-compassion was related to greater body image disturbance ($r = -.87$), increased body surveillance ($r = -.88$) and higher body shame ($r = -.86$). A chain mediation model revealed a direct negative effect of self-compassion on body image disturbance ($\beta = -.30$), body surveillance ($\beta = -.89$) and body shame ($\beta = -.28$). Bootstrap analyses revealed that body surveillance mediated the association between self-compassion and both body image disturbance and body shame.

Considering burn injuries, Hawkins et al. (2019) examined the associations between guilt, shame, self-compassion and psychological adjustment in parents of burn-injured children. It was found that guilt and shame were associated with poorer adjustment in parents. Furthermore, self-compassion was related to reduced depression ($r = -.34$) and post-traumatic stress symptoms ($r = -.30$). However, this study explored parental distress rather than distress experienced by the child who sustained the burn injury. Moreover, it did not explicitly explore appearance concerns.

Another recent study explored the effect of self-compassion on depression in patients with skin conditions (Clarke, Thompson, & Norman, 2020). In this study, 147 adults with skin conditions completed questionnaires measuring self-compassion (Self-Compassion Scale – Short Form; Raes et al., 2011), disgust traits and depression at recruitment and three months later. The study did not measure appearance concerns, but it is worthy of discussion given the study population. Clarke et al. (2020) reported multiple linear regression analyses which revealed that self-compassion explained significant variance in depression at baseline and (after controlling for baseline depression) three months later. Self-compassion also moderated the effect on disgust propensity on depression at baseline (Clarke, Thompson, & Norman, 2020). Again, not exploring appearance concerns specifically, a qualitative study with 10 adults with skin conditions identified that self-compassion helped people adjust to living with their skin condition (Clarke, Norman & Thompson, 2022).

Most recently, as already detailed above, Keeling et al. (2025) found that self-compassion predicted appearance concerns and impact of appearance concerns in life engagement in a group of civilians with appearance-altering injuries, and predicted social anxiety and depression in both civilians and military veterans.

To summarise, a small but growing body of research suggests that self-compassion may play a role in appearance concerns. However, prior to commencing the PhD, no studies had employed a longitudinal or prospective cohort design to explore the role of self-compassion in the development of appearance concerns. Furthermore, no research to date had explored the role of self-compassion in appearance concerns following burn injuries. If self-compassion was found to play a role, this may be useful to consider in the development of psychological interventions. Indeed, as detailed later in Section 1.13.2, there has been some research evaluating compassion-based interventions for appearance concerns (e.g., Kelly, Zuroff & Shapira, 2009; Mifsud et al., 2021; Przewdziecki & Sherman, 2016; Sherman et al., 2018;

Sherman et al., 2019). However, to date there is minimal research that has systematically explored its utility in explaining appearance concerns.

Furthermore, before commencing this thesis, evidence related to appearance concerns was limited to studies that investigated psychological flexibility and self-compassion separately. There is evidence that these constructs are empirically related (Moreno, 2023). Furthermore, Neff and Tirch (2013) suggested that ACT (Hayes et al., 1999) and Relational Frame Theory (RFT; Hayes, Barnes-Holmes & Roche, 2001), the basic science of language and cognition behind ACT, has conceptual overlap with Neff's (2003) conceptualisation of self-compassion. Indeed, Yadavaia, Hayes, and Vilardaga (2014) have argued that psychological flexibility and self-compassion are also conceptually related and identified three main arguments for this. First, Yadavaia et al. (2014) argued that Neff's (2003) concept of self-kindness may be closely associated with self-acceptance, the opposite of experiential avoidance. This is because self-acceptance, through acceptance of internal experiences and reducing experiential avoidance, is likely to facilitate self-compassion. Second, that from a RFT perspective, the same deictic frames that enhance perspective taking (or self-as context; an awareness of the self as separate to one's internal experiences) in psychological flexibility are involved in a sense of common humanity (central to Neff's conceptualisation of self-compassion), as they allow individuals to appreciate that both the self and others have moment to moment perspectives that involve being witness to difficult experiences. Third, they argued that both concepts emphasise mindfulness; by defusion, acceptance, contact with the present moment, and self-as-context in psychological flexibility and the ability to have a balanced perspective on painful thoughts and emotions rather than be overwhelmed by them in Neff's conceptualisation of self-compassion. Investigating both psychological flexibility and self-compassion together was considered important in generating insight into whether each plays a unique role in appearance concerns, or whether one plays a stronger role than the

other. It was also envisaged to provide clear clinical implications as to the type of psychological intervention that is likely to be most effective in reducing or preventing appearance concerns following burns injuries.

1.10 Qualitative Research Examining Appearance Concerns after Burn Injuries

In order to gain an in-depth understanding of living with burns scarring, Bayuo et al. (2022) conducted a systematic review and meta-ethnography of primarily qualitative or mixed/multi-method studies conducted between 2010 and 2020. Twenty-five studies were identified and the findings were coded and re-interpreted to formulate over-arching themes to undertake a narrative synthesis. Twenty-three studies had been conducted with adults and two were with children. Five studies were focused on solely women's experiences. Six studies had been conducted in Australia, three in Canada, two in the United States of America and two in the United Kingdom. Bayuo et al. (2022) formulated two themes: 'emergence of a new identity' and 'living with the redefined self.' The first theme incorporated a process of meaning making and being confronted with the post-burn self. Reconciling the pre- and post-burn selves led to the discovery of a new self and identity, and subsequently a phase of normalisation where individuals felt reconnected to life and other people and they perceived themselves as a survivor rather than a victim. Bayuo et al. (2022) described how this process led to less distress about scarring and other people's reactions to them, despite ongoing social challenges, and a sense of acceptance of the situation. Bayuo et al. (2022) also described how individuals adjusted to the transformation of their changed bodies and scarring by changing their perspective from 'what was' to focus on 'what is.' This involved focusing on what they could control and positively comparing themselves to others, leading to a sense of inner personal strength and an ability to become emotionally detached from other people's negative reactions. Coping strategies included hope, spirituality, utilising social support, humour and

‘giving back’ or connectedness to others by supporting other burns survivors and perceiving a shared sense of recovery.

Most of the studies conducted to date and included in Bayuo et al.’s (2022) systematic review and meta-ethnography have involved interviewing patients several months, or more often, years after injury when acute wounds have long since healed and scarring has been evident for some time. This prevents little insight into the early experiences of appearance concerns after burn injuries, at a time when wounds are still healing/have recently healed and there is uncertainty about the permanency of appearance changes and future scarring. Furthermore, many studies aimed to explore people’s experiences after a burn injury more broadly rather than being specifically focused on appearance concerns or the impact of a changed appearance. In addition, only two of these studies represented experiences of adults who had been injured in the United Kingdom. Table 2 illustrates these limitations of the existing studies identified by Bayuo et al. (2022), and displays the country of study, aims and time between burn injury and participation in the studies included in Bayuo et al.’s (2022) systematic review and meta-ethnography.

Table 2*Aims and Time between Burn Injury and Participation in Existing Qualitative Studies*

Authors (Year) and country	Aim	Time between burn injury and participation
Abrams et al. (2018), United States	To explore the lived experience of participants' social, emotional, physical, intellectual, environmental, spiritual, and vocational domains of health after major burn injuries.	One to 22 years post-burn
Badger & Royse (2010), Canada	To explore burn survivors' perceptions of the value of peer support in their psychosocial recovery to better understand the meaning and potential role this resource may play, from the burn survivor's perspective, in promoting successful healing and societal reintegration post-burn.	Average 14 years post-burn (range: 2-50 years)
Batool et al. (2022), Pakistan	To explore the adoption of different coping strategies among survivors of acid violence.	At least six months post-burn
Cristall et al. (2021), Canada	To examine and further understand the narrative discourse of burn survivorship in peer support social media content and to establish commonalities in the sharing community and key themes related to recovery and adaptation.	Detail not available
Davis et al. (2014), United States	To better understand the psychosocial recovery needs of burn survivors and the role of peer support groups.	Not specified but participants were required to have attended a burns peer support group for at least six months (mean = 6 years; range: 6 months to 18 years)
Dekel & van Niekerk (2018), South Africa	To explore women's experience of a burn and their altered appearance; to investigate the identity reconstructions of women burn survivors; and to ascertain their social reintegration experiences.	One to two years-post burn

Dunpath et al. (2015), South Africa	To explore the experiences of adult patients with acute burns of the hand to gain insight and understanding participation in rehabilitation.	Within three months post-burn
Dahl et al. (2012), Sweden	To explore burn patients' experiences of adapting to life after burn injury to acquire a deeper understanding of the most important issues for patients when providing care during and after a burn injury.	Between six months and one-year post-burn
Egberts et al. (2020), Netherlands	To elucidate the child's experience of paediatric burn injury.	Average of seven months post-discharge from hospital (range: 4 – 17 months)
Gullick et al. (2014), Australia	To understand the lived experience of burn injury for patients and families.	Within 13 weeks post-burn
Hunter et al. (2013), Canada	To contribute to a more complex understanding of survivors' experiences through exploring the narratives and counter-narratives told by women who have experienced burn injury.	Within the first year post-injury, but no further detail specified
Johnson et al. (2016), Australia	To interpret the lived experience of hospitalisation and recovery following burn injury.	One to three weeks post-hospital discharge (length of hospital stay ranged from 2 to 64 days)
Jones et al. (2017), United Kingdom	To gain insight into the lived experience of burn survivors over the age of 50 years, with a focus on appearance and ageing and obtain an understanding of the support needs of burn survivors over the age of 50 years.	One to 74 years post-burn
Kim & Ban (2019), Korea	To analyse life after injury for burn survivors.	Three to 22 years post-burn
Kornhaber et al. (2014a), Australia	To understand how burn survivors' acknowledge and accept their injury.	No detail available

Lau & van Niekerk (2011), South Africa	To explore how young burn survivors constructed notions of self and social reality.	At least two years post-burn
Lebni et al. (2020), Iran	To explore the challenges facing women survivors of self-immolation.	One year post-burn
Martin et al. (2017), Australia	To investigate adult burn survivors' experiences of interpersonal relationships as potential barriers to posttraumatic recovery following hand or face burns.	More than two years post-burn
McGarry et al. (2014), Australia	To explore psychological experiences following a burn injury in children.	Six months post-burn
McLean et al. (2015), Australia	To examine the early recovery experience of patients with a facial burn.	During hospital admission and up to four months post-hospital discharge
Mirlashari et al. (2017), Iran	To explore the experiences of women living with scars caused by self-immolation.	One to 15 years post-burn
Macloed et al. (2016), United Kingdom	To examine how PTSD and appearance concern associated with burn injuries are experienced when both difficulties co-occur.	Six months to 14 years post-burn
Ren et al. (2015), China	To elucidate perceived changes and to construct a theoretical model of their subjective experience and coping strategies.	Average 13 months post-burn (range: 1 – 70 months)
Zamanzadeh et al. (2014), Iran	To determine the experience of burn survivors returning to life in order to be able to obtain new concepts of acceptable implications in the present cultural and religious context.	Six months post-burn
Zamanzadeh et al. (2015), Iran	To investigate burn patients' experiences regarding how to preserve self-concept in life after burn injury.	Six months to 30 years post-burn

Only one further qualitative study could be found that was conducted in the United Kingdom, which was not included in Bayou et al.'s (2022) systematic review and meta-ethnography. This was a study by Martin et al. (2016), who interviewed eight adults on average two years post-burn, and found that wearing pressure garments (recommended by burn care professionals for scar management purposes) served to protect women from uninvited questions from others due to the scar being covered, leading them to be able to avoid difficult physical and emotional feelings associated with exposure of their scars. Research exploring experiences of adults who have sustained burn injuries in the United Kingdom is important given the differences in healthcare provision more generally and specific to burn injuries across the world.

1.11 Explorations of Early Appearance Concerns after Burn Injuries Using Qualitative Methods

Only five studies (Bergamasco et al., 2002; Dunpath, Chetty, & Van Der Reyden, 2015; Gullick et al., 2014; Johnson, Taggart, and Gullick, 2016; McLean et al., 2015) could be found that explored patients' early experiences of appearance changes, within the first three months of the injury when the wound is still healing or when scarring has started to develop so a perspective on the permanent nature or degree of scarring will be realised. First, Bergamasco et al. (2002) interviewed 35 burns patients in Brazil within an average of three months post-injury. It was reported that adjustment to changes in appearance began as soon as patients started looking at their bodies, usually in hospital, and that facing other people and managing their reactions was a second key event in adjusting to their altered appearance. Bergamasco et al. (2002) reported that the most common emotional reactions that participants described were fear (of difficulties in relationships or work, the loss of mobility) in over half of patients, followed by 'rebellion' (rebellious against their situation/treatment) and feeling

upset at others' reactions to them, in around half of patients, and shame, which occurred in around a third of patients. Almost two thirds of patients were considered to have engaged in avoidance coping, including denial, minimisation, rationalisation, and repression (Bergamasco et al., 2002).

Second, Gullick et al. (2014) interviewed nine patients and a family member, within 13 weeks of hospital discharge in Australia. Time from the burn to interview varied, with a median time of 49 days. However, some participants were interviewed up to five months post-burn. Gullick et al. (2014) identified trauma reactions in participants and identified that they had developed a metaphorical 'bubble' around themselves to contain their grief and to protect them from becoming overwhelmed. This 'bubble' included the loss of the known (pre-burn) body, which led to a sense of physical 'otherness.' This 'otherness' was described as representing the loss of the, and at times unrecognisable, pre-burn appearance and reduced perceived humanness. Family members also described this 'otherness', creating feelings of shock and an initial desire to recoil when faced with the changed appearance of their loved one. Third, Johnson, Taggart, and Gullick (2016) subsequently re-analysed the data from the Gullick et al. (2014) study and reported that emerging from the trauma 'bubble' after a burn included challenging this 'otherness' through development of self-acceptance, often through humour or post-traumatic growth.

Fourth, in another Australian study, McLean et al. (2015) interviewed six individuals shortly after sustaining facial burns ranging from 0.8 to 55% TBSA. McLean et al. (2015) found that all participants had experienced early appearance concerns and changes in their relationship to their bodies, as well as in their relationships with other people. In terms of the changed relationships to their bodies, these were either directly caused by the burn injuries or a result of increased reflection about their bodies post-burn. Females were noted to have expressed distress about their changed appearance, whereas males were described as having a

heightened awareness of their bodies more widely. McLean et al. (2015) found an increased sense of connectedness to family and friends post-burn, highlighting a positive change in relationships with other people. McLean et al. (2015) also found that participants held a sense of optimism around their recovery, tried to find positives within their situation and used humour as ways of coping. Fifth, a study by Dunpath, Chetty, and Van Der Reyden (2015) interviewed five patients in South Africa who had experienced hand burn injuries within the previous three months. The study aimed to explore experiences of burn injuries more generally and thematic analysis was used. Dunpath et al. (2015) described a theme ‘Social issues’ with one subtheme being ‘Stigma and its sting.’ This described the fear of returning home due to fears about rejection from others.

These studies suggest that appearance concerns start early after burn injuries (within the first three months) and that individuals can struggle with changed relationships towards themselves and other people. The negative social/relational impact of a burn injury, and anticipated stigma, was commonly reported with the exception of McLean et al.’s (2015) study. A limitation of some of the existing studies is homogenous samples of all male participants (e.g., Dunpath et al., 2015) and with burn injuries limited to specific body parts (e.g., Dunpath et al., 2015; McLean et al., 2015). Some studies also have particularly small sample sizes (e.g., Dunpath et al., 2015; McLean et al., 2015). The current study aims to address these limitations and extend the qualitative literature on early appearance concerns after burn injuries by exploring psychological variables that could render individuals vulnerable to early appearance concerns after burn injuries. Specifically, how difficulties with psychological flexibility (Hayes et al., 1999) and self-compassion (Neff, 2003) may feature given the literature discussed below.

1.12 Qualitative Research Examining Psychological Flexibility and Self-Compassion in Appearance Concerns

As discussed earlier, a small number of studies employing quantitative research methods suggested the potential role of psychological flexibility (e.g., Montgomery et al., 2016; Shepherd et al., 2019; Vasiliou et al., 2023; Zucchelli et al., 2020) and self-compassion (e.g., Przewdziecki et al., 2013; Sherman et al., 2017; Todorov et al., 2019; Zhu et al., 2023a; Zhu et al., 2023b) in appearance concerns in those with visible differences.

In contrast, there had been no qualitative research prior to commencing the PhD study that had explicitly explored the roles of psychological flexibility or self-compassion in appearance concerns. However, some qualitative research had reported findings that might be applicable to the concepts of psychological flexibility or self-compassion. In relation to psychological flexibility, Bergamasco et al.'s (2002) study detailed above found that avoidant coping mechanisms, including emotional suppression, were reported in those with appearance concerns after burn injuries, which could be interpreted as experiential avoidance and therefore difficulties with psychological flexibility. Furthermore, Hunter et al. (2013) investigated the experiences of 10 women who had sustained mild to moderate burns (mean TBSA: 8.75%, range: 1-30% TBSA) and been treated at a Canadian burns centre through interviews. Hunter et al. (2013) reported a complexity in the experiences of the women's appearance changes, who predominantly reported to be coping well. However, counter-narratives were also evident, indicating distress and dissatisfaction about appearance changes. Hunter et al. (2013) concluded that the women had an ambivalent relationship with their changed appearance and that they coped with their appearance changes by minimising their experiences, which could again be interpreted as experiential avoidance. In addition, Martin et al. (2017) conducted interviews with 16 burns patients with hand or facial burns more than two years post-injury (mean TBSA: 40%; TBSA range: 15-85%). Martin et al. (2017) found

that, to manage within interpersonal and social relationships, a number of coping styles and strategies were adopted including avoidant coping.

Moreover, the studies by Johnson et al. (2016) and McLean et al. (2015) detailed previously both found that humour was used as a coping strategy, which might be interpreted as experiential avoidance if it is used in a way to serve avoidance of internal distressing experiences. Another study by Dahl et al. (2012), which involved interviewing twelve adults (TBSA range: 2-40%), found that respondents reported experiences of a 'fragile body' that encompassed multiple domains but included feeling ill due to marks/scars, feelings of isolation as well as attempts to hide away and conceal scars from other people. Hiding away and concealing scars could also reasonably be considered experiential avoidance if the function of this was to avoid internal discomfort associated with other people seeing their scars. Furthermore, Macleod et al. (2016) interviewed eight women (TBSA range: 0.5-33%) recruited from a UK burns service who were experiencing both appearance concerns and post-traumatic stress symptoms. Macleod et al. (2016) found that social stigma due to scarring maintained a sense of threat and changes to appearance served to trigger re-experiencing trauma symptoms related to the accident leading to the burn injuries. De-valuing the post-burn self and idealising the pre-burn self, emotional suppression and behavioural avoidance were described. The finding of devaluing the post-burn self and idealising the pre-burn self could be interpreted as difficulties being in contact with the present moment, and the use of emotional suppression is a method of experiential avoidance. Finally, the study detailed above by Martin et al. (2017) highlighted the positive experiences of wearing pressure garments to conceal their scars from other people and consequently avoid difficult physical and emotional feelings associated with exposure of their scars, which highlights the rewarding nature of experiential avoidance. This research therefore suggests that psychological flexibility is worthy of further exploration within the context of appearance concerns after burn injuries.

Considering self-compassion, one study used interviews to explore how self-compassion helped ten individuals adjust to living with chronic skin conditions (Clarke, Norman, & Thompson, 2022). Although appearance concerns were not explored specifically, this study found that self-compassion promoted adjustment through an enhanced sensitivity to distress and value in caring for their wellbeing, with self-kindness and mindful attention used to cope with challenges. Clarke et al.'s (2022) study used theories of self-compassion offered by both Gilbert (2009) and Neff (2003) to guide the interview schedule and template analysis. However, the study did not focus on the experience of appearance changes as a result of the skin condition specifically.

In summary, the number of qualitative studies relating to appearance concerns in the early stages following a burn injury is small and none had been conducted in the UK prior to this PhD. This is relevant given the differences in healthcare, and the organisation of burns services specifically, between different countries. There was also no qualitative research that had explicitly examined the roles of psychological flexibility or self-compassion in appearance concerns in those living with visible differences. Further qualitative study was required to advance theoretical knowledge about how appearance concerns develop in the early aftermath of burn injuries. This gap in the literature prevents a full understanding of patients' early experiences of appearance concerns following burn injuries, how individuals respond to early distressing thoughts and feelings about appearance changes, how these begin to impact upon behaviour and functioning and what psychological processes are implicated.

1.13 Psychological Interventions for Adults with Appearance Concerns Associated with a Visible Difference

Three systematic reviews have identified and evaluated studies where psychological interventions for appearance concerns in adults living with a visible difference have been

tested (Bessell & Moss, 2007; Muftin & Thompson, 2013; Norman & Moss, 2015). First, Bessell and Moss (2007) completed a systematic review in 2006 using a variety of ‘population’ (e.g., ‘visibly different’ and ‘facial disfigurement’) and ‘intervention’ (e.g., ‘psychosocial intervention’ and ‘treatment’) search terms. Psychosocial interventions were defined as any intervention that included techniques aimed to reduce psychosocial distress, by improving anxiety and depression and increasing social activities. Methods of delivery included individual and group interventions, in person or telephone counselling and self-help materials. Nineteen databases were searched. Bessell and Moss (2007) identified interventions for a wide range of different conditions from congenital skin conditions to cancer and scars due to injuries. Twelve studies were included, which included the following intervention types: cognitive behaviour therapy (CBT), social skills training (SST), support groups and counselling. Norman and Moss (2015) updated the review by Bessell and Moss (2007) and found an additional four studies that met inclusion criteria.

Both reviews concluded that the number of high-quality studies exploring the effectiveness of any type of psychological therapy for adults with appearance concerns, including CBT and social skills training, was limited and that further trials and experimental studies were required (Bessell & Moss, 2007; Norman & Moss, 2015). Muftin and Thompson (2013) also conducted a systematic review on the effectiveness of self-help interventions for appearance concerns and reported that the majority of these incorporated CBT, with some including social skills training, mindfulness-based stress reduction and compassionate mind training. It was concluded that there was tentative support for their use. However, Muftin and Thompson (2013) reported that few studies tested interventions aimed at reducing appearance concerns and managing other people’s reactions together. Furthermore, it was noted that further studies were required to compare different self-help interventions to determine what is most effective.

1.13.1 Cognitive behaviour therapy (CBT) and social skills training

Within the wider visible differences literature, cognitive behavioural therapy (CBT) has been most often described as a therapeutic approach in relation to treating appearance concerns in adults (e.g., Clarke et al., 2013). Indeed, it was reported to be the most used therapeutic approach in a study surveying 166 burn care psychosocial professionals across the UK and United States of America (Lawrence et al., 2016), and in a separate study surveying 116 practitioners working across 15 European countries with individuals with visible differences, of which 25% worked in the area of burn injuries (Harcourt et al., 2018). In these two studies, CBT was used by 60.3% and 82% of psychosocial professionals, respectively (Harcourt et al., 2018; Lawrence et al., 2016). CBT aims to modify unhelpful or negative thoughts or beliefs and reduce unhelpful avoidance or safety-seeking behaviours that are considered to maintain psychological difficulties (Beck, 1967; 1976). In appearance concerns, attempts to modify unhelpful or excessively negative thoughts or beliefs about appearance or other people's reactions can be made. The person can also be helped to gradually reduce their social avoidance and safety-seeking behaviours, such as only wearing clothes that conceal the visible difference or avoiding eye contact with others (Clarke et al., 2013). The focus on CBT is unsurprising given its evidence-base for a wide range of psychological problems including social anxiety which can be argued is a similar construct to appearance concerns (e.g., Mayo-Wilson et al., 2014). Social skills training has also been viewed as important and is used often to help people learn how to manage other people's reactions to their visible difference such as stares and questions (Harcourt et al., 2018).

Pasterfield, Clarke, and Thompson (2019) subsequently conducted a think aloud study to aid the development and explore the acceptability of a self-help leaflet for those with visible skin conditions and users of skin camouflage with utilised CBT techniques to help manage appearance concerns. Generally, the leaflet was supported in relation to relevance, acceptability

and usability. However, there were mixed opinions about whether some individuals would be able to use the techniques in the booklet independently without additional specialist psychological support.

1.13.2 Third wave psychological interventions

More recently, third-wave psychological interventions have been considered in relation to appearance concerns. These include acceptance and commitment therapy (ACT: Hayes, et al., 1999) and interventions that focus on self-compassion (Neff, 2003).

ACT (Hayes et al., 1999) aims to increase an individual's psychological flexibility, as detailed earlier in Section 1.8. In summary, it involves helping an individual to live a meaningful life with their distressing emotions and thoughts, rather than try to reduce them, by being more accepting and mindful rather than avoiding them. Therefore, ACT aims to change how individuals relate to their inner experiences rather than alter them. This contrasts with CBT which aims to reduce distress by changing what or how an individual thinks (Beck, 1967; 1976). As opposed to aiming for the individual to consider the validity (truthfulness) of their thoughts as is the case in CBT, ACT aims to help individuals consider the helpfulness of their thoughts and ways of responding to their inner experiences. The techniques used by ACT and CBT also differ. ACT involves experiential exercises to enable individuals to practice acceptance (or allowing) of their inner experiences, defusion from distressing thoughts, promote contact with the present moment, see their inner experiences as separate from the self, and engage in meaningful life activities. Alternatively, CBT involves techniques such as cognitive restructuring of negative thoughts (e.g., looking for evidence for thoughts and generating alternative thoughts), identifying cognitive biases (unhelpful patterns of thinking), gradual exposure to allow individuals to test out their thoughts, and activity scheduling to increase meaningful or pleasurable activities to improve mood (Beck, 1967; 1976). ACT and other third-wave approaches are transdiagnostic and process-based, rather than content-based.

Thus, they aim to target core psychological processes (e.g., experiential avoidance, self-criticism) that are common across different psychological difficulties and so can help individuals respond to diverse emotional, cognitive or physiological reactions (Hayes et al., 2011). Third-wave approaches therefore offer more flexibility compared to CBT and social skills training which involve working with specific content (i.e., symptoms). Third-wave approaches may also be more applicable when applied to difficult life experiences or physical challenges, such as burn injuries, given that they do not aim to change distress but rather focus on enhancing life.

In a recent meta-analysis and a review of meta-analyses, ACT (Hayes, Strosahl, & Wilson, 1999) has been shown to be effective compared to placebos/inactive control groups for a wide range of psychological difficulties including anxiety disorders and depression as well as distress associated with physical health problems, with small to medium effect sizes being reported (e.g., A-Tjak et al., 2015; Gloster et al., 2020; Graham et al., 2016; Hayes & King, 2024; Konstantinou et al., 2023; Powers, Zum Vorde Sive Vording, & Emmelkamp, 2009). ACT has also been reported as a promising intervention for social anxiety, a difficulty that may be considered to have some overlap with appearance concerns; however, it is yet to be considered as a valid alternative to CBT (Caletti et al., 2022). Improvements in patients across a variety of chronic physical health conditions, late-stage cancer and chronic pain, have also been reported after individual or group ACT therapy of five to twelve sessions (e.g., Brassington et al., 2016; Rost et al., 2012; Wicksell et al., 2013). A recent study utilising single case experimental design suggested ACT was helpful for people with advanced cancer in a hospice setting. The study recruited 10 patients and involved delivering five individual weekly sessions; one assessment, three ACT intervention sessions and one follow-up session (Hulbert-Williams et al., 2021). There is also evidence that technology-supported ACT interventions delivered by a therapist using modalities such as the internet/video-teleconferencing or over

the telephone are effective in people with health conditions (Herbert et al., 2022). Similarly, there is evidence that suggests that non-mental health professionals (e.g., healthcare workers, teachers) can deliver ACT interventions and produce clinical improvements in relation to mental health (Arnold et al., 2022). However, the research is dominated by studies investigating the use of ACT in chronic medical conditions rather than acute injuries/medical issues.

Improvements have also been reported after single-session interventions in patients with obesity-related distress, difficulties managing diabetes and pregnant women experiencing fear of childbirth (Gregg et al., 2007; Howard et al., 2022; Lissis et al., 2009). A recent systematic review and meta-analysis of single session ACT interventions for people with chronic physical health conditions concluded that single-sessions interventions was an emergent field and that current evidence suggested that they were acceptable to patients and led to positive results that include medium to large effect sizes (Dochat et al. 2021). None of the studies included focused on appearance concerns in a visible difference population. However, the literature suggests that ACT (Hayes et al., 1999), even if delivered in a brief format, may be an effective psychological therapy for people with visible differences experiencing appearance concerns.

In a review, the use of ACT for conceptually-related problems to appearance concerns, such as social anxiety, shame, self-stigma and body image dissatisfaction in those without visible differences, was presented (Zucchelli et al., 2018). Zucchelli et al. (2018) argued that ACT may be effective for appearance anxiety by helping patients manage emotions and thoughts about their appearance so they can focus on what is important to them (their values) and engage in meaningful lives.

Therapeutically, ACT (Hayes et al., 1999) involves helping individuals to reduce their attempts to control how they feel and what they think. This experiential avoidance is viewed as a mediator of psychological distress and the focus of the intervention is increasing an

individual's ability to live a meaningful life rather than reduce distress per se. Individuals are prompted and helped to reduce their experiential avoidance by being more accepting of their internal experiences, engage in the present moment rather than getting caught up in the past or future and start doing more of what matters to them (Hayes et al., 1999).

There is a growing body of research that has explored the effectiveness of ACT (Hayes et al., 1999) as an intervention for appearance concerns within the wider visible difference literature. However, ACT was reported as being a therapeutic modality used by 32.8% of psychosocial professionals working with those with visible differences across Europe, in addition to mindfulness being used by 40.5% of practitioners (Harcourt et al., 2018). Similarly, in a survey of burn care psychosocial professionals working in the UK and United States of America, a separate study reported that acceptance and mindfulness-based approaches were being used by 69% of practitioners (Lawrence et al., 2016).

Prior to this PhD, a case series by Shepherd et al. (2020) had reported the effectiveness of ACT (Hayes et al., 1999) on three cases, including two adults after burn injuries. The intervention was focused specifically on appearance concerns and Shepherd et al. (2020) reported reduced functional impairment due to appearance concerns and improved valued living after the intervention in both cases. However, single case experimental design was not adhered to and therefore it was not possible to establish causation. In addition, patients' experiences of receiving ACT for difficulties relating to an appearance-altering condition had been explored by Zucchelli et al. (2020) using interpretative phenomenological analysis. This study involved exploring the lived experiences of six females who had received ACT (delivered one-to-one, in person, ranging from nine to 18 sessions) for appearance concerns related to visible differences. None of the participants had experienced burn injuries. However, Zucchelli et al. (2020) found that the ACT intervention participants had received was reported to have made positive differences in participants living more valued lives, developing ways to control

others' reactions and manage their internal experiences, developing acceptance of their appearance and situation and developing compassion. The centrality of the therapist expressing compassion was noted in cultivating patients' self-compassion. Furthermore, utilising a mindfulness intervention which partially drew upon mindfulness exercises typically used in ACT delivered in a group format over seven weekly sessions, Franco et al. (2020) found that women who had received mastectomies due to breast cancer had reduced social anxiety, social avoidance and experiential avoidance as well as improved self-esteem and resilience after treatment and compared to a control group. The study was not focused on aiming to improve appearance concerns specifically. Furthermore, whilst mindfulness exercises used in ACT were delivered for part of the intervention, the intervention itself was not ACT. However, it provides tentative evidence for the use of interventions aimed at improving one facet of psychological flexibility, present moment awareness, to improve social anxiety related to mastectomies.

As this PhD progressed, a mobile phone app was developed which aimed to deliver ACT using mobile health technology to people with visible differences (Zucchelli et al., 2021). A participatory design framework was used to gain key stakeholder input in order to optimise the intervention and app for future development. This study suggested that a mobile health intervention may have strengths and challenges for use with people with visible differences (Zucchelli et al., 2021). However, it is currently untested.

Another study compared the effectiveness of eight sessions of ACT in 18 individuals with psoriasis compared to a control group (Shahidi, Hasanzadeh, & Mirzaian, 2022). In this study, depression, mental pain and life engagement were measured pre- and post-treatment. Results suggested that mental pain and life engagement improved following the intervention. The full text of the study is not available in the English language. Appearance concerns were not the focus of the intervention and were not measured. However, it is possible the intervention was aimed at reducing distress related to the appearance changes associated with psoriasis.

Hotton et al. (2022) also conducted a pilot study exploring the acceptability and effectiveness of information and self-help therapy guides for 132 participants with facial palsy. The pilot study involved the delivery and testing of six different information and therapy guides, based on CBT and ACT principles and social skills training, some of which were focused on appearance concerns and managing other people's reactions. Hotton et al. (2022) reported that the guides led to reduced appearance concerns and had good levels of acceptability. However, the results were not analysed according to individual therapy guides and participants were invited to try more than one therapy guide and no randomisation or control group was included. Furthermore, the sample consisted of mainly female participants which is not representative of the facial palsy population. However, it suggested that self-help psychological therapy guides may provide a low-level intervention for facial palsy patients.

Furthermore, a study described the development of a five-session group intervention based on CBT as well as ACT principles for appearance concerns for people with a visible difference (Siemann et al., 2023). Within the paper, a case of a woman with facial palsy with distress related to her appearance is presented to illustrate the use of the intervention with positive outcomes reported and maintained for three months following the intervention. However, the stages of development of the intervention are not provided in detail. Furthermore, patient and public involvement or use of qualitative methods to develop the intervention do not appear to have been included. Furthermore, the principles of single case experimental design were not followed.

Finally, a pilot feasibility and acceptability study investigated a four-week ACT self-help intervention in 145 individuals with a visible difference (Powell, Vasiliou, & Thompson, 2023). The intervention was a workbook, with links to audio files, delivered digitally. Participants were randomly assigned to receive the intervention versus a waitlist control condition. Powell et al. (2023) found that the dropout rate for the ACT self-help intervention

was 68%, but many who completed the intervention rated it as useful (77%) and helpful (73%). Significant improvements in functional impairment due to appearance concerns were found in the group who had completed the ACT self-help intervention. No difference was found between the groups on social anxiety or psychological flexibility (the therapeutic target of ACT) at the end of the study. However, completers analyses suggested some improvement in social anxiety for those who had completed the ACT self-help intervention at the four-week assessment time point compared to those in the waitlist control condition. The authors suggested that the lack of the intervention producing a change in psychological flexibility may be explained by the absence of a therapist during the delivery of the intervention. Indeed, qualitative data gathered in the study suggested that some individuals might need a therapist to aid engagement and adherence.

Self-compassion is believed to buffer experiences of shame and guilt, through compassion-based interventions such as compassion focused therapy (CFT: Gilbert, 2014), compassionate mind training (Gilbert & Irons, 2005), or the mindful self-compassion programme (Neff & Germer, 2012). ACT (Hayes et al., 1999) has also been found to increase self-compassion (e.g., Bernstein, 2025; Fattahi et al., 2025). Compassion-based therapies are underpinned by theories of affect regulation and attachment. Gilbert's (2009) evolutionary model argues that psychological distress is created when the three human emotion regulation systems, the threat, drive and soothing systems, become unbalanced.

Compassion-based therapies are similar to ACT in that they are transdiagnostic, process-based and aim to change how individuals relate to their inner distress. However, where ACT focuses on enhancing psychological flexibility, compassion-based approaches aim to foster self-compassion and self-soothing (Gilbert, 2014; Neff & Germer, 2012). Both ACT and compassion-based approaches incorporate mindfulness to enable individuals to notice inner experiences without judgment rather than struggling with them. In addition to mindfulness

exercises, common techniques in compassion-based approaches include compassionate self-talk, compassionate imagery, developing a ‘compassionate other’ to internalise (Gilbert & Irons, 2005; Neff & Germer, 2012).

Research has suggested that compassion focused therapy (CFT; Gilbert, 2014) may be useful in reducing distress, including shame, related to physical health conditions. In a mixed-methods systematic review, Austin et al. (2020) reported that in twenty studies, with self-compassion interventions spanning from single exercises to comprehensive therapy packages of up to 12 sessions, mostly aimed at people with persistent pain or cancer, reductions in anxiety and depression were common, in addition to improved acceptance of the physical health condition, improved emotion regulation skills and reduced perceived isolation were also found.

More recently, a systematic review was conducted by Kılıç et al. (2021). This identified 15 randomised controlled trials with at least one control condition, spanning seven different chronic physical health conditions and eleven different types of compassion-focused interventions of at least one session duration. Kılıç et al. (2021) reported that none of the interventions appeared clearly superior to others and that almost all self-compassion-related interventions increased self-compassion and reported positive outcomes (e.g., decreased depression) with medium to large effect sizes (-0.07-0.96). Similarly, a recent pilot randomised controlled trial comparing brief (four sessions of 20 minutes) ACT and CFT online interventions delivered online to people with chronic illness found no differences between the interventions in terms of acceptability or effectiveness, suggesting that both types of interventions may be equally useful (Carvalho et al., 2021). However, these studies were conducted in chronic physical health conditions (e.g., inflammatory bowel disease, diabetes, pain) rather than acute injuries/medical issues and none involved a visible difference population.

Self-compassion has also been implicated in social anxiety. For example, McBride et al. (2022) found that people with social anxiety disorder and high social anxiety had lower levels of self-compassion compared to those with low social anxiety. Furthermore, higher self-compassion predicted lower social interaction anxiety, mediated by emotional regulation strategies (specifically, cognitive reappraisal and expressive suppression). Furthermore, refraining from self-compassionate responding was directly associated with social anxiety whereas compassionate responses were reported to influence social anxiety via the emotional regulation strategies. The authors concluded that self-compassion ameliorates social anxiety, mediated by emotional regulation strategies. Some research suggests that compassion focused therapy may be helpful for social anxiety over no treatment (e.g., Gaharraee, Tajrishi, Farani, et al., 2018). However, a preliminary randomised controlled trial study found that six sessions of self-guided self-compassion training improved social anxiety symptoms in the general population, but not over the effects of applied relaxation (Teale Sapach & Carleton, 2023).

Compared to ACT (Hayes et al., 1999), there is comparatively more research that has evaluated interventions that aim to enhance self-compassion (Neff, 2003) in people with visible differences. This is despite 25% of psychosocial professionals reporting using it in a survey of psychosocial professionals working with individuals with visible differences across Europe (Harcourt et al., 2018). In an initial study, Kelly, Zuroff and Shapira (2009) evaluated two compassion-focused self-help interventions, taught in a single session, compared to a control condition. Seventy-five distressed acne sufferers were randomly assigned to one of the three (two intervention and one control) conditions and followed up after two weeks of daily independent practice. One intervention condition was based on the work of Gilbert (1992; 2000) and compassionate mind training (Gilbert & Irons, 2005). It was a self-soothing intervention, which involved being taught about self-criticism as a form of self-to-self relating and a rationale for using compassionate self-talk to reduce distress associated with self-

criticism. Compassionate mind training was described, and the participants were guided in visualising a compassionate image and then instructed to write a letter to themselves for five to seven minutes from the perspective of this compassionate image, with a sample letter having been provided. They were then instructed to write five statements to themselves from their self-soothing compassionate image, and examples were provided. Participants were given instructions to repeat their self-statements three times a day for two weeks, whilst engaging in compassionate imagery.

The second intervention condition was aimed at resisting self-attacking. This also involved being taught about self-criticism as a form of self-to-self relating and a rationale for learning how to resist one's self-criticisms to lower distress. Participants were then instructed to imagine a confident, resistant and resilient image who would stand up for them in the face of attacks, mistreatment or injustice. They were then instructed to write a letter from the perspective of the challenging and resistant image to their 'inner critic' and an example was provided by the research team. Participants were then instructed to write five self-statements from their resisting image retaliating against their 'inner critic' with sample statements being provided. Participants were given instructions to repeat their self-statements three times a day for two weeks. The control condition involved no intervention. Compared to a control condition, participants who received the self-soothing intervention reported lower shame and skin complaints, whereas those who received the attack-resisting intervention reported lower depression, shame and skin complaints after two weeks of using the interventions daily. This suggests that interventions aimed at self-soothing and reducing self-attacking may be useful avenues for research.

Compassion-focused expressive writing, originally described by Pennebaker (1993), has been argued to be a promising intervention in decreasing self-criticism (Troop et al., 2013). To date, it has been used in helping women adjust to a new breast cancer diagnosis (Craft,

Davis, & Paulson, 2013). In two studies of breast cancer survivors, a single-session of a web-based self-compassion therapeutic writing intervention called ‘My Changed Body’ has been evaluated (Przedziecki & Sherman, 2016; Sherman et al., 2018). ‘My Changed Body’ lasts for up to 30 minutes and is a modified therapeutic expressive writing task that involves writing down one’s deepest thoughts and emotions (Pennebaker, 1993). The task includes prompts to include a focus on self-compassion (Neff & Dahm, 2015), aimed at targeting body image concerns. This intervention has been reported to improve body image and distress, as well as decrease negative affect and increased self-compassion in relation to difficult memories associated with body image (Przedziecki & Sherman, 2016; Sherman et al., 2018). However, Mifsud et al. (2021) reported no difference in the reduction in body image distress between the ‘My Changed Body’ writing intervention compared to an expressive writing control intervention in a group of breast cancer survivors. Finally, the same single-session intervention was also reported to reduce negative affect and increase self-compassion in those with visible skin conditions compared to an expressive writing intervention without the self-compassion prompts (Sherman, Roper, & Kilby, 2019). However, self-compassion was only measured immediately following the intervention, distress related to skin conditions was not an outcome measure, and no further follow-up data was captured to evaluate the longer-term impact of the intervention. Despite this, compassion-focused expressive writing (Pennebaker, 1993) may be a fruitful intervention for those with appearance concerns.

Two further studies have been conducted on participants living with skin conditions. In a randomised feasibility trial involving 176 participants, Hudson, Thompson, and Emerson (2020) found that a guided self-help daily compassion-focused breathing exercise practiced over a two-week period was shown to have moderate improvements on stress, anxiety, depression, self-compassion and dermatology-specific quality of life. Moreover, Muftin, Gilbert, and Thompson (2022) tested the feasibility and acceptability of two self-help

interventions designed to reduce shame and improve quality of life in 130 participants with psoriasis. Compassion-based online self-help and mindfulness-based online self-help, practiced over a four-week period, were compared. Muftin et al. (2022) reported that both interventions were acceptable and led to modest reductions in shame and improvements in quality of life. However, it is of note that neither of these studies had outcome measures specifically measuring appearance concerns.

In summary, no evidence-based guideline exists for psychological interventions for appearance concerns, and there is a dearth of literature on what interventions individuals would find acceptable (Zucchelli et al., 2018). Evidence for third-wave psychological interventions for appearance concerns is small but appears to be an emerging area of interest and use in clinical practice. Both ACT and compassion-based approaches may both have potential benefits for adults with appearance concerns after burn injuries. It is also possible that combining both approaches, utilising a range of techniques, might be effective for some individuals (e.g., where self-criticism or self-blame around the accident forms part of the appearance concerns). However, no research has investigated this to date.

1.14 Psychological Interventions for Appearance Concerns Following Burn Injuries

Research evaluating psychological interventions for appearance concerns in adults after burn injuries is minimal. Only one of the studies included in the two systematic reviews exploring psychological interventions designed to reduce distress concerning appearance in adults with a visible difference (Bessell & Moss, 2007; Norman & Moss, 2015) involved burns patients. This was a study by Cooper and Burnside (1996) who evaluated a monthly support group over a three-year period involving discussions of psychosocial and medical issues, rather than specifically targeting appearance concerns. The group was attended by 34 burns patients in total and the study employed a case series design. Cooper and Burnside (1996) demonstrated

that the support group was acceptable to patients and peer support has indeed been echoed as valuable by others (e.g., Kornhaber et al., 2014b). However, Bessell and Moss (2007) concluded within their systematic review that there was no evidence to support the intervention.

Since these systematic reviews, there have been two further studies. Firstly, Seehausen et al. (2015) explored the impact of an eight-session group CBT intervention on 86 burns patients compared to treatment as usual. Improvements in psychological distress were noted in participants of the CBT group which remained at the six-month follow-up. No improvement was seen in the control group. However, as with Cooper and Burnside's (1996) intervention, Seehausen et al.'s (2015) group aimed to target psychological distress more widely rather than appearance concerns specifically; one session covered appearance concerns and two sessions aimed to give participants ways to manage social exchanges. Moreover, no outcome measure of appearance concerns was used.

Secondly, Cukor et al. (2015) completed an uncontrolled pilot study in the United States exploring the feasibility, acceptability and initial efficacy of a 14-session protocol delivered individually on a weekly basis to 10 adults following a burn injury. The intervention used CBT techniques to help PTSD symptoms, depression, coping with scarring, and community integration. The intervention was implemented on average three months after injury, with an inclusion criteria being that participants were at least four weeks post-injury. This ranged from one to seven months with four participants starting the intervention within two months of the injury, three participants beginning the intervention more than three months post-injury and three participants starting the intervention more than five months post-injury. Cukor et al. (2015) reported that nine of the 10 participants completed the intervention and that PTSD symptoms reduced by 36%, depression scores reduced by 47% and statistically significant improvements in body image scores and community integration were noted. Within the intervention protocol, there seemed to be a particular emphasis on targeting PTSD symptoms,

and only three of the 14 sessions were partially targeted towards coping with scarring. However, it was reported that the percentage of improvement in coping with scarring was difficult to change and it was suggested that future research should identify additional strategies to target this. Importantly, there was a lack of detail in the strategies used to target ‘coping with scarring’ although this appeared to be limited to social skills training rather than techniques to manage emotions, thoughts or behaviours associated with appearance concerns. The uncontrolled nature of the study, however, makes it difficult to ascertain whether improvements were due to time elapsing given the participants were in the early months post-injury. Furthermore, outcome measures were only completed on two occasions, before treatment and one week after treatment had ended, with no follow-up data being obtained to establish whether improvements had been maintained and no interim measures being completed during the intervention which may have established when improvements were being made, to what degree and on which domains, and whether any changes in scores tied in with specifically targeted sessions. Finally, no qualitative data was gathered to explore acceptability in more detail. Cukor et al. (2015) suggested that future research should focus on interventions that could be implemented within the initial days and weeks post-injury to be preventative in nature. Furthermore, the case series detailed earlier in Section 1.13.2 by Shepherd et al. (2020) reported the effectiveness of ACT (Hayes, Strosahl, & Wilson, 1999) on three cases, including two adults after burn injuries.

There is a significant need to develop effective and acceptable psychological therapies for appearance concerns more widely. Moreover, there is a particular dearth of research that has evaluated interventions for appearance concerns in adults following burn injuries. Research exploring the effectiveness and acceptability of psychological interventions is also lacking in individuals following burn injuries as well as more widely across other visible difference populations (Zucchelli et al., 2018). Early intervention and prevention of long-term distress in

individuals following burns injuries is important (British Burn Association, 2023; Wiechman, Saxe, & Fauerbach, 2017). However, prior to the PhD study, no research within the burn injury or wider visible difference literature had appeared to consider early interventions for appearance concerns.

1.15 Acceptability of Early Psychological Interventions for Appearance Concerns After Burn Injuries

In a survey of psychosocial professionals working in Europe with individuals with visible differences, Harcourt et al. (2018) found that stigma in seeking help for distress associated with having a visible difference may exist, psychological support may be difficult to access, there may be a lack of training opportunities and funding to increase the number of specialists in the field and that psychological care needs to be standardised and routinely assessed and addressed within the patient pathway. Van Loey, Faber and Taal (2001) reported that in European burns services psychological follow-up appointments are only offered 40.6% of the time to assess psychological well-being more generally following a burn injury. This suggests that there may be a number of barriers to accessing psychological interventions for individuals after a burn injury.

No research exists that has explored the acceptability of early psychological interventions for appearance concerns, either after burn injuries or any other injury- or health-related context. However, a study by McDermott, Hotton, and Cartwright (2023) highlighted that barriers exist for individuals in seeking and engaging in psychological support following burn injuries for any type of psychological difficulty. In that study, 11 individuals were interviewed within two years of their burn injury and responses were analysed using thematic analysis. McDermott et al. (2023) reported that increased psychological presence within burn care settings was needed so psychological support felt familiar and available. Furthermore, individuals perceived accessing burns psychologists as stressful once leaving hospital, and

beliefs about mental health and psychological therapy (around a lack of knowledge about psychological therapy and stigma) impacted engagement. Negative beliefs about psychological therapy were also identified by McDermott et al. (2023), including those around the usefulness of therapy, stories of others' previous negative experiences of psychological therapy (unrelated to burn injuries), perceiving NHS services as stretched, and it conflicting with a desire to cope independently. Their findings also highlighted that some individuals do not understand or are unaware of what psychologists do and what psychological therapy can offer. Additional cultural barriers were also highlighted. Time and financial pressures were also reported from the perspective of individuals who were outpatients (i.e., discharged from hospital), but that pain and physical recovery had been priorities during the hospitalisation and early discharge phases which were barriers to engagement. These findings suggest that many barriers to engaging in psychological interventions exist following burn injuries, which are not specific to those for appearance concerns and may be present for both inpatients and outpatients.

The Medical Research Council and the National Institute for Health Research (Skivington et al., 2021) issued guidance and a framework for developing and evaluating complex interventions. This highlights the importance of considering research questions that go beyond whether an intervention works, including issues of acceptability, feasibility, uncertainties and real-world implementation. Acceptability is a necessary but not sufficient condition for the effectiveness of any intervention, and successful implementation depends on the acceptability of an intervention to those delivering (e.g., clinicians) and receiving (e.g., patients) them (Stok et al., 2016; Sekhon, Cartwright, & Francis, 2017). It has been pointed out that acceptability is not defined by the Medical Research Council and the National Institute for Health Research (Skivington et al., 2021) guidance, despite revised versions having increasing focus on the construct (Sekhon et al., 2017). Acknowledging the

complexity of the construct of acceptability, Sekhon et al. (2017) conducted a review of systematic reviews that aimed to define, theorise or measure acceptability of healthcare interventions, and developed a framework of acceptability based on inductive and deductive reasoning. Findings of their review revealed that acceptability was most often measured by objective measures of behaviour, such as dropout or withdrawal rates or discontinuation (and reasons for these). Satisfaction, attitudes and experiences were also measured through questionnaires or open-ended interview questions.

Sekhon et al. (2017) subsequently developed the Theoretical Framework of Acceptability (TFA), which proposes that acceptability is a multi-faceted construct that reflects the extent to which individuals delivering or receiving an intervention consider it to be appropriate, based on cognitive and emotional responses to the intervention that are either anticipated or experienced. The TFA has seven components: affective attitude (how an individual feels about the intervention), burden (the perceived amount of effort that is needed to engage in the intervention), perceived effectiveness (the extent to which the intervention is perceived as likely to achieve its purpose), ethicality (the extent to which the intervention has good fit with an individual's value system), intervention coherence (the extent to which the individual understands the intervention and how it works), opportunity costs (the extent to which benefits, profits or values must be given up to engage in the intervention), and self-efficacy (the individual's confidence that they can do what is required to engage in the intervention).

Sekhon et al. (2017) also considered that acceptability (and the components within this construct) can be prospective (occur before the intervention), concurrent (occur whilst participating in the intervention), and retrospective (occur after the intervention). The TFA has been used to guide qualitative investigations into the acceptability of interventions across a variety of health conditions and health behaviours, including psychological interventions

(Kwek et al., 2020; Liptrott, Lovell, & Bee, 2020; Pavlova, Teychenne, & Olander, 2020; Rushton et al., 2020). Therefore, there was an absence of research prior to this thesis that had investigated the acceptability of (early) psychological interventions for appearance concerns after burn injuries.

1.16 State of the Literature Prior to this PhD Study and Aims of the Thesis

The literature shows that there can be a significant, but not inevitable, psychological impact of living with a visible difference. Appearance concerns affect a significant proportion of adults after a burn injury, and objective characteristics of burn injuries do not necessarily correspond to subjective appearance concerns. Research has revealed that certain psychological variables are associated with appearance concerns. However, there are limited prospective cohort or longitudinal studies available which limits understanding of factors involved in the development of appearance concerns more widely and after burn injuries specifically. Avoidant or emotion-focused coping may be particularly salient in appearance concerns. Difficulties responding to distress with psychological flexibility and self-compassion are associated with maladaptive coping strategies. Furthermore, they have a protective role in psychological wellbeing generally. Prior to commencing the PhD study, a small amount of evidence existed that suggested that difficulties in responding to distress with psychological flexibility and self-compassion may play a role in appearance concerns in those with visible differences. These variables warranted further investigation into their role in appearance concerns after burn injuries. However, the literature was largely restricted to cross-sectional quantitative designs and no qualitative study had explicitly investigated the role of these variables in appearance concerns. There was also a lack of strong evidence for any type of psychological therapy for appearance concerns in populations living with a visible difference. There was emerging evidence for the use of ACT (which aims to enhance

psychological flexibility) and compassion-focused interventions to treat appearance concerns. However, there was an absence of research that had focused on early interventions after a sudden change to appearance, such as in burn injuries. There was also no research that had explored the acceptability of early psychological interventions for appearance concerns after burn injuries.

The research within this thesis therefore aimed to investigate the roles of psychological flexibility and self-compassion in the development of appearance concerns after burn injuries; and develop an acceptable early ACT intervention for appearance concerns to enhance psychological flexibility and self-compassion in adults after burn injuries that could be further evaluated in subsequent research. This was achieved through three studies: 1) a multi-centre prospective cohort study that aimed to investigate the roles of psychological flexibility and self-compassion on appearance concerns during hospital admission and two- and six-months later; 2) a qualitative study that aimed to explore the early psychological experiences of appearance concerns through the lens of psychological flexibility and self-compassion; and 3) a mixed-methods acceptability study that aimed to investigate the acceptability of ProACTIVE, an early ACT-based intervention to support individuals adjust to a change in their appearance following burn injuries. Chapter 2 discusses methodological considerations of the research. Following this, published/submitted manuscripts from these studies are located in Chapters 3-6 of the thesis.

1.17 References

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2. Methodological Considerations

This chapter provides an overview of methodological issues that are pertinent to the thesis research: mixed-methods approaches; philosophical positioning; reflexivity; and patient and public involvement and input from experts by experience.

2.1 Mixed-methods approaches

Quantitative and qualitative research both have strengths and weaknesses.

Quantitative research involves inductive reasoning, tests hypotheses, has the potential to establish cause-and-effect relationships and generates numerical data that may be generalisable to larger populations. Qualitative research is limited in these ways but enables the exploration of phenomenon in natural rather than experimental settings, emphasises the meanings, experiences and views of participants and produces rich and nuanced narrative data that quantitative research cannot provide (e.g., Verhoef & Casebeer, 1997).

Consequently, integrating quantitative and qualitative methods is now commonplace in health-related research (Bryman, 2006; Doyle, Brady, & Byrne, 2016). Among other advantages, combining both approaches: enables the triangulation of findings so they may be mutually corroborated; allows the expansion of initial quantitative data to include qualitative explanations, or the exploration of unexpected quantitative findings that need to be understood; complements and brings together a more complete or comprehensive account of the area of enquiry; offsets each approaches' weaknesses to draw on the strengths of both; enables different research questions to be answered; and illustrates or illuminates quantitative findings (Bryman, 2006; Doyle et al., 2016). Programmatic research often has a variety of aims and therefore typically requires a range of approaches to be used. It is particularly common in intervention development research, as highlighted in Medical Research Council

and the National Institute for Health Research guidance and framework for developing and evaluating complex interventions (Skivington et al., 2021).

Doyle et al. (2016) describe three basic designs, and one advanced design, of mixed methods approaches. The convergent design addresses one overarching research question and is used when researchers are looking for convergence and a more complete understanding of the phenomenon of interest (Doyle, 2015). Within this design, quantitative and qualitative data are collected concurrently but separately, and the findings of one phase are not dependent upon another (Cresswell & Plano Clark, 2011). The explanatory sequential design typically consists of a larger quantitative phase, followed by a smaller qualitative phase to expand and explain the quantitative results. The exploratory sequential design has a primary qualitative phase that builds into a quantitative phase (e.g., to generalise the qualitative findings to a wider population). Finally, the embedded intervention design involves a qualitative phase embedded within an experiment or intervention trial to minimise some of the difficulties with intervention studies. The qualitative element may be used before, during and/or after the intervention, with the aim of it being at the end including understanding why or why not an intervention worked or how it may be improved (Cresswell, 2015).

A mixed methods approach was adopted for the research studies presented within this thesis. This approach was consistent with the aims of the thesis: to investigate the roles of psychological flexibility and self-compassion in the development of appearance concerns after burn injuries; and develop an acceptable early ACT intervention for appearance concerns to enhance psychological flexibility and self-compassion in adults after burn injuries that could be further evaluated in subsequent research. Within the thesis, Manuscripts 1, 2 and 3 describe two studies (a multi-centre prospective cohort study and a qualitative study), utilising a convergent mixed-methods design (Doyle et al., 2016). Both studies had the broad aim of understanding the roles of psychological flexibility and self-compassion in

appearance concerns after burn injuries. They were conducted concurrently in order to produce independent findings that could be considered together and provide a more complete understanding of the role of these constructs in appearance concerns after burn injuries. These findings were subsequently used to inform the development of an ACT-based early psychological intervention to support individuals in adjusting to their appearance changes (ProACTIVE). The acceptability of this intervention was investigated using mixed-methods with an embedded intervention design (Doyle et al., 2016), and this study is detailed in Manuscript 4.

Mixed-methods was appropriate to meet the research questions that the PhD thesis aimed to address. Quantitative methods permitted the testing of experimental hypotheses based on existing theories, whereas qualitative methods opened up possibilities for exploring participants' experiences and views in greater depth and enable a nuanced understanding of these. Overall, it enabled the triangulation of findings and allowed a complementary and more comprehensive understanding of the psychological phenomena under investigation, following which an intervention was developed and investigated for acceptability.

2.2 Philosophical Positioning

Paradigms are systems of beliefs and practices that influence how researchers identify their research questions and select methods to study them. Critical realism (Bhaskar, 2010) is a philosophical position that embraces a plurality of assumptions and methods (Greene, 2007) and supports the belief that quantitative and qualitative methods can work together (Doyle et al., 2016). Mixed methods therefore enable the researcher to conduct the research from a critical realist ontological and epistemological perspective (Bhaskar, 2010). From this perspective, transcendental reality and critical naturalism are combined. The researcher assumes ontological realism, a perspective that reality exists and is independent of a

researcher's awareness or knowledge. However, critical naturalism poses that when the human world and experiences are being studied a different strategy is required compared to the physical world, incorporating and considering the mechanisms that produce social events and that they may change dependent upon the context (Bhaskar, 2010). In psychological research, this perspective means that participants' responses (e.g., on questionnaires and during interviews) are viewed as representing meaningful knowledge or 'truths' about the world. However, it is acknowledged that there will be inevitable errors when conducting research with human participants, knowledge is generated and perceived through lenses of cultural, historical, personal and social experiences, and that researchers cannot be completely objective during the research process. Critical realism is therefore popular in social sciences research (Zhang, 2022) and was the positioning taken in the research within this thesis.

2.3 Reflexivity

The process of engaging in self-reflection to examine one's assumptions, biases, and beliefs as a researcher, to critically evaluate how one influences the research before, during, and after the research, is known as reflexivity (Lazard & McAvoy, 2020; Wilkinson, 1988). Reflexivity has been traditionally associated with, and embraced by, qualitative research, with researchers being encouraged to consider their own positionalities within the research process (Finlay & Gough, 2003; Olmos-Vega, Stalmeijer et al., 2023), although arguments have more recently also been made for its place in quantitative research (Jamieson et al., 2023). Reflexivity can be embedded in all stages of the research process including when generating the research question and design, collecting data, analysing and interpreting the data, and making conclusions (Jamieson et al., 2023). Reflexivity is one way of establishing credibility and rigour in qualitative research (Malterud, 2001; Spencer & Ritchie, 2012).

Throughout this PhD research, a reflective diary was maintained by me. Furthermore, my PhD supervisors and I continually reflected on our interest in the research topic, experience and reasons for wanting to research the area, and the relationship between preconceptions and the findings during team meetings and through field notes. Explicit discussions around other relevant theories and concepts that might contribute to, or explain, the findings were regularly held. My PhD supervisors and I were aware of our positionalities, particularly our pre-existing allegiance to cognitive, third-wave and positive psychological theories, throughout the thesis research and collectively engaged in reflexivity to ensure that the qualitative data specifically enabled space for both inductive and deductive conceptualisation.

I am a White, cis gender and able-bodied woman in my early forties. I am a clinical psychologist with 16 years' experience in working therapeutically with individuals following burn injuries, from the time of hospital admission onwards. My preferred psychological approach to supporting people with appearance concerns after burn injuries is through ACT and I have been practicing clinically in this way for several years. I have no personal experience of burn injuries but was aware of the influences of my clinical experience of working in a burns service and knowledge of psychological care provision across the UK after burn injuries. I had previously conducted research on psychological care provision in the burns service where I work clinically, appearance concerns after burn injuries, the role of psychological flexibility in appearance concerns, and using ACT for appearance concerns.

My PhD supervisors are all White, cis gender and able-bodied, in their fifties and sixties. All have extensive experience of researching in the area of burn injuries and other populations with visible differences (Professors Andrew Thompson and Diana Harcourt), psychological care provision for people after burn injuries (Professor Diana Harcourt),

psychological flexibility and self-compassion in other populations with visible differences (Professors Andrew Thompson and Paul Norman), and self-compassion in other populations (Professor Fuschia Sirois). One supervisor also has clinical experience of supporting individuals with appearance concerns due to visible differences (Professor Andrew Thompson). This enriched the research team, but we were also mindful of the lens and influences we brought to the research process. As detailed above, explicit conversations were held about our expectations, experiences and influences that may have impacted any stage of the research process.

2.4 Patient and Public and Expert by Experience Involvement

Patient and public involvement (PPI) is defined by the National Institute for Health and Care Research (NIHR) as research being carried out ‘with’ or ‘by’ members of the public rather than ‘to,’ ‘about’ or ‘for’ them (NIHR, 2024). PPI is considered essential throughout the research life cycle in healthcare research (Arumugam et al., 2023) and promotes ‘Nothing About Us Without Us’ principles (Charlton, 1998). This ensures that research meets patient expectations, needs and preferences to provide meaningful outcomes, impact and value for patients and their care (Arumugam et al., 2023).

A Patient Advisory Group was established and utilised across all studies presented in the thesis. Membership included between three and four adults (two men and two women) who had sustained burn injuries in the past. The members varied in how long ago they sustained their burn injuries. Three sustained burn injuries in adulthood and one experienced their injuries as a young child. These patients were identified through UK charities including the Katie Piper Foundation, Children’s Burns Trust and Changing Faces, who provide support to those with burn injuries and other visible differences. One member had their own research experience but none of the members had held roles in Patient Advisory Groups. Members were signposted to

the Nottingham University Hospitals NHS Trust research volunteer hub where information could be accessed about the role and training opportunities are offered. Members were also given copies of the ‘INVOLVE Starting Out’ guidance of the NIHR. They were reimbursed for their time, in line with guidance from the NIHR.

The Patient Advisory Group met two or three times a year, where updates about the research was provided and advice and involvement were sought. Ad hoc advice and involvement were gained in between meetings (e.g., reviewing patient-facing materials). The group was involved in the design of all studies and considered ethical issues throughout. The group was instrumental in advising about participation choices, guiding recruitment strategies and providing views about the acceptability of the studies including, for example, the number of questionnaires and time involved in participating in the multi-centre prospective cohort study. The group co-developed all Participant Information Sheets and provided guidance on all other participant-facing study materials. They also assisted with developing the interview schedules detailed in the qualitative and mixed-methods acceptability studies. For the qualitative study, the group also provided feedback on the results (the final template) to gain a sense about whether these themes felt credible to them. The group was consulted about the acceptability of the ProACTive intervention that is detailed in the mixed-methods acceptability study and assisted in developing the patient resources for the intervention. Finally, the group assisted with dissemination materials for charities relevant to burn injuries.

Prior to the commencement of this PhD research, a separate Patient Advisory Group was developed to inform and shape the NIHR Clinical Doctoral Research Fellowship application. These patients were identified through advertisement at the burns service at Nottingham University Hospitals NHS Trust. To inform the fellowship application, views from representatives from the Katie Piper Foundation, Changing Faces, and Dan’s Fund for Burns

(another UK charity that supports burn survivors) were also sought as to the importance of the research aims.

Other experts by experience were also consulted throughout the thesis research. Members of the British Burn Association Psychosocial Special Interest Group, comprising Clinical Psychologists and other psychological therapists, with experience of working in burns services in the UK and supporting individuals after burn injuries were regularly consulted about the proposed studies and their findings. Views about the relevance and importance of the proposed studies and findings were sought, and a steering group was formed to assist with the development of the ProACTive intervention to ensure usability for psychological professionals. A clinical and research expert in ACT, Professor Lance McCracken, was also involved in the development of the intervention to ensure its validity.

2.5 Summary

This chapter has discussed how a mixed-methods approach was adopted for this thesis research to provide a more complete understanding of the roles of psychological flexibility and self-compassion in appearance concerns after burn injuries. Mixed-methods also permitted participants' experiences and views about the acceptability of an ACT-based early psychological intervention to be explored in greater depth. The philosophical positioning of the thesis research has been detailed, including how critical realism fits with the mixed-methods approach adopted. Reflexivity and positionalities of the PhD candidate and supervisors have also been detailed. Finally, the involvement of patients and other experts by experience in the thesis research has been described. The subsequent chapters (Chapters 3 to 6) present the published/submitted manuscripts produced within the context of these methodological considerations.

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3. A Multi-centre Prospective Study Investigating the Roles of Psychological Flexibility and Self-compassion in Appearance Concerns After Burn Injuries

(Published Manuscript 1)

This chapter has been published as:

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Preface

Prior to this thesis research, and as presented in the introductory chapter, a small amount of evidence existed that suggested that difficulties in responding to distress with psychological flexibility and self-compassion may play a role in appearance concerns in those with visible differences. However, the literature was largely restricted to cross-sectional quantitative designs, no research had explicitly investigated psychological flexibility or self-compassion soon after a sudden change to appearance (e.g., after burn injuries), and no studies existed which simultaneously explored the roles of psychological flexibility and self-compassion in appearance concerns. The study presented in the first manuscript sought to address these gaps and extend the quantitative research literature on the topic in these ways. Published supplementary materials follow the manuscript.

A multi-centre prospective study investigating the roles of psychological flexibility and self-compassion in appearance concerns after burn injuries

Short title: Running header: Psychological flexibility and self-compassion in appearance concerns

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A multi-centre prospective cohort study investigating the roles of psychological flexibility and self-compassion in appearance concerns after burn injuries

Abstract

Objectives: Appearance concerns following burn injuries are common. Psychological factors are important in maintaining such concerns. However, there is a lack of longitudinal or prospective research investigating their development. This study investigated whether psychological flexibility and self-compassion at hospital admission predicted subsequent appearance concerns. *Design:* A multi-centre prospective cohort study across six burns services. *Methods:* Adults ($n = 175$; 67% male) in hospital following burn injuries were recruited. Questionnaires measuring appearance concerns, psychological flexibility, self-compassion, post-traumatic stress disorder symptoms and perceived noticeability were completed during hospital admission and two- and six-months later. Demographic and burn injury information was collected. *Results:* Correlational analyses showed that increased psychological flexibility and self-compassion at admission were associated with decreased appearance concerns cross-sectionally and prospectively at two- and six-month follow-up. These associations remained significant when controlling for key covariates (i.e., gender, age, ethnicity, percentage total body surface area burnt, perceived noticeability, PTSD symptoms). Multiple linear regression analyses revealed that psychological flexibility and self-compassion predicted appearance concerns during hospital admission. Although psychological flexibility significantly predicted appearance concerns over time, it became non-significant when controlling for baseline appearance concerns. *Conclusions:* Psychological flexibility has a protective role against appearance concerns soon after burn injuries, although this protective role is reduced when accounting for baseline appearance

concerns. Early interventions targeting psychological flexibility (i.e., acceptance and commitment therapy) may be beneficial after burns if adapted to address appearance-related concerns.

Keywords: burn; injury; appearance; body image; psychological flexibility; self-compassion

Data availability statement: The data that support the findings of this study are openly available in the Open Science Framework at <https://doi.org/10.17605/OSF.IO/T8SJ4>.

Supplementary information and analyses are also available here.

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Statement of contribution

What is already known on this subject?

- Psychological factors are important in maintaining appearance concerns in those with visible differences

- Cross-sectional research suggests that psychological flexibility and self-compassion are related to appearance concerns

What does this study add?

- Psychological flexibility and self-compassion are related to appearance concerns following burn injuries, during hospital admission
- Increased psychological flexibility during hospital admission after a burn injury predicts lower appearance concerns over time, although not over the effect of baseline appearance concerns

Introduction

Appearance concerns following burn injuries (Patterson et al., 1993) is common, as evidenced in people with other visible differences (Thompson & Kent, 2001). Thombs et al. (2008) were the first to track appearance concerns in burns patients over the first 12 months post-injury. In this study, severity of appearance concerns were reported to be consistent over the 12 months but worse for female patients and those with larger burn injuries. Appearance concerns were also reported as the most salient predictor of psychosocial functioning after 12 months. Appearance concerns in the early post-injury phase have been associated with long-term disability and difficulty returning to work (Esselman et al., 2007). Therefore, understanding factors that have a role in the development and maintenance of, or protection from, appearance concerns is important.

Psychological variables associated with appearance concerns after burns

Although some studies have reported a link between the severity of a burn injury (e.g., percentage total body surface area; %TBSA) and appearance concerns, a systematic review reported that findings vary significantly (Cleary, Kornhaber, Thapa, West, & Visentin, 2020), thereby indicating a potential role of psychological variables. However, there is only a small body of research that has examined the psychological variables associated with appearance concerns following burn injuries. Cross-sectional studies have highlighted the role of shame in social introversion due to scarring (Taal & Faber, 1998) and social stigma, post-traumatic stress and depression symptoms as mediators of the relationship between appearance concerns and reduced community integration (Mercado et al., 2022). Considering longitudinal or prospective cohort studies, three studies from the same research group in North America have highlighted relationships between increased use of emotion-focused coping (Fauerbach et al., 2002) and avoidant coping (Amoyal et al., 2011), and higher appearance salience (Thombs et al., 2008), during hospital admission and subsequent appearance concerns between two and 12 months later.

Coping strategies can be seen as being driven by broader constructs relating to how individuals respond to internal experiences (e.g., emotions and thoughts), such as psychological flexibility (Hayes, Strosahl, & Wilson, 1999) and self-compassion (Neff, 2003). These broader constructs may themselves be related to appearance concerns after burns and be suitable targets for intervention. Indeed, psychological flexibility (Hayes et al., 1999) and self-compassion (Neff, 2003) have been found to be related to reduced shame and guilt, as well as higher levels of adaptive coping, in various clinical and medical populations (Sirois, Molnar, & Hirsch, 2015; Vasiliou, Russell, Cockayne, de Holanda Coelho, & Thompson 2023; Williams, Fekete, & Skinta, 2021; Zukerman, Maor, Reichard, & Ben-Itzhak, 2023). Psychological flexibility and self-compassion may therefore also help to buffer the impact of burn injuries on appearance concerns.

Psychological flexibility and appearance concerns

Psychological flexibility is a multi-dimensional theory of psychological wellbeing underpinning acceptance and commitment therapy (ACT; Hayes et al., 1999) and can be defined as being open to experiencing distressing internal experiences (e.g., thoughts and emotions), being present and acting in line with an individual's values in spite of their distressing experiences (Harris, 2009). In contrast, experiential avoidance (difficulties being open to experiencing distressing internal experiences) is associated with psychological difficulties (Hayes et al., 1999). A diathesis-stress model of experiential avoidance has been proposed, suggesting that experiential avoidance makes people vulnerable to stressors, in that individuals who typically try to avoid internal distressing experiences may continue this approach when faced with stressful life events (Biglan, Hayes, & Pistorello, 2008).

There has been recent interest in the roles of psychological flexibility (or facets of this construct) in appearance concerns in the wider visible difference literature (Montgomery, Norman, Messenger, & Thompson, 2016; Shepherd, Reynolds, Turner, O'Boyle, & Thompson, 2019; Zucchelli, White, & Williamson, 2020). Mindfulness, which relates to the being present element of psychological flexibility, was found to explain 41% of the variance in social anxiety in a sample of 120 individuals with skin conditions (Montgomery et al., 2016). Furthermore, in a sample of 78 individuals who had experienced burn injuries, numerous facets of psychological flexibility (acceptance, cognitive defusion, mindfulness and valued action) were found to be associated with appearance concerns (Shepherd et al., 2019). In a further study by Zucchelli et al. (2020), with 220 adults with varying visible differences, cognitive fusion (difficulty standing back from and observing thoughts) was found to partially mediate the relationship between body evaluation and body image coping strategies. In addition, acceptance was reported to partially mediate the relationship between body evaluation and behavioural avoidance. Finally, Vasiliou et al. (2023) explored stigma in 105

individuals with visible skin conditions finding that psychological flexibility contributed to fewer stigmatised experiences.

Self-compassion and appearance concerns

Neff (2003) defines self-compassion as the ability to respond to difficulties and personal struggles with self-kindness rather than harsh self-criticism, see one's experience as part of a common humanity rather than feeling alone in one's suffering, and take a balanced perspective on painful thoughts and emotions rather than becoming immersed in them. Together these three bipolar components of self-compassion work synergistically to defuse negative thoughts and responses to difficulties, promote self-acceptance, and help feel less isolated, which in turn can reduce stress, promote adaptive coping and improve well-being (Ewert, Vater, & Schroder-Abe, 2021; Sirois et al., 2015; Zessin, Dickhauser, & Garbade, 2015). The limited research on the possible role of self-compassion in appearance concerns relating to visible difference has mainly been conducted with breast cancer survivors. One study reported that self-compassion mediated the relationship between negative body image and distress (Przezdziecki et al., 2013). In other studies, higher self-compassion has been linked to lower body image difficulties (Todorov, Sherman, & Kilby, 2019; Zhu et al., 2023). A further study found that the association between having a negative body image and psychological distress in women following nipple-sparing mastectomy and immediate breast reconstruction was attenuated by higher levels of self-compassion (Sherman, Woon, French, & Elder, 2017).

There is also some research with individuals with skin conditions that supports a potential protective role for self-compassion in appearance concerns. Firstly, although not measuring appearance concerns or body image disturbance specifically, one study exploring the effect of self-compassion on symptoms of depression in patients with skin conditions

found that self-compassion explained significant variance in depression and moderated the effect on disgust propensity (Clarke, Thompson, & Norman, 2020). Secondly, a qualitative study by the same research group reported that self-compassion helped people adjust to living with a skin condition (Clarke, Norman, & Thompson, 2022).

Study rationale and aims

Current theory and evidence suggests that psychological flexibility and self-compassion may be protective factors in appearance concerns in individuals with visible differences. However, research is predominantly limited to cross-sectional studies, which limits conclusions about the roles of psychological flexibility and self-compassion in the maintenance rather than the development of appearance concerns. Longitudinal or prospective studies are therefore required to assess appearance concerns and psychological variables in the early stages following a burn injury (e.g., during hospital admission) and repeat these over time. Such studies can help identify the psychological variables that increase risk for, and protection from, appearance concerns.

Furthermore, evidence related to appearance concerns is currently limited to studies that have investigated psychological flexibility and self-compassion separately. There is evidence that these constructs are empirically related (Moreno, 2023; Neff & Tirsch, 2003). Moreover, Yadavaia, Hayes, and Vilaradaga (2014) have argued that psychological flexibility and self-compassion are also conceptually related. First, Yadavaia et al. (2014) argued that Neff's (2003) concept of self-kindness may be closely associated with self-acceptance, the opposite of experiential avoidance. This is because self-acceptance, through acceptance of internal experiences and reducing experiential avoidance, is likely to facilitate self-compassion. Second, they argued that the same processes that enhance perspective taking (or

self-as-context; an awareness of the self as separate to one's internal experiences) in psychological flexibility are involved in a sense of common humanity (central to Neff's conceptualisation of self-compassion), as they allow individuals to appreciate that both the self and others have moment-to-moment perspectives that involve being witness to difficult experiences. Third, they argued that both concepts emphasise mindfulness; by defusion, acceptance, contact with the present moment, and self-as-context in psychological flexibility and the ability to have a balanced perspective on painful thoughts and emotions rather than be overwhelmed by them in Neff's conceptualisation of self-compassion.

Therefore, investigating both psychological flexibility and self-compassion together would generate insight into whether each plays a unique role in appearance concerns, or whether one plays a stronger role than the other. It would also provide clear clinical implications as to the type of psychological intervention that is likely to be most effective in reducing or preventing appearance concerns following burns injuries.

The present study therefore aimed to investigate whether psychological flexibility and self-compassion during hospital admission were associated with appearance concerns both cross-sectionally and prospectively at two- and six-month follow-up in adults with burn injuries. We hypothesised that higher levels of psychological flexibility and self-compassion during hospital admission would predict lower appearance concerns at baseline as well as at the follow-ups.

Materials and methods

Design

A multi-centre prospective cohort study was conducted. Standardised self-report questionnaires were administered across three time-points: during hospital admission (T1);

two months later (T2); and six months later (T3). The independent variables were psychological flexibility and self-compassion. The dependent variable was appearance concerns. Seven covariates were identified a priori based on previous studies that have found them to be associated with appearance concerns (e.g., Cleary et al., 2020; Macleod et al., 2016; Mata-Greve et al., 2022; Montgomery et al., 2016; Shepherd et al., 2019; Thombs et al., 2008); namely, age, gender, ethnicity, burn severity (measured by percentage total body surface area burnt (% TBSA)), post-traumatic stress disorder (PTSD) symptoms, perceived noticeability and baseline appearance concerns.

Power analysis

An a priori power analysis using the fixed model, R^2 deviation from zero test provided by G*Power, indicated that data from at least 114 participants would be required to detect a statistically significant result at $p = .05$ based on 80% power and an effect size of $f^2 = .15$ with nine predictor variables. A medium effect size of $f^2 = .15$, according to Cohen's (1992) guidelines, was chosen given the lack of previous research on psychological flexibility and self-compassion in relation to appearance concerns following burns injuries. A systematic review and meta-analysis estimated the mean retention rate in longitudinal cohort studies to be 73.5%, although females had a higher (78.5%) retention rate than males (60.1%; Teague et al., 2018). Given that more adult males (63.6%) than females (36.4%) are admitted with burns injuries (Mehta et al., 2022), the expected retention rate was estimated to be 67%. This suggested recruiting 170 participants at baseline. To account for incomplete data, 175 participants were recruited.

Participants

Adults ($n = 175$) admitted to hospital with a burn injury were recruited. Males represented 66.9% ($n = 117$) of the sample and 33.1% ($n = 58$) were female. The mean age was 42.2 years (range: 18 – 86; $SD = 16.35$). The majority were White British (82.9%; $n = 145$) and 17.1% ($n = 30$) were from other ethnic groups. The mean self-reported socioeconomic status, measured by the *McArthur Scale of Subjective Social Status – Adult Version* (Adler, Epel, Castellazzo, & Ickovics, 2000), was 5.90 ($SD = 1.58$), where one represents the ‘worst off’ people and 10 represents the ‘best off’ people in the UK. Table 1 displays burn injury information.

Table 1

Participant Burn Injury Information

	<i>Mean (SD)</i>
Days since burn injury at recruitment	8.7 (15.21)
% Total body surface area (TBSA)	5.8 (7.68)
	<i>N (%)</i>
Mechanism:	
Scald	61 (34.9%)
Flame	46 (26.3%)
Flash	25 (14.3%)
Contact	20 (11.4%)
Chemical	13 (7.4%)
Electrical	4 (2.3%)
Radiation	2 (1.1%)
Other	4 (2.3%)
Depth:	
Superficial partial-thickness	64 (36.6%)

Mixed thickness	59 (33.7%)
Full thickness	40 (22.9%)
Deep dermal	12 (6.9%)
Body location:	
Legs	87 (49.7%)
Arms	60 (34.3%)
Hands	46 (26.3%)
Chest/abdomen	45 (25.7%)
Feet	38 (21.7%)
Head/face/neck	31 (17.7%)
Back	16 (9.1%)
Buttocks	10 (5.7%)
Genitals	8 (4.6%)

As Table 1 indicates, participants were recruited on average less than nine days following their burn, and the mean TBSA was 5.8%. The most common areas burnt on the body were the legs (49.7%), but the sample included those with burn injuries across a variety of body areas.

Inclusion and exclusion criteria

Adults (18 years or over) who were inpatients at recruiting burns services with acute burn injuries were eligible to participate. Individuals were excluded if they had been admitted for reconstructive surgery rather than an acute injury, were too physically unwell, sustained their burn injuries due to a suicide attempt or self-harm, were not fluent in the English language, had a cognitive impairment, or no potential ability to participate by completing questionnaires at all time-points (i.e., no contact details).

Settings

Six designated specialised NHS burns units or centres in Aylesbury, Newcastle, Nottingham, Sheffield and Wakefield, England, and Swansea, Wales, UK, recruited participants. The number of participants recruited between the sites varied (range: 8 – 87). Considering representativeness of the sample, the proportion of participants taking part in the study comparative to the total number of burns patients admitted to each burns service due to accidental burn injuries during the recruitment period ranged from 7 to 25.4% across the recruitment sites, with an average of 12.3%.

Measures

During hospital admission (T1), participants completed four questionnaires and two single-item visual analogue scales.

Body Esteem for Adolescents and Adults – Appearance Subscale (BESAA-A; Mendelson, Mendelson, & White, 2001): the 10-item appearance subscale of this self-report questionnaire that measures body esteem and evaluation was used to measure appearance concerns. It has been used in research exploring psychological variables and appearance concerns in adults following burns, with an alpha coefficient of .95 reported (Lawrence, Fauerbach, & Thombs, 2006), and to assess the relationship between body esteem and psychological flexibility in participants with a range of visible differences (Zucchelli et al., 2020). Responses to items are rated on a scale ranging from 0 ('Not at all') to 4 ('Always'), with some items being reverse-scored. An example item is, 'I'm pretty happy about the way I look.' The total mean score of this measure was used in analyses, which has a possible range of values between 0 and 4. Higher scores indicate higher body-esteem (lower appearance concerns).

Acceptance and Action Questionnaire (AAQ-II; Bond et al., 2011): a seven-item self-report questionnaire that measures difficulties with acceptance, one facet of psychological flexibility. It has good psychometric properties, with an alpha coefficient of .84 and 3- and 12-month test-retest reliability of .81 and .79 respectively. It is the most widely used measure in psychological flexibility research (Ong et al., 2020) and has been used in a cross-sectional study exploring psychological flexibility and appearance concerns in adults following burn injuries (Shepherd et al., 2019). Responses to items are rated on a scale ranging from 1 ('Never true') to 7 ('Always true'). An example item is, 'I'm afraid of my feelings.' The total score of this measure was used in analyses, which has a possible range of values between 7 and 49. Higher scores indicate higher experiential avoidance, and therefore lower psychological flexibility.

Self-Compassion Scale – Short Form (SCS-SF; Raes, Pommier, Neff, & Van Gucht, 2011): a 12-item self-report questionnaire that measures self-compassion. It has good psychometric properties, with an alpha coefficient of .86 (Raes et al., 2011), and has been widely used in research examining self-compassion and body image in populations with a visible difference (e.g., Sherman et al., 2017). Responses to items are rated on a scale ranging from 1 ('Almost never') to 5 ('Almost always'). An example item is, 'I try to be understanding and patient towards those aspects of my personality I don't like.' The total mean score of this measure was used in analyses, which has a possible range of values between 1 and 5. Higher scores indicate higher self-compassion.

Impact of Event Scale - Revised (IES-R; Weiss & Marmar, 2007): a 22-item self-report questionnaire that measures post-traumatic stress disorder (PTSD) symptoms associated with a traumatic event. It has good psychometric properties, with an alpha coefficient of .96, and has been widely used in trauma research including burn injury populations (e.g., Shepherd et al., 2019). Responses to items are rated on a scale ranging from 0 ('Not at all') to 4

(‘Extremely’). An example item is, ‘Pictures about it popped into my mind.’ The total score of this measure was used in analyses, which has a possible range of values between 0 and 88. Higher scores indicate increased PTSD symptoms.

Perceived noticeability: This has been found to be associated with appearance concerns in previous research (e.g., Montgomery et al., 2016). Perceived noticeability has been measured and controlled for in previous research that studied a sample of adults with a range of visible differences using visual analogue scales (Zucchelli et al., 2020). The same scale was used in this study with slightly amended instructions to measure participants’ perceptions about how noticeable the appearance of their burn injuries will be to other people after discharge from hospital. Participants rate this on a scale of zero to 10, where zero represented ‘Not at all noticeable’ and 10 represented ‘Very noticeable.’

McArthur Scale of Subjective Social Status – Adult Version (Adler et al., 2000): Participants also completed this single-item scale, a validated and well-known measure of perceived socio-economic status. Participants rank themselves on a ladder labelled from one (‘Worst off’) to 10 (‘Best off’), representing their socio-economic standing compared with other people in the UK. This data was used to contextualise the sample.

Demographic and burn injury information: Additional demographic information (gender, age and ethnicity) and burn injury details (mechanism of burn injury, percentage of total body surface area burnt (%TBSA), depth of burn, location(s) of burns on the body and number of days from burn injury to participation) were obtained from participants’ medical records. Data was used to contextualise the sample.

Procedure

Recruitment took place between January 2021 and September 2022. Potential participants were approached during their hospital admission if they were deemed to meet

inclusion criteria by a clinical psychologist or assistant psychologist working in the service. Participants were assigned a unique four-digit identifier to link data across the time points. Participants chose how they would prefer to be contacted at the subsequent data collection time points (by post, email with a Qualtrics link, telephone/video call). Participants completed the questionnaires and visual analogue scales prior to discharge from hospital. Participants were then contacted two months (T2) and six months (T3) later, using the participant's preferred contact method(s), and prompted to complete the questionnaires and rating scales. Participants were offered a £10 voucher for participation at all time points.

Two months and six months later (T2 and T3), participants completed the Body Esteem for Adolescents and Adults – Appearance Subscale (BESAA-A), Acceptance and Action Questionnaire (AAQ-II), Self-Compassion Scale – Short Form (SCS-SF) and Impact of Event Scale - Revised (IES-R) questionnaires again, in addition to the visual analogue scale measuring perceived noticeability. At these time points, the perceived noticeability visual analogue scale instruction was amended to ask participants to consider how noticeable they believed their burn injuries were to other people at that time, in line with the instructions given by Zucchelli et al. (2020).

Sampling

Purposive sampling was used, aided by an inclusion/exclusion criteria checklist. The sample within this study represented, on average, 12.3% of all burns patients being admitted to the participating burns services due to accidental burn injuries during the recruitment period.

Ethical approval

The study obtained ethical approval from the London – Dulwich NHS Research Ethics Committee (REC) and Health Research Authority (IRAS ID: 282011; REC ref. 20/PR/0838) in January 2021. The Sponsor of the study was Nottingham University Hospitals NHS Trust (ref. 20CP003). Research and development (R&D) approval was gained from all NHS trust recruitment sites prior to recruitment starting. The study was also registered by the University of Sheffield (ref. 171289).

Data analysis

The Statistical Package for the Social Sciences (SPSS) version 26 was used to analyse the data. Alpha (the risk of making a type I error) was set at .05. Accordingly, p values $\leq .05$ were taken to be statistically significant. Independent t-tests and Pearson's chi square analyses were used to explore differences or associations between participants who were retained throughout the study versus lost to follow up at the two- and six-month data collection points (i.e., attrition). Little's 'missing completely at random' (MCAR) tests suggested that missing data was MCAR at T1 (chi-square = 330.65, $df = 968$, $p = 1.00$), T2 (chi-square = 209.11, $df = 469$, $p = 1.00$) and T3 (chi-square = 308.45, $df = 448$, $p = 1.00$) based on all questionnaire and visual analogue scale data. The amount of missing data was small (T1: 0.6 - 4%; T2: 0 - 1.6%; T3: 0 - 2.5%). Expectation maximisation was used for missing questionnaire values for participants not lost to follow-up. If any questionnaire had 20% or more missing items the data for that scale was not used. All analyses were completed with missing data values inputted.

Descriptive statistics and repeated measures ANOVAs were conducted to compare the scores on the measures across the time points to analyse whether scores had changed over time. Pearson's correlation analyses were conducted to analyse the relationships between both psychological flexibility and self-compassion and appearance concerns at each time

point. Pearson's correlation analyses were also used to assess relationships between participants' demographic and burns details and appearance concerns at each time point. Partial correlational analyses were then used to assess associations between psychological flexibility, self-compassion and appearance concerns and whilst controlling for covariates (age, gender, ethnicity, % TBSA, PTSD symptoms and perceived noticeability). The covariates of PTSD symptoms and perceived noticeability were taken from the same time point for the cross-sectional analyses, and from T1 for the prospective analyses. Multiple linear regression analyses were conducted to explore how much of the variance in appearance concerns at T1, T2 and T3 was explained by the covariates (block 1), T1 psychological flexibility and self-compassion (block 2) and, where prospective analyses were undertaken to predict T2 and T3 appearance concerns, T1 appearance concerns (block 3). There are no assumptions regarding the (normal) distribution of the independent variables for multiple linear regression (Tabachnick & Fidell, 2019). Instead, the distribution of the residuals (i.e., linearity, normality and homoscedasticity) should be examined. Histograms, PP plots and scatterplots of residuals of the above three regression analyses were therefore inspected. These indicated that the statistical assumptions for the regression analyses had been met.

Inspection of histograms and QQ plots suggested that a number of variables were not normally distributed: age; % TBSA; AAQ-II scores; IES-R scores; and perceived noticeability scores. Box plots suggested that perceived noticeability scores at T2 and T3 and % TBSA had outliers that could have impacted the data. Given that multiple linear regression analyses were the main analyses in the study and these do not rely on these assumptions, parametric analyses were used throughout for consistency.

The data that support the findings of this study are openly available in the Open Science Framework at <https://doi.org/10.17605/OSF.IO/T8SJ4>. Impairment in work and social functioning, as well as Covid-19 related distress, were also measured but are not

reported here. Information and analyses related to these variables can be found in supplementary materials that are hosted on the Open Science Framework.

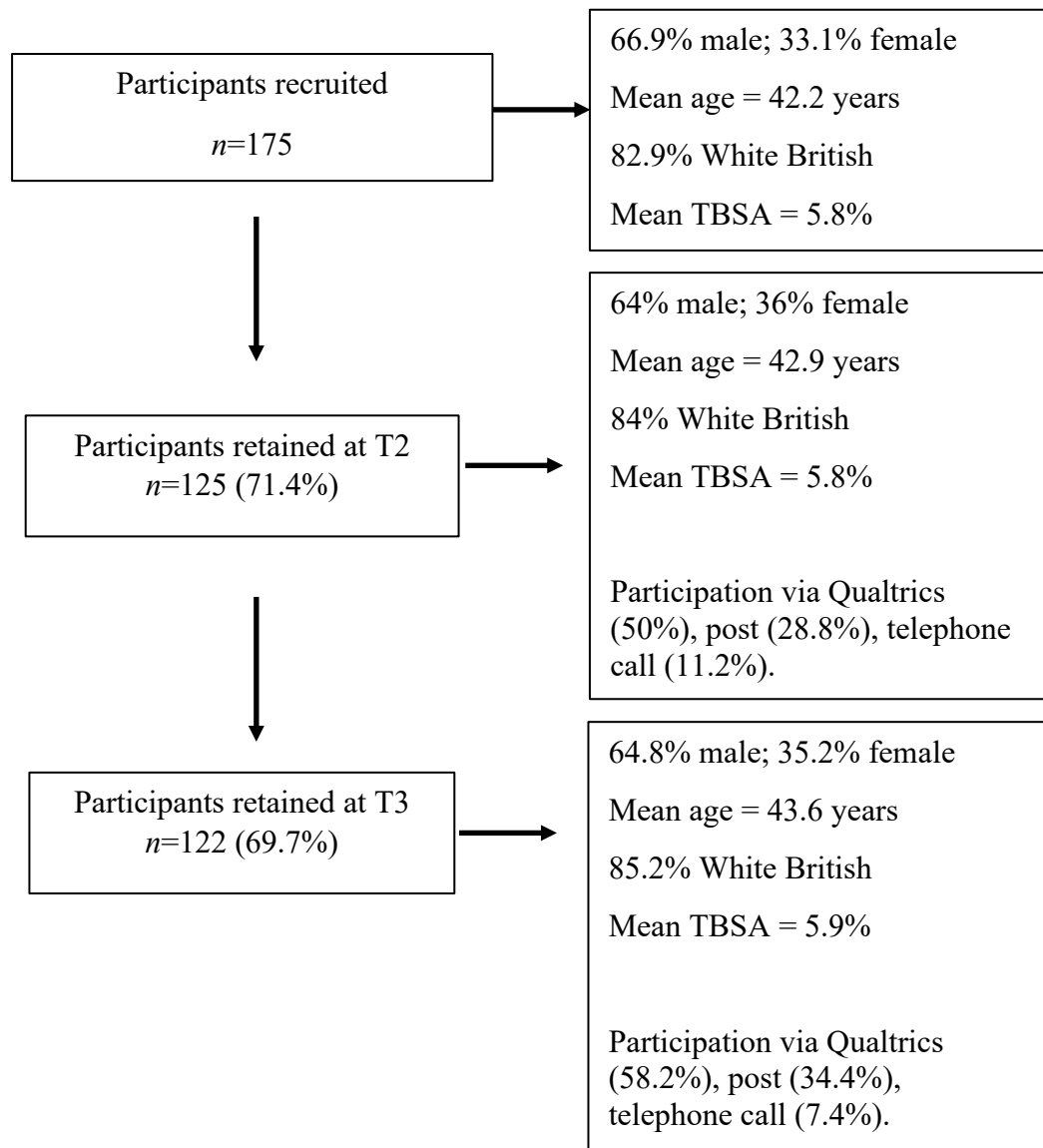
Results

Participant recruitment and attrition

Figure 1 displays the number of participants recruited at T1 and retained at T2 and T3. Key demographic, burn injury and method of participation information are presented.

Figure 1

Participants Recruited and Retained



There were no significant differences between participants retained versus those lost at two- or six-month follow-up on measures of demographics (gender, age, ethnicity, socioeconomic status), clinical characteristics (%TBSA, recruitment site) or scores on measures of appearance concerns (BESAA-A), psychological flexibility (AAQ-II), self-compassion (SCS-SF), PTSD symptoms (IES-R) and perceived noticeability (visual analogue scale).

Changes in appearance concerns, psychological flexibility and self-compassion and covariates over time

Table 2

Means (M), Standard Deviation (SD) of Measures at Each Time Point

	<i>M ± SD (Range)</i>			
	T1	T2	T3	Change statistic
Appearance concerns	2.58 ± 0.97 (0.1 – 4.0)	2.38±1.02 (0.2 – 4.0)	2.43±1.03 (0.1 – 4.0)	$F(1.57,169.06) = 4.08, p = .03^*$
Psychological flexibility	19.35 ± 11.08 (7-49)	21.19±11.69 (7-45)	20.20±10.55 (7-43)	$F(1.85,201.17) = 2.20, p = .12$
Self-compassion	3.30 ± 0.86 (1.5-4.83)	3.01±0.87 (1.3-5)	3.04±0.88 (1.1-5)	$F(1.71,186.04) = 14.29, p < .001^{***}$
PTSD symptoms	25.35 ± 20.32 (0-82)	30.24±21.32 (0-76)	26.15±20.04 (0-77)	$F(1.58, 170.13) = 4.61, p = 0.02^*$
Perceived noticeability	2.44 ± 3.08 (0-10)	2.58±3.17 (0-10)	2.06±2.89 (0-10)	$F(1.82, 194.23) = 1.49, p = 0.23$

Note. * $p < .05$. ** $p < .01$. *** $p < .001$.

The means and standard deviations of measures used in analyses at each time point are displayed in Table 2 along with change statistics. There was a significant effect of time on appearance concerns. However, there was no statistically significant differences between

appearance concerns at T1 compared to T2 (mean difference = 0.20, $p = .06$), between T1 and T3 (mean difference = 0.15, $p = .18$) or between T2 and T3 (mean difference = -0.05, $p = 1.000$). Post-hoc power analyses revealed these comparisons were under-powered (power ranged from 17%-68%). Psychological flexibility did not change over time. However, self-compassion did change over time. Participants had higher self-compassion scores at T1 compared to both T2 (mean difference = 0.30, $p < .001$) and T3 (mean difference = 0.26, $p < .001$), but not between T2 and T3 (mean difference = -0.03, $p = 1.00$). PTSD symptoms were lower at T1 compared to T2 (mean difference = -4.50, $p = .05$), and higher at T2 compared to T3 (mean difference = 3.71, $p = .003$).

Relationships with appearance concerns

As shown in Table 3, lower appearance concerns were associated with increased psychological flexibility and self-compassion cross-sectionally at all time points. These correlations represent large according to Cohen (1992). Negative correlations between appearance concerns and psychological flexibility reflect the relationship between increased body esteem scores on the BESAA-A (Mendelson et al., 2001) and lower experiential avoidance scores on the AAQ-II (Bond et al., 2011). Positive correlations between appearance concerns and self-compassion reflect the relationship between increased body esteem scores on the BESAA-A (Mendelson et al., 2001) and increased self-compassion scores on the SCS-SF (Raes et al., 2011). Lower appearance concerns were also associated with lower PTSD symptoms (with medium or large effect sizes), lower perceived noticeability (with medium effect sizes), and male gender (with small or medium effect sizes) at all time points. In addition, older age was associated with decreased appearance concerns

at T2 and T3, but not T1 (with small effect sizes). Ethnicity and % TBSA were not associated with appearance concerns at any time point.

Prospectively, increased psychological flexibility and self-compassion and decreased PTSD symptoms and perceived noticeability at T1 were related to lower appearance concerns at T2 and T3. The correlations between psychological flexibility and appearance concerns represent large effect sizes. The correlation between self-compassion and appearance concerns represent a medium effect size at T2 and a large effect size at T3 (Cohen, 1992). The correlations between PTSD symptoms and appearance concerns represent medium effect sizes). The correlations between perceived noticeability and appearance concerns represent small effect sizes (Cohen, 1992). In addition, large-sized correlations were found between psychological flexibility and self-compassion at T1 ($r(172) = -.78, p < .001$), T2 ($r(123) = -.72, p < .001$) and T3 ($r(121) = -.70, p < .001$).

Table 3

Relationships with Appearance Concerns at each Time Point

	T1 Appearance concerns	T2 Appearance concerns	T3 Appearance concerns
Gender	-.26***	-.27***	-.31***
Age	.15	.20*	.20*
Ethnicity	-.01	.04	.02
%TBSA	-.07	-.07	-.17
T1 Psychological flexibility	-.54***	-.51***	-.57***
T1 Self-compassion	.50***	.45***	.51***

T1 PTSD symptoms	-.47***	-.41***	-.47***
T1 Perceived noticeability	-.37***	-.20*	-.21*
T2 Psychological flexibility	-.52***	-.73***	-.71***
T2 Self-compassion	.53***	.68***	.69***
T2 PTSD symptoms	-.39***	-.59***	-.55***
T2 Perceived noticeability	-.16	-.32***	-.24**
T3 Psychological flexibility	-.54***	-.72***	-.79***
T3 Self-compassion	.52***	.66***	.70***
T3 PTSD symptoms	-.41***	-.63***	-.61***
T3 Perceived noticeability	-.18	-.38***	-.35***

Note. %TBSA: Percentage total body surface area burnt

* $p < .05$. ** $p < .01$. *** $p < .001$.

As shown in Table 4, associations between the dependent and independent variables remained significant when controlling for covariates (gender; age; ethnicity; % TBSA; PTSD symptoms; perceived noticeability). Effect sizes were medium or large, with the exception of a small effect size related to the association between T1 self-compassion and T2 appearance concerns (Cohen, 1992).

Table 4

Partial Correlations between Appearance Concerns and Psychological Flexibility and Self-Compassion, Controlling for Covariates

	T1 Appearance concerns	T2 Appearance concerns	T3 Appearance concerns
T1 Psychological flexibility	-.41***	-.35***	-.41***
T1 Self-compassion	.40***	.26**	.36***
T2 Psychological flexibility		-.55***	-.51***
T2 Self-compassion		.55***	.58***
T3 Psychological flexibility			-.62***
T3 Self-compassion			.62***

Note. * $p < .05$. ** $p < .01$. *** $p < .001$.

3.4. Predicting appearance concerns

The predictive value of T1 psychological flexibility and self-compassion on appearance concerns at T1, T2 and T3 was investigated. Table 5 presents the predictors of appearance concerns and multiple linear regression model statistics across block 1 (covariates) and block 2 (inclusion of psychological flexibility and self-compassion) at T1.

Table 5*Hierarchical Regression Analysis Predicting Appearance Concerns at T1*

Block 1					
95% CI					
Variable	B	SE	LL	UL	<i>p</i>
Gender	-.386	.126	-.635	-.138	.03
Perceived noticeability	-.081	.020	-.119	-.042	<.001
PTSD symptoms	-.016	.003	-.022	-.011	<.001
Age	-.001	.004	-.008	.007	.86
Ethnicity	.154	.204	-.249	.557	.45
% TBSA	.002	.008	-.013	.016	.84
Block 2					
95% CI					
Variable	B	SE	LL	UL	<i>p</i>
Gender	-.330	.114	-.555	-.104	.01
Perceived noticeability	-.099	.018	-.134	-.063	<.001
PTSD symptoms	-.004	.003	-.011	.002	.202
Age	-.002	.004	-.009	.005	.560
Ethnicity	.017	.186	-.351	.386	.926
% TBSA	.003	.007	-.011	.016	.682
Psychological flexibility	-.022	.008	-0.038	-.006	.01

Self-compassion	.229	.102	.027	.431	.03

Note. CI = confidence interval; LL = lower limit; UL = upper limit; SE = standard error

At T1, the analysis revealed that the covariates explained 33% of the variance ($R^2 = .33$). The model was statistically significant ($F(6,158) = 12.99, p < .001$). Male gender, decreased perceived noticeability and PTSD symptoms significantly predicted lower appearance concerns. Adding in T1 psychological flexibility and self-compassion explained a further 13.2% of the variance in T2 appearance concerns ($\Delta R^2 = .13, \Delta F = 19.08, p < .001$). This model was also statistically significant ($R^2 = .46, F(8,156) = 16.74, p < .001$). Male gender, decreased perceived noticeability and increased psychological flexibility and self-compassion significantly predicted lower appearance concerns.

Tables 6 and 7 present the predictors of appearance concerns and multiple linear regression model statistics across block 1 (covariates), block 2 (inclusion of psychological flexibility and self-compassion) and block 3 (baseline appearance concerns) at T2 and T3, respectively.

Table 6*Hierarchical Regression Analysis Predicting Appearance Concerns at T2*

Block 1					
95% CI					
Variable	B	SE	LL	UL	<i>p</i>
Gender	-.442	.177	-.792	-.091	.01
Perceived noticeability	-.023	.028	-.079	.033	.423
PTSD symptoms	-.017	.004	-.025	-.008	<.001
Age	.006	.006	-.005	.017	.275
Ethnicity	.392	.313	-.228	1.012	.213
% TBSA	7.662E-5	.010	-.020	.020	.994
Block 2					
95% CI					
Variable	B	SE	LL	UL	<i>p</i>
Gender	-.387	.167	-.718	-.056	.02
Perceived noticeability	-.034	.027	-.088	.020	.215
PTSD symptoms	-.005	.005	-.015	.005	.325
Age	.005	.005	-.006	.015	.396
Ethnicity	.261	.301	-.335	.857	.387
% TBSA	.000	.010	-.019	.019	.992
Psychological flexibility	-.038	.014	-.065	-.010	.01

Self-compassion	-.031	.175	-.378	.316	.861
Block 3					
95% CI					
Variable	B	SE	LL	UL	<i>p</i>
Gender	-.244	.157	-.005	.015	.317
Perceived noticeability	.016	.027	-.038	.070	.559
PTSD symptoms	-.002	.005	-.012	.007	.614
Age	.005	.005	-.005	.015	.317
Ethnicity	.234	.276	-.314	.782	.399
% TBSA	-.002	.009	-.019	.016	.839
Psychological flexibility	-.016	.013	-.043	.010	.228
Self-compassion	.002	.161	-.317	.322	.990
T1 Appearance concerns	.492	.108	.279	.705	<.001

Note. CI = confidence interval; LL = lower limit; UL = upper limit; SE = standard error

At T2, the covariates explained 22.5% of the variance in T2 appearance concerns ($R^2 = .23$). The model was statistically significant ($F(6,111) = 5.38, p < .001$). Male gender and decreased PTSD symptoms significantly predicted lower appearance concerns. Adding in T1 psychological flexibility and self-compassion explained a further 10% of the variance ($\Delta R^2 = .10, \Delta F = 8.08, p < .001$) and this model was statistically significant ($F(8,109) = 6.57, p < .001$). In this model, male gender and increased psychological flexibility significantly predicted lower appearance concerns, whereas the *B* value for self-compassion was non-

significant. Adding in T1 appearance concerns explained a further 10.9% of the variance ($\Delta R^2 = .11$, $\Delta F = 20.89$, $p < .001$) and this model was statistically significant ($F(9,108) = 9.22$, $p < .001$). However, only lower T1 appearance concerns significantly predicted lower T2 appearance concerns.

Table 7

Hierarchical Regression Analysis Predicting Appearance Concerns at T3

Block 1					
95% CI					
Variable	B	SE	LL	UL	<i>p</i>
Gender	-.555	.178	-.908	-.202	.002
Perceived noticeability	-.017	.028	-.073	.038	.537
PTSD symptoms	-.019	.004	-.028	-.010	<.001
Age	.002	.006	-.009	.013	.689
Ethnicity	.421	.317	-.207	1.050	.187
% TBSA	-.013	.010	-.033	.007	.206
Block 2					
95% CI					
Variable	B	SE	LL	UL	<i>p</i>
Gender	-.526	.165	-.853	-.199	.002
Perceived noticeability	-.029	.026	-.081	.023	.269

PTSD symptoms	-.006	.005	-.016	.003	.181
Age	.000	.005	-.011	.010	.938
Ethnicity	.311	.291	-.266	.888	.287
% TBSA	-.010	.009	-.028	.008	.278
Psychological flexibility	-.030	.013	-.056	-.004	.03
Self-compassion	.162	.169	-.174	.497	.341
Block 3					
95% CI					
Variable	B	SE	LL	UL	<i>p</i>
Gender	-.375	.150	-.674	-.077	.01
Perceived noticeability	.032	.026	-.019	.084	.219
PTSD symptoms	-.004	.004	-.013	.004	.347
Age	-.2.303E-5	.005	-.009	.009	.996
Ethnicity	.274	.261	-.243	.791	.295
% TBSA	-.011	.008	-.027	.005	.181
Psychological flexibility	-.012	.012	-.037	.012	.324
Self-compassion	.103	.152	-.198	.404	.499
T1 Appearance concerns	.521	.100	.323	.718	<.001

Note. CI = confidence interval; LL = lower limit; UL = upper limit; SE = standard error

At T3, the covariates explained 29.3% of the variance in T3 appearance concerns ($R^2 = .29$). The model was statistically significant ($F(6,108) = 7.44, p < .001$). Male gender and decreased PTSD symptoms significantly predicted lower appearance concerns. Adding in T1 psychological flexibility and self-compassion explained a further 12.7% of the variance ($\Delta R^2 = .13, \Delta F = 11.58, p < .001$) and this model was statistically significant ($F(8,106) = 9.57, p < .001$). In this model, male gender and increased psychological flexibility significantly predicted lower appearance concerns, whereas the B value for self-compassion was non-significant. Adding in T1 appearance concerns explained a further 12% of the variance ($\Delta R^2 = .12, \Delta F = 27.34, p < .001$) and this model was statistically significant ($F(9,105) = 13.66, p < .001$). In this model, only male gender and lower T1 appearance concerns significantly predicted lower T3 appearance concerns.

Discussion

This study prospectively investigated psychological flexibility and self-compassion as protective factors against appearance concerns after burn injuries. There are four key findings.

First, increased psychological flexibility and self-compassion were related to lower appearance concerns. This relationship was observed at all time points (hospital admission, two months later and six months later), and was sustained when controlling for demographic and clinical variables. Prospectively, correlation analyses indicated that higher levels of psychological flexibility and self-compassion measured during hospital admission were associated with lower appearance concerns at the two and six month time points, and these relationships remained when controlling for demographic and clinical variables. However, it should be noted that the multiple regression analyses revealed that when controlling for psychological flexibility (as well as baseline appearance concerns), the effect of baseline self-

compassion on appearance concerns two and six months later was non-significant.. The results support and extend previous cross-sectional research that has suggested a relationship between appearance concerns and psychological flexibility (or mindfulness, an element of psychological flexibility) in individuals following burn injuries (Shepherd et al., 2019) and other visible differences (Montgomery et al., 2016; Zucchelli et al., 2020). In line with the stress-diathesis model of experiential avoidance (Biglan et al., 2008), individuals who typically have increased psychological flexibility may be more resilient in the event of appearance changes after burns. However, the findings of the current study do not fully support previous research proposing a role of self-compassion in appearance concerns (Przedziecki et al., 2013; Sherman et al., 2017; Todorov et al., 2019; Zhu et al., 2023).

Second, key factors that predict appearance concerns in the first six months post-injury were identified. Male participants had lower appearance concerns compared to female participants at all time points, supporting previous research showing that females are more vulnerable to appearance concerns after burns (e.g., Lawrence et al., 2006; Shepherd et al., 2019; Thombs et al, 2008). Gender, perceived noticeability, psychological flexibility and self-compassion predicted appearance concerns during hospital admission. The predictive value of perceived noticeability during hospital admission may reflect uncertainty about future appearance. Gender and psychological flexibility predicted appearance concerns two- and six-months later. However, when baseline appearance concerns was entered into the models the effect of psychological flexibility diminished. Self-compassion did not predict appearance concerns over time. These findings provide partial support for the hypothesis that increased levels of psychological flexibility and self-compassion during hospital admission would predict lower levels of appearance concerns two- and six-months later.

Third, appearance concerns during hospital admission was the sole predictor of appearance concerns two months after hospital admission, and predicted appearance concerns

six months later (in addition to gender). As stated above, when baseline appearance concerns were included in linear multiple regression analyses, the predictive value of psychological flexibility on subsequent appearance concerns diminished. This highlights the need for early psychological interventions to prevent or reduce appearance concerns after burns. It also emphasises the need to identify psychological (resilience) factors that are associated with lower appearance concerns during hospital admission after a burns injury so these can be targeted in early psychological interventions.

Fourth, PTSD symptoms were linked to appearance concerns. Decreased PTSD symptoms were associated with lower appearance concerns cross-sectionally at T1, T2 and T3. The association between appearance concerns and PTSD symptoms is consistent with previous research (e.g., Macleod, Shepherd, & Thompson, 2016) but has not been demonstrated previously in a prospective cohort study. This may be due to the burn injury serving as a visible reminder of the accident, thereby triggering PTSD symptoms (e.g., intrusive memories), or the development of negative appraisals associated with appearance changes (e.g., 'My scars are ugly') which maintains PTSD symptoms (Macleod et al., 2016).

Theoretically, the current findings enhance knowledge about the psychological variables associated with, and predictive of subsequent, appearance concerns following burn injuries. This evidence indicates that psychological flexibility is a protective factor against appearance concerns after burns. Clinically, this suggests that screening for psychological flexibility and appearance concerns during hospital admission may be useful to identify individuals at risk of appearance concerns over time. This may be particularly important for women given the current finding that gender predicted appearance concerns. The results also provide theoretical justification for the use of acceptance and commitment therapy (ACT; Hayes et al., 1999), which enhances psychological flexibility as an early psychological intervention to prevent and treat appearance concerns after burn injuries and possibly other

visible difference populations. There is emerging evidence that ACT is acceptable and effective for individuals following burn injuries and other visible differences (e.g., Powell, Vasiliou, & Thompson, 2023; Shepherd, Turner, Reynolds, & Thompson, 2020; Zucchelli, Donnelly, Sharratt, Hooper, & Williamson, 2020; Zucchelli, Donnelly, Rush, Smith, & Williamson, 2021). Our findings also imply that PTSD symptoms should be considered when assessing and treating appearance concerns following burn injuries.

Strengths and Limitations

The current findings should be considered in the context of several limitations. Although this is the first prospective cohort study of this nature to be conducted in the UK, the findings may lack generalisability to burn injury populations elsewhere, or to those after the first six months post-burn. To what extent the sample is representative of the burn injury population may be limited due to the inclusion/exclusion criteria and the convenience sampling employed especially as the number of patients approached and declined participation was not recorded. In addition to controlling for PTSD symptoms, future studies would also benefit from controlling for more general measures of distress, such as anxiety and depression, which have been found to be elevated following burns injuries (Attoe & Pounds-Cornish, 2015; Van Loey & Van Son, 2003). Furthermore, broader concepts related to compassion may be worthy of exploration in future research, such as compassion towards or from others, and fear of compassion (Gilbert 2014; Gilbert et al., 2011). Finally, the AAQ-II, which was used to measure psychological flexibility, has recently been critiqued for lacking discriminant validity with measures of distress (Cherry, Hoeven, Patterson, & Lumley, 2021). However, the AAQ-II remains the most widely used measure of psychological flexibility and research suggests that other measures are also not without

limitations (Ong et al., 2020). Ong et al. (2020) also recommend the use of context-specific measures of psychological flexibility where available. Whilst specific measures of psychological flexibility in relation to body image are available, these are limited to weight/disordered eating and body dysmorphic disorder which would not be appropriate to the context of individuals with visible burn injuries.

Conclusions

Psychological flexibility is associated with appearance concerns in individuals after burn injuries, and therefore has a protective role against appearance concerns. Screening for psychological flexibility in addition to appearance concerns during hospital admission, whilst considering gender, may identify individuals at risk of appearance concerns over time. Further research should explore the effectiveness of ACT as an early psychological intervention for appearance concerns after burn injuries.

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Supplementary information

1. Additional variables not presented in the journal article

In addition to those reported in the journal article, the study collected data on two additional variables:

- Impairment in work and social functioning: The *Work and Social Adjustment Scale* (WSAS; Mundt et al., 2002), a five-item self-report questionnaire that measures impairment in work and social functioning, was completed at two time points (two months and six months after the hospital admission time point). Participants were prompted to answer this questionnaire based on the impact of any appearance concerns they were experiencing and to what extent they were interfering with their ability to: work; engage in home management tasks; participate in social leisure activities; complete private leisure activities; and form and maintain close relationships with other people. Responses to items fall on a scale ranging from 0 ('Not at all') to 8 ('Very severely'). The total score of this measure has a possible range of values between 0 and 40. Higher scores indicate increased impairment in work and social functioning due to appearance concerns.
- Covid-19 distress: Distress related to the Covid-19 pandemic was also measured. Participants were prompted to state how distressed they were feeling about the Covid-19 pandemic on a scale of zero to 10 (where zero represented 'Not at all' and 10 represented 'Extremely'). This was measured at all three time points (hospital admission, two months later and six months later).

a) Means, SDs and ranges of scores on all data collected

Table 1 presents means, SD and ranges of scores on all data collected.

Table 1

Number of participants (N), means, standard deviation (SD) and ranges of data collected at each time point

Variable	N	M	SD	Range
Appearance concerns	T1: 172	T1: 2.65	T1: 0.89	T1: 0.1 – 4.0
	T2: 125	T2: 2.47	T2: 0.99	T2: 0.2 – 4.0
	T3: 122	T3: 2.45	T3: 1.01	T3: 0.1 – 4.0
Impairment in work and social functioning	T2: 124	T2: 8.16	T2: 9.58	T2: 0 - 40
	T3: 120	T3: 7.03	T3: 9.60	T3: 0 - 38
Psychological flexibility	T1: 175	T1: 19.46	T1: 11.15	T1: 7 - 49
	T2: 125	T2: 20.73	T2: 11.62	T2: 7 - 45
	T3: 121	T3: 19.60	T3: 10.46	T3: 7 - 43
Self-compassion	T1: 174	T1: 3.35	T1: 0.86	T1: 1.33 – 5
	T2: 125	T2: 3.04	T2: 0.85	T2: 1.3 – 5
	T3: 122	T3: 3.07	T3: 0.86	T3: 1.1 – 5
PTSD symptoms	T1: 174	T1: 26.57	T1: 21.04	T1: 0 - 82
	T2: 125	T2: 30.05	T2: 20.72	T2: 0 - 76
	T3: 121	T3: 26.10	T3: 19.57	T3: 0 - 77
Perceived noticeability scores	T1: 172	T1: 2.40	T1: 3.06	T1: 0 - 10
	T2: 123	T2: 2.49	T2: 3.14	T2: 0 - 10
	T3: 122	T3: 2.11	T3: 2.89	T3: 0 - 10
Covid-19 distress scores	T1: 175	T1: 3.36	T1: 3.00	T1: 0-10
	T2: 124	T2: 2.55	T2: 2.72	T2: 0-10
	T3: 121	T3: 2.42	T3: 2.72	T3: 0-10

b) Associations between demographic and clinical factors and the main study variables

Gender: Independent t-tests revealed that female participants had increased appearance concerns compared to male participants at T1 ($t(102.38) = 3.35, p = .001$), T2 ($t(123) = 3.10, p = .002$) and T3 ($t(120) = 3.55, p < .001$). No differences were reported between men and women in impairment in work and social functioning due to appearance concerns at T2 ($t(122) = -0.94, p = .35$) or T3 ($t(118) = -1.25, p = .21$). An independent t-test revealed that at T1 there was no statistically significant difference in psychological flexibility between men and women at T1 ($t(173) = -1.89, p = .06$). Women had lower psychological flexibility at T2 ($t(123) = -2.22, p = .028$) and at T3 ($t(119) = -2.38, p = .02$). There were no statistically significant differences in self-compassion between men and women at T1 ($t(172) = 1.15, p = .25$), T2 ($t(122) = 1.80, p = .08$) or T3 ($t(120) = 1.94, p = .06$). Women had higher PTSD symptoms compared to men at T2 ($t(123) = -2.74, p = .01$) and T3 ($t(119) = -1.82, p = .07$) but not T1 ($t(172) = -1.61, p = .11$). No differences were found between men and women in perceived noticeability of the burns to other people at T1 ($t(170) = -0.62, p = .54$), T2 ($t(121) = -.27, p = .79$) or T3 ($t(120) = -1.06, p = .29$).

Age: Pearson's correlation analyses revealed that at T1, there was no statistically significant relationship between age and appearance concerns ($r(170) = .15, p = .06$). There was a relationship between increased appearance concerns and younger age at T2 ($r(123) = .20, p = .03$) and T3 ($r(120) = .20, p = .03$). There was a relationship between younger age and increased impairment in work and social functioning due to appearance concerns at T2 ($r(122) = -.19, p = .04$) and T3 ($r(118) = -.21, p = .03$). There was an association between younger age and lower psychological flexibility at T1 ($r(173) = -.18, p = .02$), T2 ($r(123) = -.32, p < .001$) and T3 ($r(119) = -.27, p = .003$). There was also a relationship between younger age and lower self-compassion at T1 ($r(172) = .25, p < .001$), T2 ($r(123) = .23, p = .01$) and T3 ($r(119) = .27, p = .003$). A significant relationship was also found between

younger age and increased perceived noticeability of the burns to other people at T1 ($r(170) = -.16, p = .03$) but not at T2 ($r(121) = -.13, p = .17$) or T3 ($r(120) = -.09, p = .35$). There was an association between younger age and increased PTSD symptoms at T1 ($r(172) = -.29, p < .001$), T2 ($r(123) = -.33, p < .001$) and T3 ($r(119) = -.31, p < .001$).

Ethnicity: Independent t-tests reported no differences between participants from White compared to non-White ethnic backgrounds in relation to appearance concerns at T1 ($t(167) = .80, p = .94$), T2 ($t(121) = -.46, p = .65$) or T3 ($t(117) = -.35, p = .73$). No difference was reported between participants from White compared to non-White ethnic backgrounds in relation to impairment in work and social functioning due to appearance concerns at T2 ($t(120) = -.66, p = .51$) or T3 ($t(116) = -.15, p = .88$). Independent t-tests revealed no differences between participants from White compared to non-White ethnic backgrounds in relation to psychological flexibility at T1 ($t(170) = -.28, p = .78$), T2 ($t(167) = .39, p = .71$) or T3 ($t(117) = .26, p = .80$), or self-compassion at T1 ($t(170) = -.46, p = .65$), T2 ($t(121) = -.37, p = .71$) or T3 ($t(118) = .11, p = .92$). Participants from White ethnic backgrounds had lower PTSD symptoms at T2 ($t(121) = -3.30, p = .01$) compared to those from non-White backgrounds. No difference was reported between participants from White compared to non-White ethnic backgrounds in relation to PTSD symptoms at T1 ($t(169) = -1.12, p = .27$) or T3 ($t(117) = -1.56, p = .12$). No difference was reported between participants from White compared to non-White ethnic backgrounds in relation to perceived noticeability of the burns to other people at T1 ($t(167) = .42, p = .68$), T2 ($t(119) = .01, p = 1.00$) or T3 ($t(118) = -1.12, p = .26$).

Socioeconomic status: Pearson's correlation analyses revealed a relationship between lower socioeconomic status and increased appearance concerns at T1 ($r(169) = .20, p = .01$), T2 ($r(123) = .37, p < .001$) and T3 ($r(120) = .33, p < .001$). There was an association between lower socioeconomic status and increased impairment in work and social functioning due to

appearance concerns at T2 ($r(122) = -.21, p = .02$) but not T3 ($r(118) = -.16, p = .09$).

Pearson's correlational analyses found that lower socioeconomic status and lower psychological flexibility were related at T1 ($r(172) = -.36, p < .001$), T2 ($r(123) = -.33, p < .001$) and T3 ($r(119) = -.25, p = .01$). There was a relationship between lower socioeconomic status and lower self-compassion at T1 ($r(171) = .33, p < .001$), T2 ($r(123) = .30, p < .001$) and T3 ($r(120) = .20, p = .03$). There was no significant relationship between socioeconomic status and perceived noticeability of the burns to other people at T1 ($r(169) = .09, p = .27$), T2 ($r(121) = -.06, p = .52$) or T3 ($r(120) = .02, p = .80$). There was an association between lower socioeconomic status and increased PTSD symptoms at T1 ($r(171) = -.15, p = .05$) but not at T2 ($r(123) = -.17, p = .06$) or T3 ($r(109) = -.15, p = .11$).

%TBSA: Pearson's correlation analyses revealed no significant relationship between appearance concerns and %TBSA at T1 ($r(170) = -.070, p = .36$), T2 ($r(123) = -.07, p = .42$) or T3 ($r(120) = -.17, p = .065$). There was no significant relationship between impairment in work and social functioning due to appearance concerns and %TBSA at T2 ($r(122) = .13, p = .15$) or T3 ($r(118) = .05, p = .56$). There was no relationship between %TBSA and perceived noticeability of the burns to other people at T1 ($r(172) = .07, p = .36$), T2 ($r(123) = .08, p = .38$) or T3 ($r(122) = .03, p = .71$). There was an association between %TBSA and PTSD symptoms at T1 ($r(174) = .16, p = .04$) but not at T2 ($r(125) = .10, p = .26$) or T3 ($r(121) = .14, p = .13$).

Burn depth: A between-participants ANOVA revealed a significant effect of burn depth on appearance concerns at T1 ($F(3,168) = 4.74, p = .003$), T2 ($F(3,121) = 4.96, p = .003$) and T3 ($F(3,118) = 2.83, p = .04$). Pairwise comparisons using Bonferroni adjustments revealed that at T1, appearance concerns were lower for participants with deep dermal burns compared to full thickness burns (mean difference = .89, $p = .01$) and deep dermal compared to mixed depth burns (mean difference = .92, $p = .01$). At T2, appearance concerns were

lower for participants with superficial partial thickness burns compared to those with mixed depth (mean difference = .58, $p = .03$) and full thickness burns (mean difference = .72, $p = .01$). At T3, appearance concerns did not significantly differ according to depth of burns. A between-groups ANOVA revealed no significant main effect of burn depth on impairment in work and social functioning due to appearance concerns at T2 ($F(3,120) = 1.59$, $p = .20$) or T3 ($F(3,116) = 2.31$, $p = .08$). A between-groups ANOVA revealed a significant main effect of burn depth on perceived noticeability at T2 ($F(3,119) = 3.15$, $p = .03$) but not T1 ($F(3,168) = 2.12$, $p = .10$) or T3 ($F(3,118) = 1.19$, $p = .32$). At T2, pairwise comparisons using Bonferroni adjustments revealed that perceived noticeability was higher for participants with full thickness burns compared to deep dermal burns (mean difference = 3.39, $p = .04$). A between-groups ANOVA revealed no significant main effect of burn depth on PTSD symptoms at T1 ($F(3,170) = 1.52$, $p = .21$) or T2 ($F(3,121) = 1.14$, $p = .34$). However, there was a significant main effect of burn depth on PTSD symptoms at T3 ($F(3,117) = 3.59$, $p = .02$). At T3, pairwise comparisons using Bonferroni adjustments revealed that PTSD symptoms were higher for participants with full-thickness burns compared to superficial burns (mean difference = 13.20, $p = .04$), and higher for participants with mixed depth burns compared to superficial burns (mean difference = 11.09, $p = .04$).

Location of the burn on the body: Independent t-tests revealed that participants with burns to their head/face/neck compared to other areas of the body did not differ on appearance concerns at T1 ($t(37.99) = -1.94$, $p = .06$), T2 ($t(123) = .55$, $p = .58$) or T3 ($t(120) = -.10$, $p = .92$). No difference was reported between participants with burns to their head/face/neck compared to other body areas in relation to impairment in work and social functioning due to appearance concerns at T2 ($t(122) = .02$, $p = .99$) or T3 ($t(118) = .01$, $p = .99$). Participants with burns to their head/face/neck had higher levels of perceived noticeability at T1 ($t(32.94) = 5.86$, $p < .001$) and T2 ($t(121) = 1.99$, $p = .05$) but not T3

($t(120) = 1.47, p = .15$) compared to participants with burns to other areas of their body.

Independent t-tests revealed no difference between participants with burns to their hands compared to other areas of the body in relation to appearance concerns at T1 ($t(170) = -.001, p = 1.00$), T2 ($t(123) = -.01, p = .99$) or T3 ($t(120) = -.02, p = .99$). There was no difference in impairment in work and social functioning due to appearance concerns at T2 ($t(122) = .81, p = .42$) or T3 ($t(42.15) = 1.56, p = .13$) in those with burns to their hands compared to those with burns to other areas of the body. However, participants with burns to their hands had increased levels of perceived noticeability at T1 ($t(170) = 2.26, p = .03$) and T3 ($t(42.44) = 2.52, p = .02$) but not T2 ($t(50.33) = 1.68, p = 1.00$), compared to participants with burns to other areas of the body. Independent t-test revealed that participants with burns to their head/face/neck compared to other areas of the body did not differ on PTSD symptoms at T1 ($t(172) = -.43, p = .67$), T2 ($t(123) = -.16, p = .87$) or T3 ($t(119) = .31, p = .76$).

Between subjects t-tests comparing participants in the upper versus lower quartiles of appearance concerns as suggested in the protocol were considered superfluous given the correlation analyses. Moderation analyses were not considered appropriate given the sample size.

c) Power analysis

Two additional a priori power analyses were conducted, one for a correlational analysis and one for a multiple linear regression analysis. The power analysis for a correlational analysis was repeated to ensure consistency in the values used between the two power analyses. A power analysis using G*Power indicated that data from 29 participants would provide 80% power to detect a correlation of .50 between psychological flexibility and appearance anxiety at any of the time-points, based on a two-sided test with $\alpha = .05$. Taking an estimate of retaining 67% of those recruited at follow-up, this suggested recruiting at least 43 participants.

d) Analyses related to impairment in work and social functioning measure (Work and Social Adjustment Scale; WSAS)

A repeated measures t-test was conducted to compare the scores on the Work and Social Adjustment Scale (WSAS) across the two data collection time points (two months and six months after hospital admission). This revealed that impairment in work and social functioning due to appearance concerns was higher at T2 compared to T3 ($t(107) = 2.76, p = .01$).

Pearson's correlations were conducted to explore the relationships between scores on the primary and secondary dependent variables (appearance concerns and impact on work and social functioning), scores on the two independent variables (psychological flexibility and self-compassion) and pre-determined covariates (age, gender, ethnicity, % TBSA burnt, PTSD symptoms, perceived noticeability) at all three data collection time points (hospital admission, two months later and six months later). These analyses are presented in Table 2.

Table 2

Relationships between appearance concerns and impairment in work and social functioning and psychological flexibility, self-compassion and the covariates

	T1 Appearance concerns	T2 Appearance concerns	T3 Appearance concerns	T2 Impairment in work and social functioning	T3 Impairment in work and social functioning
Gender	-.26***	-.27***	-.31***	.09	.11
Age	.15	.20*	.20*	-.19*	-.21*
Ethnicity	-.01	.04	.02	.06	.01
%TBSA	-.07	-.07	-.17	.13	.05
T1 AAQ-II	-.54***	-.51***	-.57***	.37***	.35***

T1 SCS-SF	.50***	.45***	.51***	-.27**	-.32***
T1 IES-R	-.47***	-.41***	-.47***	.42***	.47***
T1 Perceived noticeability	-.37***	-.20*	-.21*	.14	.24**
T2 AAQ-II	-.52***	-.73***	-.71***	.66***	.60***
T2 SCS-SF	.53***	.68***	.69***	-.44***	-.41***
T2 IES-R	-.39***	-.59***	-.55***	.62***	.61***
T2 Perceived noticeability	-.16	-.32***	-.24**	.43***	.44***
T3 AAQ-II	-.54***	-.72***	-.79***	.61***	.64***
T3 SCS-SF	.52***	.66***	.70***	-.39***	-.41***
T3 IES-R	-.41***	-.63***	-.61***	.67***	.70***
T3 Perceived noticeability	-.18	-.38***	-.35***	.46***	.57***

Note. %TBSA: Percentage total body surface area burnt

AAQ-II: Acceptance and Action Questionnaire II total score (higher scores indicate more difficulties with (i.e., lower) psychological flexibility)

SCS-SF: Self-Compassion Scale-Short Form mean total score (higher scores indicate increased self-compassion)

IES-R: Impact on Event Scale-Revised total score (higher scores indicate increased PTSD symptoms)

* $p < .05$. ** $p < .01$. *** $p < .001$.

Partial correlation analyses were conducted to analyse the relationships between scores on the Appearance Subscale of the Body Esteem Scale for Adolescents and Adults (BESAA-A), Work and Social Adjustment Scale (WSAS), Acceptance and Action Questionnaire (AAQ-II) and Self-Compassion Scale – Short Form (SCS-SF) at each time point (hospital admission, two months later, six months later), controlling for pre-determined covariates measured at the same time point as the independent variables where applicable

(i.e., PTSD symptoms and perceived noticeability). These are presented in Table 3.

Table 3

Relationships between appearance concerns and impairment in work and social functioning and psychological flexibility and self-compassion, whilst controlling for covariates

	T1 Appearance concerns	T2 Appearance concerns	T3 Appearance concerns	T2 Impairment in work and social functioning	T3 Impairment in work and social functioning
T1 AAQ-II	-.41***	-.35***	-.41***	.14	.11
T1 SCS-SF	.40***	.26***	.36***	-.06	-.10
T2 AAQ-II		-.55***	-.51***	.40***	.29**
T2 SCS-SF		.55***	.58***	-.24**	-.22*
T3 AAQ-II			-.62***		.35***
T3 SCS-SF			.62***		-.23*

Note. AAQ-II: Acceptance and Action Questionnaire II total score (higher scores indicate more difficulties with (i.e., lower) psychological flexibility)

SCS-SF: Self-Compassion Scale-Short Form mean total score (higher scores indicate increased self-compassion)

* $p < .05$. ** $p < .01$. *** $p < .001$.

Multiple linear regression analyses were conducted to explore how much of the variance in impairment in work and social functioning due to appearance concerns at T2 and T3 was explained by the covariates (block 1), T1 psychological flexibility and self-compassion (block 2) and T1 appearance concerns (block 3). These analyses are reported in Tables 4 and 5, respectively.

Table 4*Hierarchical Regression Analysis Predicting Impairment in Work and Social Functioning at**T2*

Block 1					
Variable	B	SE	95% CI		<i>p</i>
			LL	UL	
Gender	.082	1.794	-3.473	3.638	.964
Perceived noticeability	.156	.286	-.411	.723	.587
PTSD symptoms	.176	.045	.087	.265	<.001
Age	-.056	.056	-.168	.056	.323
Ethnicity	1.589	3.143	-4.640	7.818	.614
% TBSA	.060	.103	-1.44	.264	.562
Block 2					
Variable	B	SE	95% CI		<i>p</i>
			LL	UL	
Gender	-.237	1.792	-3.790	3.316	.895
Perceived noticeability	.159	.289	-.414	.732	.584
PTSD symptoms	.138	.055	.030	.247	.013
Age	-.057	.057	-.170	.055	.316
Ethnicity	1.687	3.187	-4.630	8.003	.598
% TBSA	.063	.103	-.140	.266	.540
Psychological flexibility	.254	.147	-.037	.545	.086
Self-compassion	1.788	1.862	-1.903	5.479	.339
Block 3					
Variable	B	SE	95% CI		<i>p</i>
			LL	UL	
Gender	-1.033	1.807	-4.614	2.549	.569
Perceived noticeability	-.105	.312	-.723	.513	.737

PTSD symptoms	.125	.054	.017	.233	.024
Age	-.060	.056	-.171	.051	.288
Ethnicity	1.841	3.140	-4.384	8.065	.559
% TBSA	.073	.101	-.127	.274	.470
Psychological flexibility	.148	.154	-.157	.452	.338
Self-compassion	1.649	1.835	-1.990	5.288	.371
T1 Appearance concerns	-2.549	1.229	-4.985	-.114	.040

When exploring the impact of the variables on T2 impairment in work and social functioning, the analysis revealed that the covariates explained 18.9% of the variance in T2 impairment in work and social functioning ($R^2 = .19$). The model was statistically significant ($F(6,110) = 4.27, p < .001$). Only PTSD symptoms were a statistically significant predictor. Adding in T1 psychological flexibility and self-compassion explained a further 2.4% of the variance ($\Delta R^2 = .02, \Delta F = 1.66, p = .20$) and this model was statistically significant ($F(8,108) = 3.65, p < .001$). In this model, PTSD symptoms continued to be the only statistically significant predictor. Adding in T1 appearance concerns explained a further 3% of the variance ($\Delta R^2 = .03, \Delta F = 4.31, p = .04$) and this model was statistically significant ($F(9,107) = 3.83, p < .001$). In this model, T1 PTSD symptoms continued to be a significant predictor along with T1 appearance concerns.

Table 5*Hierarchical Regression Analysis Predicting Impairment in Work and Social Functioning at**T3*

Block 1					
95% CI					
Variable	B	SE	LL	UL	p
Gender	.272	1.782	-3.261	3.805	.879
Perceived noticeability	.386	.280	-.169	.940	.171
PTSD symptoms	.210	.044	.123	.296	<.001
Age	-.041	.056	-.152	.071	.470
Ethnicity	-1.322	3.147	-7.562	4.917	.675
% TBSA	-.041	.102	-.242	.161	.689
Block 2					
95% CI					
Variable	B	SE	LL	UL	p
Gender	.185	1.813	-3.410	3.780	.919
Perceived noticeability	.415	.284	-.148	.977	.147
PTSD symptoms	.178	.052	.074	.281	<.001
Age	-.034	.057	-.148	.080	.554
Ethnicity	-1.033	3.170	-7.318	5.252	.745
% TBSA	-.049	.103	-.252	.154	.633
Psychological flexibility	.075	.145	-.212	.363	.605
Self- compassion	-.436	1.841	-4.087	3.216	.813
Block 3					
95% CI					
Variable	B	SE	LL	UL	p
Gender	-.013	1.848	-3.676	3.651	.995
Perceived noticeability	.328	.318	-.303	.959	.305

PTSD symptoms	.175	.053	.070	.279	<.001
Age	-.034	.057	-.148	.080	.552
Ethnicity	-.987	3.180	-7.294	5.319	.757
% TBSA	-.046	.103	-.250	.158	.655
Psychological flexibility	.049	.152	-.251	.350	.745
Self-compassion	-.354	1.852	-4.026	3.318	.849
T1 Appearance concerns	-.743	1.223	-3.168	1.681	.545

In predicting T3 impairment in work and social functioning, the covariates explained 24.7% of the variance in T3 impairment in work and social functioning due to appearance concerns ($R^2 = .25$). The model was statistically significant ($F(6,107) = 5.84, p < .001$). Only PTSD symptoms were a statistically significant predictor. Adding in T1 psychological flexibility and self-compassion explained a further 0.9% of the variance ($\Delta R^2 = .01, \Delta F = 0.64, p = .53$) and this model was statistically significant ($F(8,105) = 4.51, p < .001$). In this model, PTSD symptoms remained the only statistically significant predictor. Adding in T1 appearance concerns explained a further 0.3% of the variance ($\Delta R^2 = .003, \Delta F = 0.37, p = .55$) and this model was statistically significant ($F(9,104) = 4.02, p < .001$). In this model, PTSD symptoms remained the only statistically significant predictor.

e) Analyses related to Covid-19 distress measure

A repeated measures ANOVA revealed that Covid-19 distress changed over time ($F(2,216) = 12.64, p < .001$), with distress being higher at T1 compared to both T2 (mean difference = .86, $p = .002$) and T3 (mean difference = 1.15, $p < .001$).

Pearson correlation analyses revealed that increased Covid-19 distress was significantly related to increased appearance concerns at T1 ($r = -.27, n = 172, p < .001$), T2 ($r = -.28, n = 124, p = .002$) and T3 ($r = -.31, n = 121, p < .001$), lower psychological

flexibility at T1 ($r = .280, n = 175, p < .001$) and T3 ($r = .22, n = 120, p = .02$) but not T2 ($r = .13, n = 149, p = .15$), and lower self-compassion at T1 ($r = -.20, n = 174, p = .01$) and T2 ($r = -.18, n = 124, p = .04$) but not T3 ($r = -.13, n = 121, p = .15$).

Partial correlation analyses were conducted to explore the relationships between appearance concerns, psychological flexibility and self-compassion, when controlling for the a priori covariates in addition to Covid-19 distress. These are displayed in Table 6 and show that the relationships between increased appearance concerns and lower psychological flexibility and self-compassion cross-sectionally at all time points and prospectively across time were maintained when Covid-19 distress was controlled.

Table 6

Relationships between appearance concerns and impairment in work and social functioning and psychological flexibility and self-compassion, whilst controlling for covariates and Covid-19 distress

	T1 Appearance concerns	T2 Appearance concerns	T3 Appearance concerns
T1 AAQ-II	-.40***	-.36***	-.41***
T1 SCS-SF	.39***	.26**	.36***
T2 AAQ-II		-.57***	-.54***
T2 SCS-SF		.55***	.58***
T3 AAQ-II			-.63***
T3 SCS-SF			.62***

Note. AAQ-II: Acceptance and Action Questionnaire II total score (higher scores indicate more difficulties with (i.e., lower) psychological flexibility).

SCS-SF: Self-Compassion Scale-Short Form mean total score (higher scores indicate increased self-compassion)

* $p < .05$. ** $p < .01$. *** $p < .001$.

Multiple regression analyses to explore the predictors of appearance concerns at T1, T2 and T3 were repeated with the inclusion of Covid-19 distress. The covariates in addition to Covid-19 distress (block 1), T1 psychological flexibility and self-compassion (block 2) and T1 appearance concerns (block 3) were entered hierarchically. Tables 7 to 9 present the predictors for each of these analyses at each of the three time points.

Table 7

Hierarchical Regression Analysis Predicting Appearance Concerns at T1

Block 1					
Variable	B	SE	95% CI		<i>p</i>
			LL	UL	
Gender	-.370	1.25	-.616	-.124	.003
Perceived noticeability	-.081	.019	-.119	-.043	<.001
PTSD symptoms	-.014	.003	-.020	-.008	<.001
Age	.002	.004	-.006	.010	.672
Ethnicity	.203	.203	-.198	.604	.319
% TBSA	.002	.007	-.013	.016	.828
Covid-19 distress	-.046	.021	-.088	-.004	.031
Block 2					
Variable	B	SE	95% CI		<i>p</i>
			LL	UL	
Gender	-.332	.114	-.547	-.097	.005
Perceived noticeability	-.098	.018	-.134	-.063	<.001
PTSD symptoms	-.003	.003	-.010	.003	.311
Age	-.001	.004	-.008	.007	.872

Ethnicity	.052	.187	-.319	.422	.784
% TBSA	.003	.007	-.011	.016	.678
Covid-19 distress	-.028	.019	-.067	.010	.150
Psychological flexibility	-.021	.008	-0.037	-.005	.012
Self-compassion	.224	.102	.023	.426	.030

At T1, the analysis revealed that the covariates explained 35% of the variance ($R^2 = .35$). The model was statistically significant ($F(7,164) = 12.07, p < .001$). Male gender, decreased perceived noticeability, PTSD symptoms and Covid-19 distress significantly predicted lower appearance concerns. Adding in T1 psychological flexibility and self-compassion explained a further 11.9% of the variance in T2 appearance concerns ($\Delta R^2 = .12, \Delta F = 17.41, p < .001$). This model was also statistically significant ($R^2 = .47, F(9,164) = 15.22, p < .001$). Male gender, decreased perceived noticeability and increased psychological flexibility and self-compassion significantly predicted lower appearance concerns.

Table 8

Hierarchical Regression Analysis Predicting Appearance Concerns at T2

Block 1					
Variable	B	SE	95% CI		p
			LL	UL	
Gender	-.444	.178	-.797	-.091	.014
Perceived noticeability	-.023	.029	-.080	.033	.416
PTSD symptoms	-.017	.005	-.026	-.007	<.001
Age	.006	.006	-.006	.018	.330
Ethnicity	.384	.317	-.243	1.011	.228
% TBSA	.000	.010	-.020	.021	.983
Covid-19 distress	.006	.031	-.055	.068	.841
Block 2					

Variable	B	SE	95% CI		<i>p</i>
			LL	UL	
Gender	-.392	.168	-.725	-.059	.022
Perceived noticeability	-.035	.027	-.090	.019	.199
PTSD symptoms	-.006	.005	-.016	.005	.282
Age	.004	.006	-.008	.015	.519
Ethnicity	.241	.304	-.362	.844	.430
% TBSA	.000	.010	-.019	.020	.962
Covid-19 distress	.015	.029	-.043	.073	.610
Psychological flexibility	-.038	.014	-.065	-.010	.007
Self-compassion	-.029	.176	-.377	.319	.869
Block 3					
Variable	B	SE	95% CI		<i>p</i>
			LL	UL	
Gender	-.248	.156	-.558	.061	.114
Perceived noticeability	.015	.027	-.039	.069	.584
PTSD symptoms	-.004	.005	-.014	.006	.405
Age	.002	.005	-.008	.013	.633
Ethnicity	.177	.277	-.373	.727	.524
% TBSA	-.001	.009	-.019	.017	.914
Covid-19 distress	.042	.027	-.013	.096	.130
Psychological flexibility	-.016	.013	-.042	.011	.248
Self-compassion	.009	.160	-.309	.327	.956
T1 Appearance concerns	.526	.109	.309	.742	<.001

At T2, the covariates explained 22.5% of the variance in T2 appearance concerns ($R^2 = .23$). The model was statistically significant ($F(7,117) = 4.574, p < .001$). Male gender and decreased PTSD symptoms significantly predicted lower appearance concerns. Adding in T1 psychological flexibility and self-compassion explained a further 10.1% of the variance (ΔR^2

= .101, $\Delta F = 8.131$, $p < .001$) and this model was statistically significant ($F(9,117) = 5.826$, $p < .001$). In this model, male gender and increased psychological flexibility significantly predicted lower appearance concerns. Adding in T1 appearance concerns explained a further 12% of the variance ($\Delta R^2 = .12$, $\Delta F = 23.150$, $p < .001$) and this model was statistically significant ($F(10,117) = 8.634$, $p < .001$). In this model, only lower T1 appearance concerns significantly predicted lower T2 appearance concerns.

Table 9

Hierarchical Regression Analysis Predicting Appearance Concerns at T3

Block 1					
Variable	B	SE	95% CI		p
			LL	UL	
Gender	-.554	.179	-.908	-.199	.003
Perceived noticeability	-.017	.028	-.073	.039	.553
PTSD symptoms	-.018	.005	-.028	-.009	<.001
Age	.003	.006	-.009	.014	.652
Ethnicity	.438	.325	-.207	1.083	.181
% TBSA	-.013	.010	-.033	.007	.206
Covid-19 distress	-.008	.031	-.070	.055	.805
Block 2					
Variable	B	SE	95% CI		p
			LL	UL	
Gender	-.526	.166	-.856	-.197	.002
Perceived noticeability	-.029	.026	-.081	.023	.272
PTSD symptoms	-.006	.005	-.016	.004	.201
Age	.000	.006	-.011	.011	.936
Ethnicity	.310	.299	-.283	.904	.303
% TBSA	-.010	.009	-.028	.008	.283
Covid-19 distress	.001	.029	-.057	.058	.985

Psychological flexibility	-.030	.013	-.057	-.003	.027
Self-compassion	.162	.171	-.177	.502	.346
Block 3					
95% CI					
Variable	B	SE	LL	UL	<i>p</i>
Gender	-.378	.150	-.675	-.080	.013
Perceived noticeability	.033	.026	-.019	.084	.211
PTSD symptoms	-.006	.004	-.014	.003	.213
Age	-.002	.005	-.012	.008	.709
Ethnicity	.200	.267	-.328	.729	.454
% TBSA	-.010	.008	-.027	.006	.217
Covid-19 distress	.033	.026	-.020	.085	.221
Psychological flexibility	-.010	.012	-.035	.014	.414
Self-compassion	.124	.152	-.178	.426	.418
T1 Appearance concerns	.549	.102	.347	.751	<.001

At T3, the covariates explained 29.3% of the variance in T3 appearance concerns ($R^2 = .29$). The model was statistically significant ($F(7,114) = 6.333, p < .001$). Male gender and decreased PTSD symptoms significantly predicted lower appearance concerns. Adding in T1 psychological flexibility and self-compassion explained a further 12.6% of the variance ($\Delta R^2 = .13, \Delta F = 11.43, p < .001$) and this model was statistically significant ($F(9,114) = 8.428, p < .001$). In this model, male gender and increased psychological flexibility significantly predicted lower appearance concerns. Adding in T1 appearance concerns explained a further 12.7% of the variance ($\Delta R^2 = .13, \Delta F = 28.991, p < .001$) and this model was statistically significant ($F(10,114) = 12.506, p < .001$). In this model, male gender and lower T1 appearance concerns significantly predicted lower T3 appearance concerns.

4. Early Appearance Concerns After Burns: Exploring the Roles of Psychological Flexibility and Self-compassion

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Preface

Prior to this thesis research, and as presented in the introductory chapter, a small body of qualitative research specifically focusing on appearance concerns after burns existed. Furthermore, research on early appearance concerns conducted in the initial period post-burn was limited. A key gap in the literature was the lack of focus on the early psychological processes that may help people adapt to appearance changes after burns. Findings from quantitative research designs had begun to highlight the roles of psychological flexibility and self-compassion in appearance concerns in those with visible differences, including after burns, and the study detailed in the first manuscript extended the quantitative research literature on this topic through its prospective design, it being conducted soon after the burn injuries occurred (i.e., during hospital admission), and simultaneously exploring the roles of psychological flexibility and self-compassion in appearance concerns. However, qualitative exploration of the roles of psychological flexibility and self-compassion in appearance concerns explicitly had not yet been conducted. Maintaining a focus on understanding the early experiences of appearance changes following burns and building on the findings

detailed in the first manuscript that psychological flexibility and self-compassion were associated with appearance concerns, the study presented in the next manuscript sought to extend knowledge on this topic further by utilising qualitative research methodology.

Published supplementary materials follow the manuscript.

Early appearance concerns after burns: Exploring the roles of
psychological flexibility and self-compassion

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Early appearance concerns after burns: Investigating the roles of psychological flexibility and self-compassion

Abstract

Few qualitative studies have explored appearance concerns soon after burn injuries. This study aimed to understand the early experiences of appearance concerns after burns, through the lens of psychological flexibility and self-compassion. Template analysis informed data collection and analysis. Fifteen adults (nine female, six male) with appearance concerns were interviewed within three months of their burns. Three superordinate themes were identified: (1) Need for social connection; (2) Distress through difference; and (3) Experiential avoidance and self-criticism in response to early appearance concerns. Findings highlighted that early appearance concerns are influenced by the need for social acceptance and the desire to conform to societal ideals. Internalised gender and appearance ideals and concerns about rejection and stigma were activated by the burn, and individuals had difficulty responding to their early appearance concerns with psychological flexibility and self-compassion. Instead, attempts to avoid distress (experiential avoidance) occurred. Self-criticism in response to distress was evident which, for some, extended to the event leading to their burns. Early interventions to enhance psychological flexibility and self-compassion (e.g., acceptance and commitment therapy, mindful self-compassion), to help individuals respond to appearance concerns with less experiential avoidance and self-criticism, would likely promote adjustment to changes in appearance after burns.

Keywords: burns; appearance; visible difference; psychological flexibility; self-compassion; scarring

Highlights

- Novel qualitative study investigating psychological flexibility and self-compassion
- Distress is due to a need to be socially accepted and adhere to societal ideals
- Psychological flexibility and self-compassion are targets for intervention

1. Introduction

Adults with visible differences are known to experience higher levels of psychological difficulties compared to the general population, including anxiety, depression, low self-esteem and appearance concerns (Lansdown et al., 1997; Rumsey & Harcourt, 2004; Thompson & Kent, 2001). Anxiety, shame and social avoidance associated with being visibly different can interfere with work, socialising and relationships (Rumsey & Harcourt, 2012). Adjusting to newly acquired visible difference is a process, starting with initial uncertainty and anxiety, followed by emergence of a sense of concern about difference, an awareness of the social implications and behavioural attempts to minimise the perceived (and actual) impact (e.g., via avoiding social situations or utilising concealment), prior to the development of a sense of acceptance that usually requires some use of continuing new coping strategies (Clarke et al., 2013; Thompson, 2012). After burns, appearance concerns can occur due to wounds, scars or other changes to the skin (Attoe & Pounds-Cornish, 2015; Patterson et al., 1993). These concerns can negatively influence global psychological adjustment (Thombs et al., 2008), social interactions (Lawrence et al., 2016; Taal & Faber, 1998b) and wider functioning (Esselman et al., 2007; Mason et al., 2012). It is therefore important to understand when appearance concerns develop after burns, and what contributes to them.

It is known that subjective severity of an appearance change is more useful in determining distress compared to objective severity (Moss, 2005; Rumsey & Harcourt, 2004). How individuals interpret their visible difference, their self and their interactions with others is key, influenced by underlying cognitive self-schemas, discrepancies (and salience of these discrepancies) between perceptions of actual/ideal/ought selves, and the social context (Clarke et al., 2013; Thompson, 2012; Thompson & Kent, 2001). A variety of cognitive and behavioural factors have been associated with appearance concerns in those living with a visible difference, including a heightened fear of negative evaluation from others, social

comparisons, overestimating the likelihood of rejection, appearance salience, negative appearance-related cognitions, lower perceived social acceptance and increased avoidance and concealment (Clarke et al., 2013; Moss et al., 2014; Moss & Rosser, 2012; Rumsey & Harcourt, 2004; Thompson & Kent, 2001).

After burns specifically, research has highlighted that certain coping strategies (suppressing emotions/distraction and over-focusing on distressing thoughts), appearance salience and self-monitoring are associated with greater appearance concerns (Fauerbach et al., 2002; Kurian et al., 2019; Thombs et al., 2008). Shame has also been implicated in social introversion after burns (Taal & Faber, 1998a; 1998b). Social stigma and symptoms of post-traumatic stress and depression have also been found to influence appearance concerns and community integration (Mercado et al., 2022). To date, most of the literature on appearance concerns after burns has utilised quantitative methodologies, which limits understanding of individuals' experiences of appearance concerns after burns. There is a small but limited body of qualitative research on appearance concerns after burns.

1.1. Qualitative research examining appearance concerns after burns

A systematic review and meta-ethnography of primary qualitative studies conducted by Bayuo et al. (2022) sought to develop an in-depth understanding of living with scars following burn injury. Two main themes were identified: emergence of a new identity; and living with the redefined self. Bayuo et al. (2022) described how living with scars was entwined with the initial trauma of the incident leading to the burn. Emergence of a new identity involved meaning making, mourning the former self, confronting the new self, reconciling the remains of the old self with the new, rebuilding a new identity and managing functional restrictions created by the burn. Living with the redefined self involved the adoption of coping strategies (e.g., hope, spirituality and accessing support) and shifting perspective (i.e., reflecting and reasoning, shifting from thinking 'what was' to 'what is,' and

emotional detachment from the negative responses of others or reliving the injury). The authors concluded that living with burn scars was a latent but ongoing psychological process. Bayuo et al.'s (2022) review provides an in-depth insight into the longer-term experiences of appearance concerns after burns, given that most included studies were conducted several months or years after the burn occurred. At these time points, acute wounds will have typically healed, and scars developed, a considerable amount of time prior. The focus of research at this later stage follows an initial adjustment period (Partridge, 1990, 2005), when people are living with stable scarring and permanent appearance changes. However, there remains limited understanding of individuals' early experiences of appearance concerns, for example within two to three months post-burn, when the wound is typically still healing or has recently healed and individuals begin to realise the degree of permanency or extensiveness of scars and other skin changes (e.g., altered pigmentation). The predominant focus on longer-term appearance concerns after burns could reflect a difficulty for researchers in accessing individuals at an early stage post-burn, concerns about the acceptability of appearance-related research soon after injuries occur, or oversight of the window of opportunity that this early time period may give to intervene proactively in helping people adjust to their appearance changes.

There is some limited research that has been conducted in the initial period post-burn to explore early appearance concerns. Bergamasco et al. (2002) interviewed 35 burns patients in Brazil within an average of three months post-injury. Adjustment to appearance changes were reported to begin as soon as patients began to look at their bodies, usually taking place when in hospital. Bergamasco et al. (2002) reported self-consciousness in relation to anticipating difficulties in relationships and work. Gullick et al. (2014) aimed to interview nine patients and a family member within 13 weeks of hospital discharge in Australia. However, some participants were interviewed up to five months post-burn. They described

trauma reactions with participants developing a metaphorical ‘bubble’ around the self to contain grief and to protect themselves from becoming overwhelmed. This ‘bubble’ included the loss of the known (pre-burn) body, which led to a sense of physical ‘otherness.’ This ‘otherness’ represented the loss of the, and at times unrecognisable, pre-burn appearance and reduced humanness. Family members also described this ‘otherness’, creating feelings of shock and an initial desire to recoil when faced with the changed appearance of their loved one. Johnson, Taggart, and Gullick (2016) subsequently re-analysed the data from Gullick et al. (2014) and reported that emerging from the trauma ‘bubble’ after a burn included challenging this ‘otherness’ through development of self-acceptance, often through humour or post-traumatic growth. In another Australian study, McLean et al. (2015) interviewed six individuals shortly after sustaining facial burns, although specific detail related to the time post-burn that interviews were conducted was not reported. They found that all participants had experienced early appearance concerns and changes in their relationship to their bodies, associated with the similar relational uncertainties as described in the other studies. Lastly, Dunpath, Chetty, and Van Der Reyden (2015) interviewed five patients in South Africa who had experienced hand burn injuries within the previous three months. They identified the importance of stigma, represented by anxiety about returning home due to fear of rejection.

The above studies have provided key insights into the early experiences of appearance concerns after burns, and the importance of other people’s reactions to them. However, a key gap in this area is the lack of focus on the early psychological processes that may help people adapt to appearance changes after burns. The current study aims to extend this research by exploring psychological variables that may help to protect individuals from appearance concerns after burns. Such variables are important to identify, especially if they are modifiable. Psychological flexibility and self-compassion are two variables that are worthy of exploration.

1.2. Psychological flexibility, self-compassion and appearance concerns

Psychological flexibility is a model of psychological well-being that involves: the willingness to experience internal experiences (*acceptance*); the ability to stand back from and observe thoughts (*defusion*); maintaining a present moment focus (*contact with the present moment*); an awareness of the self as separate to one's internal experiences (*self-as-context*); knowing what matters (*values*); and behaving in line with one's values (*committed action*; Hayes, Strosahl, & Wilson, 1999). In contrast, experiential avoidance (difficulties being open to experiencing distressing internal experiences) is associated with psychological difficulties (Hayes et al., 1999). Neff's (2003) model proposes that self-compassion is an adaptive way of responding to personal difficulties and shortcomings. This involves: engaging in self-kindness versus self-criticism; seeing one's own suffering as common to the human experience rather than feeling isolated; and having a balanced perspective on painful thoughts and emotions rather than overidentifying with them. In health contexts, self-compassion can promote adaptive coping and improve well-being (Ewert, Vater, & Schroder-Abe, 2021; Sirois, Molnar, & Hirsch, 2015; Zessin, Dickhauser, & Garbade, 2015).

There is growing evidence from quantitative studies for the role of psychological flexibility on appearance concerns in individuals after burns (Shepherd et al., 2019) and within a mixed visible difference population (Vasiliou et al., 2023; Zucchelli, White, & Williamson, 2020). Quantitative research has also demonstrated that self-compassion is associated with appearance, or body image, concerns in women after breast cancer (Przedziecki et al., 2013; Sherman et al., 2017) and skin conditions (Clarke, Thompson, & Norman, 2020). However, qualitative research into the roles of psychological flexibility and self-compassion is currently lacking.

The current study therefore aims to extend the current literature, beyond those studies that have employed quantitative methodologies. Furthermore, research that has investigated

the roles of psychological flexibility and self-compassion in appearance concerns to date have studied these in isolation. The current study aims to investigate both of these variables, using qualitative methodology. This is important for understanding the roles that psychological flexibility and self-compassion play in appearance concerns in more depth and how individuals experience these. In relation to psychological flexibility, qualitative research has found that avoidant coping mechanisms, including emotional suppression, have been reported in those with appearance concerns after burns (Bergamasco et al., 2002; Macleod, Shepherd, & Thompson, 2016; Martin et al., 2017), which could be interpreted as experiential avoidance and therefore difficulties with psychological flexibility. A further qualitative study found that women had an ambivalent relationship with their burns and coped by minimising their experiences, which could again be interpreted as experiential avoidance (Hunter et al., 2013). Finally, Macleod et al. (2016) found that individuals devalue the post-burn self and idealise the pre-burn self, which could be interpreted as difficulty being in contact with the present moment (Hayes et al., 1999). Considering self-compassion, only one qualitative study has explored how self-compassion helped individuals adjust to living with chronic skin conditions (Clarke, Norman, & Thompson, 2022). This study found that self-compassion promoted adjustment through an enhanced sensitivity to distress and value in caring for their wellbeing, with self-kindness and mindful attention used to cope with challenges. However, appearance concerns were not explored specifically.

1.3. Study rationale and aims

Current research provides a limited understanding of individuals' early experiences of appearance concerns after burns. The current study aimed to extend this knowledge. More specifically, it aimed to explore the roles that difficulties in psychological flexibility (Hayes et al., 1999) and self-compassion (Neff, 2003) play in early appearance concerns. Building on the quantitative research that has explored the role of these variables in appearance concerns,

this study employed a qualitative methodology to provide richer and nuanced information on the topic. Focusing on how psychological flexibility and self-compassion is relevant to early adjustment to appearance changes, within weeks of burns occurring, may provide a deeper understanding of distress at this early time point and facilitate insight into what early or preventative psychological interventions may be useful within this context.

2. Material and Methods

2.1. Design

Given the explicit aim of the study was to investigate the roles of self-compassion and psychological flexibility in appearance concerns shortly after burns, template analysis was chosen as the most appropriate method (King & Brooks, 2017). Template analysis is a form of thematic analysis that allows both inductive and deductive reasoning to be applied within the analysis of acquired data. This approach guides the development of a priori themes that enable initial coding of interview transcripts, but also enables novel constructs to be identified as the analysis progresses.

Adults (aged 18 years or over) experiencing appearance concerns from a burn injury within three months were eligible to participate. Individuals were excluded if they had sustained their injuries due to a suicide attempt, self-harm or assault as appearance concerns following burns in these contexts would likely involve different psychological experiences compared to appearance concerns following accidents. People were also excluded if they had a known cognitive impairment due to the nature of the study and need to recall their experiences and describe them in depth. The study protocol was uploaded to the Open Science Framework prior to recruitment. Ethics approval was obtained from the South Birmingham NHS Research Ethics Committee (REC) and Health Research Authority (IRAS ID: 292292; REC ref. 21/WM/0144).

2.2. Participants

Fifteen adults (nine female, six male) aged between 18 and 56 years participated.

Table 1 displays participant pseudonyms and demographic information.

Table 1

Pseudonyms and Demographic Information

Pseudonym	BESAA-A score	Gender	Age (years)	Ethnic group
Alexei	2.7	Male	47	White European
John	2.3	Male	54	White British
Neema	2.3	Female	50	British Indian
Aadan	2.1	Male	28	Black African
Jake	2.1	Male	46	White British
David	1.9	Male	52	White British
William	1.9	Male	54	White British
Abbie	1.5	Female	18	White British
Lauren	1.1	Female	29	White British
Joanie	0.9	Female	28	White British
Leanne	0.8	Female	26	White British
Nicola	0.7	Female	44	White British
Elaine	0.6	Female	56	White British
Jayne	0.4	Female	53	White British
Nina	0.1	Female	23	White British

Note. BESAA-A: Appearance Subscale of the Body Esteem for Adolescents and Adults

Self-reported socio-economic status ranged from 4 to 10 on the *McArthur Scale of Subjective Social Status – Adult Version* (Adler, Epel, Castellazzo, & Ickovics, 2000). This measure and the Appearance Subscale of the Body Esteem for Adolescents and Adults (BESAA-A; Mendelson et al., 2001) are detailed below. The majority of the burn injury information was gathered from medical records but some relied on self-report. Time since

burn ranged from just over two weeks to almost eleven weeks. Injuries included scalds ($n=9$) as well as flame ($n=3$), friction ($n=1$), contact ($n=1$), and flash ($n=1$) burns. Total body surface area (% TBSA) burnt ranged from 0.5 to 28%. Depth of burn included mixed thickness ($n=6$), full thickness ($n=4$), partial thickness ($n=3$), deep dermal ($n=1$) and unknown ($n=1$). Body location of burns included the legs ($n=11$), chest/abdomen ($n=6$), arms ($n=5$), hands ($n=4$), back ($n=4$), buttocks ($n=3$), feet ($n=2$) and face ($n=1$).

2.3. Data collection

2.3.1. Interview schedule

A priori themes based on template analysis guided the interview schedule (King & Brooks, 2017), and subsequently developed throughout recruitment. A Patient Advisory Group comprising individuals with lived experience of burn injuries contributed to the design of the interview schedule. Sections included questions around early experiences of appearance changes (e.g., ‘What are the emotions that come up for you, in relation to how your appearance or body has changed?’), psychological flexibility (e.g., ‘To what extent are you living your life according to what matters to you at the moment?’) and self-compassion (e.g., ‘How do you act towards yourself when you have these experiences?’). The interview schedule and a priori themes are available in the supplementary materials and in the Open Science Framework (<https://doi.org/10.17605/OSF.IO/FBQUY>).

2.3.2. Self report-questionnaires

Two measures gathered contextual information, presented in the *Participants* section and Table 1. The *Appearance Subscale of the Body Esteem for Adolescents and Adults* (BESAA-A; Mendelson et al., 2001) is a 10-item self-report questionnaire that measures body esteem, particularly focusing on appearance. It has been used in previous research exploring appearance concerns after burns (Lawrence, Fauerbach & Thombs, 2006). Responses to items

fall on a scale ranging from 0 ('Not at all') to 4 ('Always'), with some items being reverse-scored. An example item is, 'I'm pretty happy about the way I look.' Total mean scores are used, with lower scores representing reduced body esteem (greater appearance concerns). The *McArthur Scale of Subjective Social Status – Adult Version* (Adler et al., 2000) is a single-item scale to measure socio-economic status. Participants were asked to rank themselves from one ('Worst off') to 10 ('Best off'), representing their socio-economic standing compared with others in the UK.

2.4. Procedure

The first 15 participants interested in taking part and meeting inclusion criteria were recruited. Eleven of these had participated in another research study during their hospital admission, conducted by the same researchers, and expressed interest in this study. Three participants responded to fliers in hospital burns services and one was recruited through social media. The measures were completed by the participants themselves if they took part in person. For participants who took part remotely, the measures were screen-shared or read out by the first author who then wrote down participants' responses. Semi-structured interviews were conducted by the first author. Interviews were audio-recorded and the first author made notes and wrote case summaries, documenting key interview dynamics and reflections from the interview (King & Brooks, 2017). Ten interviews were conducted over video-calls, three were held in person and two were telephone interviews. Interviews lasted 79 minutes on average (range: 41-112 minutes). They were transcribed verbatim and pseudonyms were assigned.

2.5. Data analysis

Template analysis guidance by King and Brooks (2017) was followed. Template analysis is not aligned to any particular philosophical position, deferring this to researchers (King & Brooks, 2017). The data were analysed within a critical realist perspective (Bhaskar,

2010) given that all authors take this stance in their research. The researchers assumed that participants' responses during the interviews represented meaningful psychological phenomenon. However, it was acknowledged that knowledge is generated and perceived through lenses of cultural, historical, personal and social experiences and therefore researchers cannot be completely objective during the research process.

Whilst a priori themes were identified, these were used with the awareness that they may not necessarily prove relevant, useful or meaningful and may be refined or discarded. The a priori themes are available in the supplementary materials and in the Open Science Framework (<https://doi.org/10.17605/OSF.IO/FBQUY>). They were used to guide preliminary coding of an initial subset of the data (four interview transcripts), which led to additional themes and sub-levels being developed into an initial template, using both inductive and deductive reasoning. The next subset of data (another four interview transcripts) was applied to this initial template and it was revised accordingly. This was repeated until all data had been applied to the latest version of the template, with a priori themes being discarded and refined as necessary, following which interpretation of the template began (following guidance by King & Brooks, 2017). The analysis therefore had seven stages, completed sequentially and iteratively: 1) familiarisation with the data; 2) preliminary coding; 3) clustering; 4) producing an initial post data collection template; 5) developing the template; 6) applying the final template; and 7) final interpretation (King & Brooks, 2017). NVivo version 1.7.1 was used to assist analysis.

The concept of 'saturation' was initially developed by Glaser and Strauss (1999) in the context of grounded theory analysis, where sample size consideration is part of the ongoing analysis where every new observation is compared with previous ones in terms of similarities and differences. However, the concept has come under scrutiny in recent years due to it being used inconsistently and across a variety of analytic methods, and 'information power' has

been proposed as an alternative consideration (Malterud, Siersma, & Guassora, 2016). In the current study, saturation was focused on the data analysis rather than data collection and conceptualised as an internal process at “the point at which no new information or themes are observed in the data” (Guest, Bunce, & Johnson, 2006, p. 59). The development of the final template was reached when the iterative process of template development reached saturation: when all data could be coded, using that version of the template (King & Brooks, 2017) and no new themes were being developed (Guest et al., 2006).

2.6. Quality control, rigour and reflexivity

Credibility and rigour can be established using a variety of methods, including auditing the analytic process, keeping detailed audit notes and reflexivity (Malterud, 2001; Spencer & Ritchie, 2012). Template analysis is a form of thematic analysis (King & Brooks, 2017), and therefore it was considered important for researchers to reflect and interrogate how their assumptions and expectations impact on their engagement with the data (Braun & Clarke, 2019). Combined with the critical realist stance taken in the current study, reflexivity was important (Braun & Clarke, 2019; King & Brooks, 2017). A reflective diary was maintained throughout the study by the first author and used to inform reflection as to the concepts evident in the data. Transparency was explicit and an audit trail with detailed notes was kept, which also detailed reflexive comments about how the first author’s own position influenced coding choices/template development and interpretation, in line with the process of template analysis (King & Brooks, 2017). Example excerpts from the reflective diary and audit trail can be found in the supplementary materials. An audit checklist was developed prior to the study commencing and completed at the end of the study by the first and last authors. To provide rich and detailed accounts, participant quotes and thick description were also utilised (King & Brooks, 2017).

The first author was aware of her ongoing clinical role as a Consultant Clinical Psychologist in a burns service and previous experience of working with burns patients who experience appearance concerns. The third and last authors also have experience of conducting research and providing clinical services (last author) with people who have sustained burn injuries. In addition, all authors have conducted prior work on the roles of psychological flexibility and/or self-compassion. In keeping with utilising reflexivity in qualitative research (Finlay & Gough, 2003; Olmos-Vega, Stalmeijer, Varpio, & Kahlke, 2023), the research team continually reflected on the relationship between preconceptions and the emerging findings during team meetings and through field notes. This informed the analysis through the consideration of other relevant theories that explained the data. Positionality statements for all authors can be found in the supplementary materials.

3. Results

The majority of participants described acute/post-traumatic stress symptoms in relation to their burn injury. Participants typically contextualised their changed appearance within pre-existing negative beliefs or sensitivities about their bodies or themselves more generally. Further, early appearance concerns were contextualised within the uncertainty and unexpected severity of their injuries surrounding wound healing (e.g., how long wounds would take to heal) and future appearance (e.g., what degree of appearance change/scarring would develop and whether these would be permanent or not). Other people's reactions to their wounds or scars (e.g., looks, comments and questions) also contributed to participants' views of themselves post-burn.

Three superordinate themes resulted from analysis: (1) *Need for social connection*; (2) *Distress through difference*; and (3) *Experiential avoidance and self-criticism in response to early appearance concerns*. *Need for social connection* was identified as an overarching theme. The other two superordinate themes, *Distress through difference* and *Experiential*

avoidance and self-criticism in response to early appearance concerns, were situated within this overarching theme and related to each other. Each of the superordinate themes and subthemes are discussed below with example quotes.

3.1. Superordinate theme 1: Need for social connection

Almost all participants situated their appearance changes within the need for, and importance of, connection with other people. The burn appeared to activate previously unconscious or latent schema around the need to connect and build relationships with other people. Schema related to the importance of feeling socially accepted and the desire to conform to societal ideals were triggered by the realisation of how their appearance changes may be viewed by other people and wider society, creating a sense of threat to social connection. Participants were aware of the social and relational implications of their appearance changes and the rejection and stigma they may experience. They had often already received reactions from other people towards their wounds or scars (e.g., stares and comments), and were facing uncertainty about how their burns will look in the future and the permanency of appearance changes. There were two subthemes within this theme: *Seeking acceptance; and Triggering of social threat through internalised gender and appearance ideals*.

3.1.1. Subtheme 1.1: Seeking acceptance

All participants described anticipating other people's reactions towards their appearance that acknowledged the way appearance can be highly valued in society. Many of the respondents placed value on other people's reactions to their changed appearance, through the activation of a schema related to the need for social acceptance. Appearance changes were perceived as a social threat to being accepted by society and other people. Concern about how other people would perceive or react towards them because of their

appearance changes was apparent because of the desire to be accepted. However, the salience attached to acceptance from others varied between participants. Some attached a particularly high level of value to other people's reactions towards their appearance, highlighted by the following quote by Nicola, a 44-year-old female: "I know there's other people are like 'oh I don't care what people think of me, but I can't help it, I do, I wish I didn't but I do.'"

However, for John (54-year-old male), there was an evident conflict about how important other people's reactions were or should be to him:

Whether people who I know have accepted me for who I am and I'm happy with that, you know, but people who I don't know, whether I still want them to like me or not but they can't because I'm not perfect, I don't know...I suppose why am I worrying about it, because obviously I've got a loving family, I've got a good job, I've got loads of friends, so why am I bothered about the way I perceive people looking at me?

Some male participants sought social acceptance through additionally perceiving that it was their responsibility for protecting other people from their appearance changes. This internalised masculinity seemed important for these men. For example, one respondent said,

I don't want the grandkids seeing it or owt like that, you know, I don't want them getting scared or (anything) like that. I don't want them to be scared of me, you know, it's like 'weird grandad' sort of thing (William, 54-year-old male).

The need to feel that other people understood and had compassion for the emotional impact of their changed appearance was key to feeling accepted. Some women felt this had been lacking, leading to a sense of isolation from their social support networks, strangers and

burns teams. For example, one woman talked about other people, including her husband, not understanding how she felt, making her feel dismissed:

They want to give you a ‘ah’ for like two minutes but you’re like ‘no, I need a ‘ah’ for a lifetime because, you know, you don’t understand. And I think that’s really hard when the people close to you don’t understand and you’re just like ‘oh god you’re never going to understand so I’m not’ – like my husband – ‘you don’t understand, you’re never going to begin to understand so I’m not even going to bother telling you, you know, you’re just going to waste my breath so I’m not even going to go there (Jayne, 53-year-old female).

3.1.2. Subtheme 1.2: Triggering of social threat through internalised gender and appearance ideals

The burn injury triggered schema related to internalised gender and appearance ideals in many participants, rooted in a desire to conform to social ideals and feel socially connected and accepted. This led them to reflect about how their appearance changes integrated with their previous gender- and appearance-related identities. Participants felt a sense of threat due to these ideals being challenged, coupled within concerns about what their appearance changes could mean in terms of how other people and society perceived them. Attractiveness seemed particularly salient for female participants, representative of societal ideals, and they perceived themselves as less attractive or sexually desirable to other people due to the burn injury. This was particularly salient when the burns affected body parts such as the breasts or legs. Some women felt a threat to their femininity, feeling unable to wear certain clothing or accessories considered ‘feminine’, due to their altered appearance and how others may perceive them if their burn was visible. One woman talked about her burn to her breast as being salient in terms of her sense of sexual attractiveness and femininity and stated,

Erm, just because it's not – it's my boob, and it's not the same as it was before. And, erm, it just doesn't look very pretty. It looks very ugly, and erm it's on some of my nipple as well, and it just – obviously – this sounds weird, but your nipples get hard and soft, but it's kind of affect that movement in my nipple. And I just – yeah – it's just not attractive. It just makes me feel a bit gross... (Nina, 23-year-old female).

Similarly, Neema, a 50-year-old female, who burnt her legs, stated, "Like I said, you start doing a comparison, you know, you watch a film and you say 'Oh yeah, they've got lovely legs, why did that have to happen to me?'" For male participants, the threat seemed more related to their masculine identities. Schema associating masculinity with emotional strength and stoicism appeared to have been triggered for David, a 52-year-old man. He was concerned about how other people would perceive his distress caused by his changed appearance, stating,

If I meet someone and on the first date I'm talking about all of this stuff, do I appear like a soppy person, actually a wet blanket, or do I keep it bottled and be the man about the house and the strong person.

Similarly, John, a man also in his 50s, talked about "male bravado" and a desire to feel attractive. John talked about his passion for martial arts and the importance he placed on his physical stature. He explained that the burn injury had not only changed his appearance but had also led to weight gain and a loss of muscle definition. John explained:

You're still trying to think, you know, when you walk down the street people look at you and you think, you know, they look all right, kind of thing, whether you've got that kind of – erm, you fit into the slot where you think society thinks you should look, you know, men look one way, women should look another way.

Some men also appeared to hold a sense of responsibility for other people's reactions to their appearance and protecting them from distress. This internalised masculinity led them to consciously consider other people's reactions and whether they could reduce any distress they felt in seeing their burns, for example, by concealing or disclosing their appearance in ways that would be less distressing for others.

3.2 Superordinate theme 2: Distress through difference

This theme, which represented all respondents' data, captures the conscious appearance concerns that were readily accessible by participants soon after the burn occurred and the varying trajectories they took. Appearance changes led to individuals feeling different from other people due to the changes resulting from the burn injury being a deviation from societal ideals around appearance. This perceived difference led to a range of distressing thoughts and feelings about themselves, the appearance of the burns now and in the future and the impact of this on their relationships with others, through a fear of rejection and stigma. This reflected the beginning of a shift from their pre-burn identities (where they conformed more to societal ideals around appearance) to their post-burn identities (where societal ideals around appearance were threatened). Appearance concerns were rooted in the need for social connection, and for some, influenced by pre-existing negative body image or insecurities about the self. The unexpected severity of their burns and uncertainty around future appearance also contributed to distress. Two subthemes were identified: *Fear of rejection and stigma*; and *Early onset with a variable course*.

3.2.1. Subtheme 2.1: Fear of rejection and stigma

Although some participants expressed interspersed feelings of relief that their appearance had not been more severely affected, participants also described a fear of

rejection and stigma from others because of their appearance changes. This was driven by the early development of a post-burn identity which was perceived as deviating from societal ideals around appearance. This, along with the triggering of schemas related to the need for, and importance of, social connection led to feelings of self-consciousness and shame about their appearance. Feelings and thoughts representing these and related concepts of anxiety and self-disgust were common, in addition to secondary experiences of sadness, anger and helplessness about their situation. In turn, a desire to hide from or avoid other people occurred in order to avoid unwanted reactions, either through concealment of the body, avoiding social or public situations or withdrawing from relationships or society. Those with milder appearance concerns described their lives as continuing as they had been prior to the injury. However, all participants expressed a desire to avoid, or hide away from, others to avoid their reactions to some extent. For example, one respondent talked about her self-consciousness and said,

The feeling of not – just the feeling of going abroad now, because we were talking about it last night – erm, of having to kind of wear a swimming costume or – in front of other people, it kind of – it just puts me off now. Just getting any bit of my body out on show that's been burnt – it just makes me more anxious than I already was (Joanie, 28-year-old female).

Similarly, one man talked about his fear of other people's reactions and therefore his avoidance of public places and said,

The idea of going into a swimming pool as an example now with children and having people look and stare – and I may be building this up to way more than it is – that may well be the case – but that doesn't hold any attraction to me whatsoever so it's easier to stay hidden (Jake, 46-year-old male).

This occurred within a grieving process for the loss of their 'normal' pre-burn appearance. For example, one respondent who struggled with low self-esteem and mental health problems prior to her accident, stated,

It's just 'cos of how red they are, and the scarring on my stomach – it's just – I just think they look monstrous, they are just there – there is no, I know it's still early days, but it's like they are not gonna go away. The colour is never going to look normal again (Leanne, 26-year-old female).

For some, the fear of rejection and stigma was perpetuated by self-blame and shame about the accident that led to the appearance change. Abbie, an 18-year-old female, said, “Um, I just think, like, it was kind of my fault, like, it was an accident but in that time it's like it was my fault and I've done this to myself.” An association between the accident and their appearance concerns was evident in these individuals, with the self-blame and shame experienced across both becoming impossible to separate.

3.2.2. Subtheme 2.2: Early onset with a variable course

The psychological impact related to appearance changes started soon after the burn. Appearance concerns typically began during hospital admission during initial dressing changes or showers, or for those who were not admitted to hospital, shortly after the injury when dressings were first removed. This acute awareness of their difference and the social and relational impact of their changed appearance was clear, highlighted by the following quote:

The upset over how it will look in regards to relationships was actually pretty soon, just a couple of days after surgery so probably about two weeks ago, yeah, bearing in mind it was only two and a half weeks ago that I did it (Lauren, 29-year-old female).

For a small number, appearance concerns only became a focus a few weeks after the injury. This reflected an initial focus on survival and physical rehabilitation, with reintegration back into society after discharge from hospital subsequently triggering distress. Leanne (a 26-year-old female) explained, “Er, not until I left the ward and was able to walk a bit better...Erm, about three weeks – no – four weeks.”

Appearance concerns had varying trajectories. For most, distress remained stable or worsened over time as wounds were progressing due to the development of scars or pigmentation changes. This reflected the ongoing and anticipated longer-term perceived deviation from societal ideals and social threat. Indeed, Abbie, an 18-year-old female, said,

I think I’m more bothered about it now than at the start for sure. I didn’t mind when I was in hospital and I wasn’t really that worried but every time the psychologist was like ‘oh how are you feeling about the way you look?’ I was always like ‘I don’t care’ [Laughs], whereas now it’s more of a – I think being in the outside world, like, not just in the same place and more people seeing it definitely increases the way I feel about it.

However, some reported improvements over time. These individuals did not have full thickness burns, and they had noticed objective improvements in their appearance and were not expecting permanent scarring. Therefore, these individuals were re-establishing their pre-burn identity of conforming to societal ideals. Neema, a 50-year-old female, explained this is the context of her wounds having healed and pigmentation changes were expected to improve: “I think I’m not as weak and fragile as at that point in the earlier stages of the burns.”

3.3. Superordinate theme 3: Experiential avoidance and self-criticism in response to early appearance concerns

This theme, which represented all participants' data, encapsulates their attempts to cope with, or respond to, their appearance concerns. Influenced by the need for social connection, perceived deviation from societal ideals around gender and appearance and fear of rejection and stigma, individuals attempted to cope with their distress but had difficulty responding to their appearance concerns with psychological flexibility and self-compassion. Instead, experiential avoidance and self-criticism were common reactions, although some were able to be kind to themselves. Four subthemes were identified: *Difficulty responding with psychological flexibility*; *Struggling for self-compassion*; *Finding self-kindness*; and *Emotion-focused coping*.

3.3.1. Subtheme 3.1: Difficulty responding with psychological flexibility

Participants responded to their appearance concerns in ways that are relevant to psychological flexibility. Difficulties responding to their distress with psychological flexibility was particularly striking in participants with more significant appearance concerns. Participants often described attempts to avoid or control their distress (experiential avoidance) and had strong attachments to their thoughts (fusion) around their appearance. Influenced by a fear of rejection and stigma, participants seemed to perceive their thoughts as truths and reasons for concealing their burns and avoiding other people or social/public situations. Nicola (44-years-old) described trying to avoid her internal feelings and thoughts by staying at home and avoiding public situations. She also spoke about fusion with her thoughts about her appearance and attachment to the conceptualised self, which was also impacting on her life:

I get up some days and I think right, let's just go then, and I go up to the shops and then I remember, oh I can't do that, it's horrible, that you feel like you're a

freak...you should see the back of my legs, they're horrible, it's disgusting, the back of it, I can't stand it.

Participants also described difficulties in being present-moment focused, often appearing stuck in their feared or uncertain futures (e.g., about what their future appearance will look like) or conceptualised pasts (e.g., thoughts about their pre-burn appearance) and had difficulty observing their experiences mindfully. This is illustrated in the following quote by Jake (a 46-year-old male) who had explained how he often drifted back to thoughts about his pre-injury appearance, creating a sense of loss, as well as anticipating the future, thinking about his future appearance, what this will be like for him and how other people will react if they saw his scars:

Um...[sighs]...very...um...because if I open that trapdoor then you're there, so it is, if you sit looking at them and thinking about them it's difficult to suddenly snap out of it, you go down the route of looking at them and thinking about how they used to be and I kind of project forward to next summer and being on a beach with the children and I don't want to be the guy on the beach with the funny legs. I'd rather be in the bar, not because I don't want to be with the children, but I'd rather be there where I can wear trousers and not have to share what they look like.

Finally, participants had difficulties engaging in patterns of effective (committed) action. Instead, their behaviour was driven by inaction, impulsivity or avoidance as a response to their appearance concerns. For example, Nicola (44-year-old female) was avoiding wearing clothes she wanted to wear and going to place she liked to go:

It's the summer season now, and I just think, you know, I wish I could just put my shorts on, wear a bikini top like I used to, jump in the car, go down the beach, and that's not something I can do at the moment.

3.3.2. Subtheme 3.2: Struggling for self-compassion

Participants often found it difficult responding to their experiences with self-compassion. Similar to the difficulties with psychological flexibility, this was particularly noticeable in participants with stronger appearance concerns. Participants had difficulties responding to their appearance concerns with kindness and understanding. Instead, they appeared harsh and self-critical in response to their internal experiences. For example, Elaine described how she responded to her distress about her appearance through the following quote, "That I'm just being stupid about getting upset, about that it happened or that I'm not doing what I should be doing or want to do." Self-criticism and harsh self-judgement was particularly noticeable in those who experienced self-blame about the accident happening, and therefore the appearance changes occurring. For example, Leanne, a 26-year-old female, said,

Erm, I'm quite nasty to myself, I will insult myself and tell myself I'm stupid and I'm an idiot and I'm hideous. So I do like to attack myself quite a bit when I'm in those moments...I'm very much the – when I'm bothered about it, I'm very much, erm, along the lines of this is your fault, you're an idiot, you've got no right to feel sorry for yourself, you look hideous, it is entirely your fault, you're just going to have to deal with it [harsh tone of voice].

Rather than being able to hold painful thoughts and feelings in balanced awareness, participants described over-identifying with them and attempts to suppress or deny them. The above quote from Leanne highlighted how self-critical and harsh judgements in response to

her internal experiences about her appearance changes snowballed into attacking herself about how her injuries were sustained, despite it being an accident. Similarly, Nina (23-year-old female) described how her appearance concerns had exacerbated her pre-existing mental health problems and that she typically over-identified with her thoughts and feelings, leading to rumination and snowballing of emotions and upsetting thoughts about her appearance:

I don't really manage them very well [brief laugh]. I don't manage them very well, but it kind of adds to my sadness, if that makes sense – so I'll be upset about this, this, this, and this, and then I'll think about my boobs and then I'll add it onto what I'm being sad about... You know, I do think about feelings, but then the feeling doesn't really go, it just stays there, rather than I think about it and then it goes – I just think about it all the time, and then it just stays there and then the next one I think about it again and then the next time....

Some participants expressed feeling separated from other people, creating a sense of isolation in their experiences. The sense of isolation seemed to be particularly relevant for female participants, likely linked to their perceived deviation from societal ideals around gender and appearance, creating a feeling of loneliness in experiencing appearance changes. However, many participants also described a sense of common humanity, perceiving their appearance concerns to be understandable and part of the human experience. This position seemed variable, with their perceptions of their experiences waning between understanding these as common human experiences and times when this was less so. For example, Joanie (28-years-old) said, “Again, I feel like I’m the only person that feels like this, but actually I know I’m not.”

3.3.3. Subtheme 3.3: Finding self-kindness

Despite the struggle for self-compassion for many participants, a small number were able to find kindness for themselves in response to their appearance concerns. For some, self-kindness seemed to be a consistent way of responding to themselves in their distress. These were typically participants with milder appearance concerns or where their appearance concerns were improving over time, which seemed to allow for self-kindness. Alternatively, where self-blame was not experienced for the accident (and therefore appearance changes) happening, self-kindness was permitted. For example, Neema (50-year-old female) described how she responded to her experiences within the following quote, “Kindness and forgiving. It could have happened to anybody, you know. You think to yourself it was an unfortunate situation.” For others, this appeared fleeting or interspersed with the struggle for self-compassion, either about the accident happening or harsh judgements around accepting the reality of the appearance changes. For example, Jake (46-year-old male) said,

Um...I think I'm relatively OK with that, again maybe it's telling that I use the phrase self-indulgent, but I do kind of view it as...[sighs]...and again maybe it's...is it self-indulgent to sit there and be, I don't know, wistful for how they used to look? No, I don't think it is. Am I kind to myself in terms of that? Yes. Do I also at the same time have another voice in my head that says that 'you've just got to accept it because you can't change it, so it is what it is, you may as well just get on with it and make the most of it'? Yeah, there's also that perspective. And I'd say it's probably, you know, the two different voices both trying to get attention.

3.3.4. Subtheme 3.4: Emotion-focused coping

Participants tended to employ emotion-focused coping strategies (Carver et al., 1989) to manage their experiences associated with their appearance, aimed at reducing or managing emotional distress. Participants spoke about a variety of emotion-focused coping strategies that they had adopted to try to change their internal experiences, reflecting difficulties with

psychological flexibility and struggle for self-compassion. Distraction, trying to retain positivity and other cognitive or affective ways to change thoughts or feelings were described, as well as seeking emotional support from other people. Distraction was a particularly common coping strategy. For example, William (a male in his 50s) explained,

Basically I'm trying to keep my mind busy because my mind is my worst enemy. Like I said with anxiety etc. I've been trying to keep myself busy. I do lots of painting, you know, I mean I've been basically watching TV, you know, just trying to keep me mind occupied...

Participants also described seeking sources of support, which included significant others in their support networks, healthcare professionals and other burns survivors. Male participants more typically spoke about receiving support from their partners. A small number of participants, all of them female, spoke about receiving support (or considering accessing) support from other burns survivors, suggesting that support from other burns survivors may be more acceptable for females. Jayne (a female in her 50s) described how meeting another individual with a burn injury when she was in hospital was helpful for her by saying,

But also my other lifeline was that while I was on the ward, I met a lady who was like a similar age to me and she'd had the burns the same but down the opposite side. So between me and her we've cried together, we've laughed together, you know, and I think that was really important because I say to her – we call each other 'burn buddies' – and I couldn't have got through it without her ([tearful]).

4. Discussion

This study is the first qualitative investigation into the early psychological experiences associated with appearance concerns after burn injuries through the lens of psychological flexibility (Hayes et al., 1999) and self-compassion (Neff, 2003). The findings contribute to the limited amount of qualitative research on appearance concerns conducted shortly after burns (Bergamasco et al., 2002; Dunpath et al., 2015; Gullick et al., 2014; Johnson et al., 2016; McLean et al., 2015), and extend emerging quantitative research that implicates psychological flexibility and self-compassion in appearance concerns in those with visible differences (Clarke et al., 2020; Przewdziecki et al., 2013; Shepherd et al., 2019; Sherman et al., 2017; Zucchelli et al., 2020).

Themes were situated within time-oriented (past, current, future) contextual factors. Many participants were already experiencing pre-existing insecurities about their bodies or themselves as a person prior to their burn. This is unsurprising given the psychological vulnerability of the burns population (Patterson et al., 1993). The burn triggered previously unconscious schema about gender and appearance ideals and beliefs about relating to others, as well as pre-existing or latent body image or appearance sensitivities. This led to distress and attempts to avoid other people's reactions that were within participants' conscious awareness. This occurred within the context of the burn injury event being a traumatic experience, other people reacting to their wounds or scars (e.g., looks, comments and questions) and the unexpected severity and uncertainty related to wound healing and future scarring. The significance of the uncertainty around future appearance was also highlighted by McLean et al. (2015). The current findings suggest that the uncertainty around future or longer-term appearance changes was responded to with experiential avoidance due to the discomfort this created, rooted in the need for social connection and concern about rejection and stigma due to deviating from societal ideals.

Overall, the findings of the study are supportive of Thompson and Kent's (2001) conclusion that how individuals adjust to a visible difference reflects how they interpret their visible difference, their self and their interactions with others, influenced by underlying cognitive self-schemas, discrepancies between actual/ideal/ought selves (Higgins, 1987), and the social context. Cognitive-behavioural models of visible differences acknowledge the role of the social world and stigma, where anticipated negative social outcomes and perceived stigma lead to distressing thoughts and emotions and social avoidance (Clarke et al., 2013; Kent, 2000; Newell & Marks, 2000; White, 2000). Alternatively, it can be understood using the model of psychological flexibility, whereby individuals become fused with their upsetting thoughts about their body/appearance/self and are unable to hold a self-as-context perspective, which along with a desire to avoid internal distressing experiences (e.g., thoughts and emotions) creates a lack of committed action and social avoidance (Hayes et al., 1999). It is also possible that those vulnerable to appearance concerns following burns may place particular importance on appearance prior to the burn injury, as suggested by research involving those with visible differences (Moss et al., 2014). The current findings provide novel insights into how self-schema, fear of rejection and stigma and the social context (including societal ideals) combine to influence individuals' attempts to cope with an appearance change, which in the current study was through experiential avoidance, self-criticism and emotion-focused coping.

The current findings suggest that participants attempt to conceal their burn injuries and avoid other people or public activities. This is consistent with the findings of previous studies in which attempts to hide away and conceal scars were described (Dahl, Wickman, & Wengström, 2012; Hunter et al., 2013). The current findings suggest that the need for connection with others contributes to appearance concerns and influences attempts to cope or respond to distressing inner experiences. Both Dunpath et al. (2015) and Martin et al. (2017)

highlighted the fear of rejection from other people as being implicated in appearance concerns, with the former identifying this as being relevant at an early stage following a burn injury as in the current findings. Martin et al. (2017) also identified other people's inquisitive reactions and behaviours as contributing to individuals' appearance concerns, and the current study suggests how this experience can then influence subsequent ways of responding to distress. Furthermore, Macleod et al. (2016) discussed the role of social stigma due to burns scarring in appearance concerns. Finally, Bergamasco et al. (2002) reported that facing other people and managing their reactions was a key event in adjusting to changes in appearance following burn injuries and feeling upset at other people's reactions was common, which is in line with the current findings that participants placed value on other people's reactions and therefore influenced how they responded to their appearance concerns.

The current findings suggest that early appearance concerns are influenced by the activation of schema associated with relating to others. Evolutionary advantages of being valued and accepted by others within social groups are well known (e.g., Richman, Martin, & Guadagno, 2016). Goffman (1963) argued that anxiety about social acceptance is an important concern for stigmatised people with visible differences, and the findings of the study support this. Stigma has indeed been found to influence appearance concerns and community integration after a burn (Mercado et al., 2022; Watson & Perrin, 2022). Appearance concerns may therefore be a consequence of stigma-induced identity threat whereby other people's reactions (negative treatment) and negative stereotypes are activated, leading to identity threat appraisals which can be in excess of an individual's resources to cope with (Major & O'Brien, 2005). This, in turn, influences how individuals make efforts to avoid or control their distressing inner experiences by avoiding situations that pose a social threat.

Although participants generally had difficulties responding to their appearance concerns with both psychological flexibility (Hayes et al., 1999) and self-compassion (Neff, 2003), a small number of less distressed participants were able to find self-kindness, at least some of the time. In relation to self-compassion, the current study found variability in common humanity/isolation (Neff, 2003). Female participants in particular felt isolated in their experiences, likely influenced by their perceived deviation from societal ideals around gender and appearance (Fredrickson & Roberts, 1997), creating a feeling of loneliness in experiencing appearance changes. The current findings also support Hunter et al.'s (2013) conclusion that women had an ambivalent relationship with their burns and coped by minimising their experiences, as well as previous research that has reported avoidant coping as common in those with appearance concerns after burns (Bergamasco et al., 2002; Macleod et al., 2016; Martin et al., 2017). The current study found that, instead, many individuals employed emotion-focused coping strategies (Carver et al., 1989), which can be interpreted as experiential avoidance (Hayes et al., 1999). Indeed, difficulties with psychological flexibility and self-compassion are associated with maladaptive coping strategies (e.g., Ewert et al., 2021; Rueda & Valls, 2020).

Participants' appearance concerns typically had an early onset but subsequently varied in terms of whether these had begun to change over time or not. McLean et al. (2015) also reported an early onset of appearance concerns. The current findings are also consistent with those of Bayuo et al. (2022) who concluded that living with burns scars is an ongoing process, and Thompson et al. (2002) who proposed stages or phases of adjustment in living with a visible difference that included a realisation of difference to others and subsequent behavioural avoidance. Similarly, the current findings align with Bergamasco et al. (2002), who found that adjustment to changes in appearance began as soon as patients started looking at their bodies, which was typically in hospital. The current findings further suggest that the

context of a burn being unexpectedly serious and uncertain in terms of healing and scar development may also affect the early stages or phases of adjustment.

The current study also highlighted interesting findings with regard to gender. Internalised gender and associated appearance ideals were threatened post-burn. For females, this involved perceiving themselves as less attractive or sexually desirable to other people, particularly when the burn injuries affected certain body parts, such as the breasts or legs, and when they felt unable to wear feminine clothing and accessories. For males, their sense of masculinity (i.e., emotional strength/stoicism, physical stature and protecting others) was threatened. Following burns, self-objectification (Fredrickson & Roberts, 1997), a process of internalising society's views of them in relation to their bodies, may be triggered, feeding into attempts to avoid distressing inner states. Seeking support from other burns survivors also seemed to be more acceptable for females.

4.1. Clinical implications

Within the wider visible differences literature, systematic reviews have highlighted the lack of high-quality studies exploring the effectiveness of any type of psychological therapy for appearance concerns (Bessell & Moss, 2007; Muftin & Thompson, 2013; Norman & Moss, 2015). The current study has identified potential targets for psychological interventions that are implicated in appearance concerns, and are malleable, that can guide interventional research and the development of psychological interventions that are likely to be helpful to those who have appearance concerns after burns. Specifically, psychological interventions that enhance psychological flexibility, such as acceptance and commitment therapy (ACT; Hayes et al., 1999), or self-compassion, such as mindful self-compassion (Neff & Germer, 2013) or compassion-focused therapy (Gilbert, 2014), are likely to be beneficial for appearance concerns after burns and possibly other types of visible difference. The findings also suggest that

psychological interventions, including those that are ACT or compassion-based, likely also need to target pre-existing schema related to the need for social connection and internalised gender and appearance ideals in addition to the burns-related distress.

This study also suggests that early interventions should be offered after burns given that appearance concerns start soon after injury. To date, this has been overlooked clinically, with no research having focused on early interventions to prevent or reduce distress. Due to resource implications in healthcare settings, it is possible that there has been an over-emphasis on watchful waiting. However, the early weeks post-burn offer a window of opportunity for proactive or preventative interventions. For wider difficulties, ACT and compassion-based interventions are already known to be effective (Gloster, Walder, Levin, Twohig, & Karekla, 2020; Kirby, Tellegen, & Steindl, 2015).

Although not a focus of the current study, it is possible that some people would benefit more from an ACT-based intervention, whereas others may find a compassion-focused intervention more useful. For example, those who experience self-blame for the accident occurring might be better suited to a compassion-focused intervention to increase self-compassion in relation to both the accident and their distressing internal experiences about their appearance. In contrast, for individuals whose experiential avoidance is impacting upon daily activities (e.g., avoidance of public or social situations), an ACT intervention may be more beneficial to develop acceptance of distressing internal experiences in the value of living a more meaningful life.

A body functionality intervention (Alleva et al., 2015) that has been used to promote body image positivity in those without visible differences has recently been investigated in people living with skin conditions (Adkins et al., 2022) and piloted in a group of individuals living with a variety of visible differences (Guest et al., 2024) to reduce self-objectification by focusing on body functionality. The findings of these studies suggest that body functionality

interventions may hold promise for improving aspects of body image but not appearance concerns or distress (Adkins et al., 2022; Guest et al., 2024). However, given the findings of the current study, body functionality interventions may be useful clinically and a worthy line of future investigation given the influences of societal norms and internalised societal ideals.

4.2. Study strengths and limitations

The sample was diverse with regard to gender, age, socio-economic status, and burn severity/cause. There was also diversity in the level of appearance concerns individuals were experiencing. Therefore, the sample was heterogeneous and findings should be transferrable to adults with burns injuries who identify as having appearance concerns. However, the majority of participants were of White ethnicity. Therefore, the findings may not be transferrable to individuals from other ethnic groups in the UK. Furthermore, the interviews took place between just over two weeks and almost eleven weeks following the burn injury. Participants were therefore at different stages in terms of wound healing, scar development and other appearance changes (e.g., skin pigmentation). However, this permitted insight into the differing trajectories that participants experienced. Furthermore, given that most respondents reported acute/post-traumatic stress symptoms associated with their burns, future research may benefit from exploring how trauma reactions might influence early appearance concerns and how individuals respond to their inner experiences related to their appearance. If indicated, it is possible that interventions for appearance concerns may benefit from incorporating trauma-focused techniques. Similarly, it is not possible to determine whether other psychological/mental health conditions, that were either pre-existing or a result of the burns, could add to the interpretation of the findings. In particular, it is possible that individuals were experiencing additional psychological/mental health difficulties that made them prone to difficulties responding to distress with psychological flexibility and self-

compassion. Indeed, a diathesis-stress model of experiential avoidance has been proposed, suggesting that experiential avoidance makes people vulnerable to stressors, in that individuals who typically try to avoid internal distressing experiences may continue this approach when faced with stressful life events (Biglan, Hayes, & Pistorello, 2008).

4.3. Conclusions

The current findings provides novel insights into how difficulties in psychological flexibility and self-compassion are implicated in the experience of early appearance related distress after burn injury, and are influenced by the need for social connection and an awareness of difference created by a fear of rejection and stigma and internalised societal ideals. This study demonstrates that psychological interventions that increase psychological flexibility or self-compassion offered soon after burns are necessary. They are likely to help individuals respond to internal distressing experiences related to appearance change post injury, especially if they also target pre-existing schema related to other people, society and internalised gender and appearance ideals.

Data availability statement: The data from this study are openly available in the Open Science Framework at <https://doi.org/10.17605/OSF.IO/FBQUY>.

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Supplementary materials

A priori themes

Theme	Sublevel	Operationalised definition
Early experiences of appearance changes	Emotional reactions	Emotions associated with appearance changes
	Cognitive processes	Thoughts or cognitive processes associated with appearance changes
	Behavioural impact/impact on life	How experiences about appearance have impacted on behaviour or lives
	Onset of experiences	When experiences associated with appearance changes began
Psychological flexibility	Changes in experiences over time	Whether experiences associated with appearance have changed over time
	Coping strategies	What strategies have been used to cope with experiences related to appearance changes
	Workability of coping strategies	Whether coping strategies are working/feel helpful or not
	Acceptance vs. experiential avoidance	The active and aware embrace of private events occasioned by one's history without unnecessary attempts to change their frequency or form, especially when doing so would cause psychological harm vs. unwillingness to remain in contact with particular private experiences
	Cognitive defusion vs. fusion	Attempts to alter the undesirable functions of thoughts and other private events, rather than trying to alter their form, frequency or situational sensitivity resulting in a decrease of, or attachment to, private events vs. not seeing thoughts for what they are; rather, as unquestionable truths and reasons for action or inaction
	Contact with the present moment vs. dominance of the conceptualised past and feared future	Ongoing non-judgmental contact with psychological and environmental events as they occur vs. lingering in a conceptualised past or being afraid of the future
	Self as context vs. attachment to the conceptualised self	A sense of self as a locus or perspective, therefore developing an awareness of one's own flow of experiences without attachment to them or an investment in which particular experiences occur

		vs. a sense of self that involves labels and verbal rules
	Values vs. lack of values clarity	Chosen qualities of purposive action that can never be obtained as an object but can be instantiated moment by moment vs. a lack of clarity or contact with values
	Committed action vs. inaction, impulsivity or avoidant persistence	Patterns of effective action linked to chosen values vs. behaviour determined by inaction, impulsivity or avoidance
Self-compassion	Self-kindness vs. self-judgment	Being kind and understanding towards themselves in instances of pain or failure vs. being harshly self-critical
	Common humanity vs. isolation	Perceiving internal experiences as part of human experience vs. over-identifying with them or trying to suppress or deny them
	Mindfulness vs. over-identification	Holding painful thoughts and feelings in balanced awareness vs. over-identifying with them or trying to suppress or deny them

Interview schedule

Focus area	Questions (Prompts)
Introduction	Thank you for taking part in this study. I really appreciate you taking the time to share your experiences and thoughts with me. As you are aware, the aim of the study is to learn more about why some patients feel upset or self-conscious about their appearance or body after burn injuries, and what early psychological, or emotional, support patients may find helpful to manage feeling upset or self-conscious. During the interview, I will be asking some questions on these topics. Do you have any questions before we start?
Early experiences of appearance changes	Can you tell me about your experiences in terms of the changes to your appearance or body because of your burn injury, and what this has been like for you? When did these experiences start to bother you? What are the emotions that come up for you, in relation to how your appearance or body has changed? What are the most common thoughts that come up for you, in relation to how your appearance or body has changed? What are the most common images, or pictures in your mind, that you have, in relation to how your appearance or body looks? What do you feel in your body when you think about how your appearance or body has changed? What other experiences do you have in relation to your appearance or body? (Prompts: Any urges/wishes/desires?) How are these experiences affecting you in your life? (Prompts: In what ways, are they interfering with what you do/where you go/the life you want to be living? In what ways are these experiences stopping you from doing what you want to do? Are there certain situations that make these experiences more difficult for you, and if so, what do you do about these situations?) Are things changing as time is going on? (Prompts: What is different now, compared to earlier on after your burn injury, in terms of the experiences you have told me about?)
Psychological flexibility	What have you tried to do so far to cope with or manage difficult experiences about your appearance or body (for example, difficult emotions, thoughts or images about your appearance or body)? How have these worked? Are you trying to control or get rid of the experiences you are having about your appearance and body or not? How well is that working? (Prompts: When does it work well and when does it work less well?) What have the costs been because of the effort to manage your thoughts and feelings – have other areas of your life suffered as a result, such as relationships, work, etc?) To what extent are you living your life according to what matters to you at the moment? Are any of the experiences you have shared with me getting in the way of you living the life you want to live?

	Are you able to get some distance or take a step back from your thoughts as opposed to getting caught up in them? (Prompts: can you tell me more about this?)
	Are you willing to have these experiences (for example, your emotions and thoughts) as opposed to trying to get rid of them or avoid them? (Prompts: can you tell me more about this?)
	When you feel upset about your appearance or body, where is the focus of your attention – the here and now, the past, or the future?
Self-compassion	How do you act towards yourself when you have these experiences (for example, your emotions and thoughts)? (Prompt: How do you talk to yourself? What do you think about yourself for having these experiences?)
	Are you able to give yourself kindness and understanding for having these experiences or not? (Prompts: can you tell me more about this?)
	Do you feel as if you are alone in your experiences or do you feel that other people may have similar experiences to you?
	Are you able to simply observe or notice your experiences (for example, your emotions and thoughts) – and just let these experiences come and go - without making any judgements about them or reacting to them or not?
Close	Thank you so much for sharing your experiences. Is there anything else I have not asked about that you think is important in terms of me understanding your experiences?

Positionality statements

Laura Shepherd is a White woman in her early 40s. She is cis gender and able-bodied. She is a clinical psychologist with 15 years' experience in working therapeutically with individuals following burn injuries, from the time of hospital admission onwards. She has an interest in applying acceptance and commitment therapy (ACT) to help individuals with appearance-related concerns in her clinical practice. She has also researched in the area of burn injuries. She has no personal experience of burn injuries. She completed this study as part of her PhD and was involved in the study design, conducted the interviews and analysis, and led the write-up of the paper. She used supervision and reflexivity during data collection and analysis to consider the influence of her assumptions and expectations on interpretation and theme development.

Fuschia Sirois is a White female in her early 60's with over 25 years' experience researching and working as an academic health psychologist in a university setting. Her research focus includes understanding adjustment to chronic health conditions, with a particular focus on the role of positive psychological factors including self-compassion. She has personal experience of burn injuries. She was a member of the first author's PhD supervisory team and as such was involved in discussions about study design, analysis, and themes, and commented on the write-up of the paper.

Diana Harcourt is in her late 50s, White, cis gender and able-bodied. She is a health psychologist with more than 25 years' experience of working in a university setting in visible difference research. Much of this research has involved people with burn injuries and their families. She has no personal experience of burn injuries. She was a member of the first author's PhD supervisory team and was involved with discussions around study design and analysis, themes and the write-up of the paper.

Paul Norman is a White male in his early 60s with over 30 years' experience as an academic health psychologist working in the university sector. His main research interests focus on predicting and changing health behaviour, although he has also contributed to studies on adaptation to illness and visible differences. He was not directly involved in the data analysis, but commented on the write-up to ensure that the presented themes and interpretation were consistent with the supporting quotes.

Andrew R. Thompson is a White male in his early 50s. He is a clinical and health psychologist with over 25 years' experience of conducting research in relation to visible difference. He has some experience of providing NHS psychological services to individuals following burn injuries, and extensive experience of providing psychological intervention to people affected by other types of long-term conditions affecting appearance. He has been a Trustee, Advisor, and research committee member for a number of charities concerned with visible difference. He was a member of the first author's PhD supervisory team and was involved with study conceptualisation, design, analysis, and supporting the consideration of reflexivity throughout the study.

5. The Acceptability of Early Psychological Interventions for Adults with Appearance Concerns After Burns

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Preface

Prior to the thesis research, and as presented in the introductory chapter, there was a lack of strong evidence for any type of psychological therapy for appearance concerns in populations living with a visible difference. Furthermore, no research existed that had explored the acceptability of early psychological interventions for appearance concerns, either after burn injuries or any other injury- or health-related context. However, a small amount of research suggested that barriers may exist to engaging in psychological interventions following burn injuries, which were not specific to appearance concerns, and that stigma in seeking help for distress associated with having a visible difference may exist. Having established within the first and second manuscripts that appearance concerns develop early following burn injuries and acknowledging the importance of investigating and establishing acceptability of healthcare interventions, the next manuscript details findings from the same study detailed in the previous manuscript that specifically focused on investigating the acceptability of early psychological interventions for appearance concerns after burn injuries. Published supplementary materials follow the manuscript.

The acceptability of early psychological interventions for adults with
appearance concerns after burns

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The acceptability of early psychological interventions for adults with appearance concerns after burns

Abstract

Introduction: Appearance concerns are common following burns. However, there is a lack of research investigating early psychological interventions for appearance concerns. This qualitative study explored the acceptability of early psychological interventions for appearance concerns after burns. *Methods:* Fifteen adults (nine female; 18-56 years) with appearance concerns were interviewed within three months post-burn to explore their views about the acceptability of early psychological interventions for appearance concerns. Interviews were audio-recorded and transcribed. Template analysis informed data collection and analysis. *Results:* Three themes represented participants' views about the acceptability of early psychological interventions for appearance concerns: (1) Early psychological interventions are absent; (2) Early psychological interventions are acceptable within a therapeutic relationship (to manage upsetting emotions and thoughts about appearance, with therapists who are experienced in supporting burns patients); and (3) Ambivalence and obstacles (e.g., difficulties accepting help, minimising injuries or concerns, and time restrictions following hospital discharge). *Conclusion:* Early psychological interventions for appearance concerns following burns are likely to be acceptable for some patients. However, ambivalence and potential barriers remain to be addressed. Embedding early psychological interventions for appearance concerns into routine burn care could increase acceptability through normalisation.

Keywords: burn; visible difference; appearance; acceptability; psychological intervention; adjustment

Highlights

- Early psychological interventions after burns are likely to be acceptable for some patients
- Ambivalence and barriers need to be addressed to encourage uptake
- Embedding early interventions into routine burn care could increase acceptability

Introduction

Appearance concerns, a term that incorporates feelings of anxiety, shame and social avoidance, are common after burns because of wounds, scars and other changes to the skin [1-2]. This is not surprising given the psychosocial difficulties that individuals with visible differences, including burns, can experience due to stigma, including unwanted reactions from other people [3-4]. Appearance concerns have been reported in around one third of adults after burns during hospital admission [5] and after hospital discharge [6]. Effective psychological interventions to treat appearance concerns after burns are therefore needed.

However, systematic reviews of psychological interventions for appearance concerns in adults with visible differences (where appearance is visibly different from cultural ‘norms’) concluded that there were few high-quality studies [7-8]. The most commonly studied psychological interventions are cognitive behaviour therapy (CBT), which aims to modify unhelpful or negative thoughts/beliefs and reduce unhelpful avoidance or safety-seeking behaviours [9-10], and social skills training to help manage unwanted reactions from other people [7,11,8]. CBT is reported as the most used therapeutic approach by practitioners working with people with individuals with visible differences, including burns, across Europe [12]. In a survey of 166 burn care psychosocial professionals across the UK and United States of America, CBT was used by 82% of practitioners [13].

Acceptance and commitment therapy (ACT) is a third-wave psychological therapy, which involves helping individuals to live a meaningful life with their distressing emotions and thoughts rather than trying to reduce them, by being more accepting and mindful as opposed to avoiding them [14]. ACT was reported as a therapeutic modality used by almost a third of psychosocial professionals working with those with visible differences across Europe, in addition to mindfulness being used by 40.5% [12]. This compares to a survey of

burn care psychosocial professionals working in the UK and United States of America, where acceptance and mindfulness-based approaches were used by 69% of practitioners [13]. There is some evidence to suggest that ACT may be helpful in reducing appearance concerns in those with a variety of individual differences [15-17], including burns [18]. However, controlled studies are limited.

Evidence suggests that self-compassion [19] may be particularly beneficial for addressing experiences of shame and guilt, through third wave compassion-based interventions such as compassion focused therapy (CFT) [20]), compassionate mind training [21], or mindful self-compassion programmes [22]. One quarter of a sample of psychosocial professionals working with individuals with visible differences across Europe reported using compassion-based interventions [12]. There is also evidence for the benefit of compassion-based interventions for appearance concerns in individuals with skin conditions [23] and women following breast cancer [24-25]. As with ACT, controlled studies are limited.

Research investigating psychological interventions for appearance concerns in burns patients at any stage post-injury is minimal. Only one of the studies included in the systematic reviews investigating psychological interventions for appearance concerns [7-8] included burns patients. This study [26] evaluated a support group attended by 34 burns patients over a three-year period. However, the group did not target appearance concerns specifically and was a support group rather than a psychological intervention, with the findings indicating that there was no evidence to support the intervention [7]. Additional studies have also investigated the impact of group social skills training with burn-injured adolescents [27] and adults [28-29], to try and help individuals understand and respond to other people's reactions to their burns, with positive effects reported on measures of anxiety and social confidence. Only one of these studies [27] included a control group and one study [29] had a mixed group of adults with a

range of facial differences. The number of sessions/duration of the group ranged from eight weekly sessions [28] to a variety of tasks/activities over two [29] and four days [27].

Three other studies also investigated psychological interventions for appearance concerns after burns, with two of these aimed at reducing psychological distress more generally rather than appearance concerns specifically. One study examined the impact of an eight-session group CBT intervention in 86 burns patients compared to treatment as usual, where one session focused on appearance concerns and two sessions focused on giving patients ways to manage social situations [30]. Improvements in psychological distress were noted for participants in the CBT group, but no outcome measure of appearance concerns was used [30]. An uncontrolled pilot study also explored the feasibility, acceptability and efficacy of a 14-session protocol delivered individually on a weekly basis to 10 adults following a burn injury [31]. CBT techniques targeted post-traumatic stress symptoms, depression, coping with scarring (three sessions) and community integration. The intervention was started on average three months (ranging from one to seven months) after injury, with the inclusion criteria being that participants were at least four weeks post-injury. This study found improvements in body image scores and community integration in the nine of the 10 participants who completed the intervention [31]. However, there was a lack of detail in the strategies used to target appearance concerns and this appeared to be limited to social skills training rather than techniques to manage emotions, thoughts or behaviours associated with appearance concerns. Lastly, in a case series of three burns patients and one patient with a skin loss condition ACT techniques reduced appearance concerns and increased the ability for patients to live meaningful lives [18]. However, this study was not a single case experimental design, and therefore lacked a control condition. Despite this promising evidence, further research investigating psychological interventions for appearance concerns after burns is therefore warranted.

Research suggests that appearance concerns develop during hospital admission or in the early phase after discharge after burns [32-33]. Psychosocial professionals report that appearance concerns were most likely to manifest during the hospitalisation phase or early after discharge from hospital, with problems around social interactions and social anxiety starting within the first six months post-injury [13]. There is also evidence that appearance concerns remain stable in the first year following a burn [34]. Therefore, early psychological interventions to support the adjustment to appearance changes, and help patients cope with appearance concerns, in the initial post-burn period could be invaluable. Research is currently limited to the study by Cukor et al. detailed above [31].

In addition, there is a lack of qualitative research exploring the acceptability of early psychological interventions for appearance concerns after burns at any stage post-injury. More generally, there is a dearth of literature on what psychological interventions for appearance concerns individuals with visible differences would find acceptable [35]. Acceptability is important to explore as there is evidence that stigma in seeking help for appearance concerns may exist and psychological support may be difficult to access [12]. Although acceptability of (early) psychological interventions for appearance concerns after burns has not been explored, acceptability has been investigated in relation to accessing psychological support more widely. One study found that psychosocial professionals working in UK burns services experience challenges delivering psychosocial care for a range of psychological difficulties, including limited time and resources, geographical distance that patients live from services, appointments not being prioritised as much as wound-related appointments and the prevalence of pre-existing mental health conditions [36].

One recent qualitative study explored the acceptability of psychological support for any burns-related difficulty [37]. Eleven patients were interviewed two years post-burn, particularly aiming to identify barriers and facilitators to accessing support. Findings

suggested that increased psychological presence within inpatient burns services was required, so that psychological care felt familiar and available. This study also found that patients perceived accessing psychological burn care as stressful once they were discharged from hospital, and negative beliefs about mental health or psychological therapy impacted engagement. Misunderstanding about what psychological therapy is/can offer, previous negative experiences of wider psychological or mental health services, a desire to cope independently and stigma were identified as barriers. For outpatients, time and financial pressures and, when in hospital or during early discharge, acute priorities (e.g., pain and physical recovery), were additional barriers to engagement [37]. Therefore, various obstacles to engaging in psychological interventions for any difficulty following burns likely exist, albeit some of these barriers (e.g. stigma) may be generic to psychological therapy and seeking mental health support in general, rather than specific to burns-related concerns [38].

Exploring acceptability is a vital early stage of intervention development, prior to investigating effectiveness or outcomes [39]. If interventions are considered acceptable, they are more likely to be successfully implemented and create beneficial outcomes [40]. Research focused on providing insights into whether early psychological interventions for appearance concerns are acceptable to individuals after burns is lacking but is important for informing intervention development and implementation. The current study aimed to address this gap, as part of a wider project exploring early appearance concerns after burns.

Materials and methods

Design

A qualitative study was conducted using semi-structured interviews. Adults (aged 18 years or over) experiencing appearance concerns from a burn injury in the last three months were eligible to participate. Individuals were excluded if they had sustained their injuries due

to a suicide attempt, self-harm or assault or had a known cognitive impairment. Cognitive impairment was defined as a temporary or permanent impairment in cognition (including learning disabilities, dementia and delirium). This was assessed by hospital medical records for the eleven participants who had participated in another research study during their hospital admission and self-report from the other four participants. Participants were offered the choice of in-person or remote (video or telephone) interviews. The study obtained ethical approval from the South Birmingham NHS Research Ethics Committee (REC) and Health Research Authority (IRAS ID: 292292; REC ref. 21/WM/0144).

Data analysis

Template analysis, a form of thematic analysis, was used to develop a priori themes to guide initial coding of the interview transcripts, guide the interview schedule and conduct analysis [43]. A priori themes were identified and these are displayed in the supplementary materials. However, as recommended, these were used tentatively with the awareness that, along with any other themes that are generated, they may not necessarily prove relevant, useful or meaningful and may need to be refined or discarded [43]. Seven recommended stages [43] were followed: 1) familiarisation with the data; 2) preliminary coding; 3) clustering; 4) producing an initial template; 5) developing the template; 6) applying the final template; and 7) final interpretation. Stages were completed sequentially and iteratively. NVivo version 1.7.1 was used to assist with analysis. The development of the final template was reached when the iterative process of template development reached saturation: when all data could be coded using that version of the template [43] and no new themes were being developed [47].

The semi-structured interviews were conducted by the first author, who has doctoral level knowledge/training in qualitative research methods. In addition, the first author is an experienced clinician with experience of interviewing people with regards to sensitive and

emotive topics. Interviews were audio-recorded and the first author made notes and wrote case summaries, documenting key interview dynamics and reflections from the interview [43]. The last author reviewed the interview audio-recordings in order to provide a check on quality control and rigour, as detailed further below. Coding and theme development was completed by the first author and the inter-subjectivity of the researcher was seen as integral to the process of analysis [52-53]. This is in contrast to more positivist assumptions underlying some versions of thematic analysis that might seek to measure about ‘coding reliability’ [48-51].

Participants

Fifteen adults (nine female) with a mean age of 40.5 (range: 18-56) years participated. Twelve participants described themselves as White British, one as British Indian, one as White European and one as Black African. Self-reported socio-economic status ranged from four to 10 ($M = 5.87$, $SD = 1.85$; where one equates to ‘Worst off’ and 10 to ‘Best off’) on the *McArthur Scale of Subjective Social Status – Adult Version* [41]. Total mean scores on the *Appearance Subscale of the Body Esteem for Adolescents and Adults* [42] ranged from 0.1 to 2.7 ($M = 1.43$, $SD = 0.82$). Possible scores range from zero to four, with higher scores indicating increased appearance esteem (therefore lower appearance concerns). Time since burn ranged from just over two weeks to just under eleven weeks.

Participants had sustained scalds ($n=9$), flame burns ($n=3$), a friction burn ($n=1$), a contact burn ($n=1$) and a flash burn ($n=1$). Total body surface area (% TBSA) ranged from 0.5 to 28%. Depths of burn included mixed thickness ($n=6$), full thickness ($n=4$), partial thickness ($n=3$), deep dermal ($n=1$) and unknown ($n=1$). Body location of burns included the legs ($n=11$), chest/abdomen ($n=6$), arms ($n=5$), hands ($n=4$), back ($n=4$), buttocks ($n=3$), feet ($n=2$) and face ($n=1$). For eleven participants, demographic and burn injury information was collected from medical records. The remaining participants self-reported the information.

Those who self-reported the information did not appear different in terms of demographic and burn injury variables compared to those where the information had been obtained from medical records. However, one participant who self-reported demographic information did not have information about the % TBSA or depth of their burn.

Measures and materials

Interview schedule. As detailed above, a priori themes based on template analysis guided the interview schedule [43]. Questions were open-ended, aimed at exploring views about early psychological interventions for appearance concerns. It included questions about whether interventions would be helpful (e.g., 'Do you think some psychological, or emotional, support would be helpful to you at this stage, to manage your experiences about your changed appearance or body?'), experiences of psychological interventions for appearance concerns (e.g., 'Has any psychological, or emotional, support been available to you already? If so, who was this by and what did it involve?'), what interventions should aim to achieve (e.g., 'If psychological, or emotional, support could be available to you, what would you want to gain from it?'), what would make interventions more acceptable (e.g., 'What would have made / make it easier or more acceptable for you to have taken up psychological support (if it had been offered to you) for how you felt about your appearance?'), and what barriers exist for taking up interventions (e.g., 'Can you think of any reasons that would make it difficult for you, or would make it difficult to other people after burn injuries, to take up psychological support for this difficulty?'). Prompts were used to provide deeper understanding of participants' responses and views. The interview schedule and a priori themes are available in Supplementary Materials as well as at the Open Science Framework (<https://doi.org/10.17605/OSF.IO/FBQUY>).

To contextualise the sample, two self-report measures were completed prior to the interviews. The *Appearance Subscale of the Body Esteem for Adolescents and Adults* [42], a

10-item self-report questionnaire, was used to measure body esteem, particularly focusing on appearance. The authors of the scale [42] report very good internal consistency (Cronbach's $\alpha = .93$ and $\alpha = .89$ for females and males, respectively) and three-month test-retest reliability ($r = .89$) [42]. It has been used in research exploring psychological variables and appearance concerns in adults following burn injuries, with an alpha coefficient of .95 reported [44]. Responses to items fall on a scale ranging from 0 ('Not at all') to 4 ('Always'). An example item is, 'I'm pretty happy about the way I look.' The total mean score of this measure has a possible range of values between 0 and 4. Lower scores are suggestive of poorer appearance esteem, therefore higher appearance concerns. The *McArthur Scale of Subjective Social Status – Adult Version* [41] is a well-known single-item scale to measure self-reported socio-economic status that has been found to correlate significantly with an objective index of socio-economic status ($r = .40$) [41]. Research has also shown that this scale predicts health outcomes above objective indicators and is often a stronger predictor of health compared with objective socio-economic status [45-46]. Participants rank themselves on a ladder from one ('Worst off') to 10 ('Best off'), representing their socio-economic standing in the UK.

Procedure

Convenience sampling was used. The first fifteen participants interested in taking part and meeting inclusion criteria being recruited. Fifteen participants was expected to be sufficient to answer the research question and ensure diversity within the sample in terms of demographic and burn injury variables. Eleven participants had participated in another research study during their hospital admission and expressed interest in this study. Three participants responded to fliers in hospital burns services and one was recruited through social media. Ten interviews were conducted over video-calls, three were held in person and two were telephone interviews. Interviews lasted 79 minutes, on average (range: 41-112 minutes). Interviews were transcribed verbatim and pseudonyms were assigned.

Quality control and rigour

Credibility and rigour can be established using a variety of methods, including auditing the analytic process, keeping detailed audit notes and reflexivity [54-55].

Transparency was explicit and an audit trail with detailed notes was kept. An audit checklist was developed prior to the study commencing and completed at the end of the study by the first and last authors. A reflective diary was maintained throughout the study and used to inform reflection as to the concepts evident in the data.

Reflexivity

The first author kept a reflective diary throughout recruitment and analysis. In particular, the first author was aware of her ongoing clinical role as a Consultant Clinical Psychologist in a burns service and previous experience of working with burns patients who experience appearance concerns. Other authors (AT, DH) also have experience of conducting research and providing clinical services (AT) with people who have sustained burn injuries. In addition, all authors have conducted prior work on the roles of psychological flexibility and/or self-compassion. In keeping with utilising reflexivity in qualitative research [52-54], the research team continually reflected on the relationship between preconceptions and the emerging findings during team meetings and through field notes.

Results

Three main themes were identified: *Early psychological interventions are absent*; *Early psychological interventions are acceptable within a therapeutic relationship*; and *Ambivalence and obstacles*. The main themes and their subthemes are described below with illustrative quotes. It is important to note that all participants identified themselves as experiencing appearance concerns due to their burns scars or skin pigmentation changes and spoke about their self-consciousness/shame and desire to conceal their burns from other

people.

1. Early psychological interventions are absent

This theme captured participants' experiences that early psychological interventions for appearance concerns were largely not available within burns services. Many participants described feeling that, if they had accessed psychological support or engaged in psychological interventions following their burn, these had been focused on other areas of distress such as post-traumatic stress or painful procedures (e.g., dressing changes). There was the perception that appearance concerns had not been fully explored. This was often spoken about with a sense of confusion or disappointment. For example, Jake reported receiving psychological support from the psychologist for his post-traumatic stress symptoms, which indeed felt like a priority, but that his appearance concerns had not been focused upon. He stated,

That was focused more around the emotional response to the trauma rather than appearance change...that doesn't address longer term psychological issues around appearance because most of it has focused, as I said, around the trauma, far less on the appearance.

Similarly, Elaine spoke about her experiences of accessing psychological support from a psychologist attached to her regional burns service for anxiety following her accident leading to her burn injuries and said,

Um...we haven't really hit on how my legs look, it's more just going more on the head side of it, the anxiety and everything.

2. Early psychological interventions are acceptable within a therapeutic relationship

This theme represented participants' views that early psychological interventions for appearance concerns would be acceptable and helpful to support them in their difficult journey associated with their appearance change. Participants described thinking that interventions would have helped them adjust to their changed appearance and manage the upsetting emotions and thoughts they had been experiencing associated with how their burn looked or may look in the future. For example, Leanne said that they could “help you re-evaluate how you think about yourself, and [pause] erm, guide you to sort of look at different ways of doing situations and scenarios.” In addition, participants felt that interventions would have supported them with the uncertainty surrounding their possible future appearance at a time when this felt unknown. Many participants reported that they would have accepted such interventions if they had been offered to them. For example, William stated,

Like I say, with the help itself, if I could have spoken to somebody, you know, if the help had have been there it might have made me journey a lot easier. Or at least took away some of the anxiety etc. that I've been experiencing.

Similarly, Elaine said,

Yeah. Because if you've got pain you can get tablets for that. If you've got something wrong with your head you can get tablets for that, do you know what I mean, I mean the hospital's been absolutely brilliant, you know what I mean, this has got nothing to do with them, it's just that...It's just...yeah as I say the hospital's been brilliant but...and they couldn't have done anymore...and I don't suppose they can do any more, but if there was something...yeah, I would have accepted it.

For Joanie, interventions to develop self-compassion also seemed important. This is likely to be linked with the psychological barrier described below, in that a small number of participants described low self-compassion for their appearance concerns due to blaming themselves for the accident happening. She said,

Just understanding how to [pause] process it. Like, the other emotions that would support being kind to myself or understanding how to channel the thoughts. So instead of just going all the way down be like going ‘oh stop being so cruel to yourself.’ It’s also like having other avenues you can think, and it’s opening them up and understanding how to do that, to know that actually I have been through something quite tough, and I’m not – you’re not just over exaggerating about the whole situation.

Related to the delivery of early interventions, participants thought that these should be delivered within a therapeutic relationship. Feeling listened to and understood with an objective and non-judgmental stance was important for participants. Participants commented that a therapeutic relationship is different to those with family and friends, who may provide advice or reassurances about appearance. David explained this through the quote,

I think having someone to talk to that I’ve never met before, having that someone who’s not going to pre-judge me. I think that is – because if you talk to a family member they’re going to react in a way because they know you, they know the core you, and I think their answers or their advice would be biased, same if you’re talking to a friend, having that independent impartial person is – you can open up and to them and say stuff that you probably wouldn’t say to most other people.

Alexei explicitly spoke about the importance of early psychological interventions being delivered by psychological professionals who were experienced in burn injuries who could understand what they were experiencing and had experience of helping other burns patients. He said,

Hmmm that would be helpful to talk to someone who have experience and talk with people what previously was in the same situation as me. So I would say probably would be helpful because, like, maybe, especially if they had experienced the same as I did, like in this kind of situation, but he already knows what other people experience...

3. Ambivalence and obstacles

Despite the positive views around the acceptability of early psychological interventions, this theme reflected obstacles around the uptake of these. Whereas some participants expressed ambivalence about whether they would accept (or would have accepted) an intervention, all participants described obstacles. This theme includes four subthemes: *Ambivalence*; *Psychological barriers*; *Contextual barriers*; and *Timing*.

Ambivalence

Some participants expressed ambivalence towards early psychological interventions. Participants would present arguments for engaging versus not taking them up, suggesting an unease about making a decision due to different or contradictory beliefs (cognitive dissonance) [56]. Interestingly, Nicola had the contact details of the psychologist at her regional burns service and knew she could phone them to ask for an appointment but her ambivalence about the acceptability of this was conveyed by the following,

And maybe it might help. But I don't know. Unless I try, do I, that's what I'm thinking. I don't know. In my mind, who can make this go away? Nobody. But I could have reassurance and more understanding maybe. I don't know. I don't know, maybe I should phone her and just have one session and maybe I'll change my mind about it.

Ambivalence and cognitive dissonance was also evident in this quote by John:

It sounds as though I've got a, you know, that kind of mental block just to say, 'do you know what, it's only a burn for goodness sake, I don't need any help at all,' and then on the other hand to say, 'well, obviously there is an issue because you've blurted out for the last two hours all these emotions and things so you've done it for a reason.'

Psychological barriers

This subtheme highlighted a number of psychological barriers to engaging in early psychological interventions. These included negative beliefs about talking therapies generally or accepting help. Difficulties in opening up about distressing experiences was described. Some participants also appeared to believe that they should be able to cope by themselves, which seemed to be caused by an underlying stigma around mental health difficulties and needing emotional help. A small number of participants described a lack of self-compassion for their appearance concerns, seemingly due to self-blame surrounding the accident, which was described as a barrier to taking up early interventions. Some participants expressed beliefs that psychological interventions would not be able to help with appearance concerns, due to either past unhelpful experiences of psychological therapy or a belief around psychological interventions being unable to change the objective appearance of the wound or scar seemed important. However, some could also appreciate interventions might be helpful. For example, Nicola said,

To start, I don't think that psychologist can make my wounds look fader can she? She can't make the wounds heal any quicker than what they need to be. She can't make the healing process quicker. Nobody can take it away. No-one can make it not happen. That's what I would like in a realistic world but it doesn't work like that. But I know talking is good. I understand that.

Participants expressed beliefs about levels of distress associated with their appearance concerns not being severe enough, or the burn injury not being severe enough, to warrant a psychological intervention or to take resources away from other patients with more significant distress or more severe injuries. Aadan perceived his burn injury as relatively minor compared to other patients' injuries and that psychological interventions would not be acceptable to him unless his mental health was significantly suffering. He said,

For someone who's got a major injury, maybe psychological support would be important because there's a psychological damage attached...I must say, unless I consider

something really extremely, you know, doubting to my physique, something that really damages my mental status, something extreme, very extreme, something life threatening [pause] – or that would have been life threatening.

Contextual barriers

This subtheme represented contextual barriers that contributed to ambivalence about engaging in early psychological interventions. These included practical issues, including limited time and travel requirements if interventions were offered face-to-face after hospital discharge. Participants talked about the need for flexibility in delivery of interventions after hospital discharge (e.g., video-appointments). For example, Nina said,

If it was online – like this, I don't mind, because it's after work and, you know, it's – there's no travel and you don't have to leave your house. Obviously sometimes you do need to speak to someone in person because you know, they need to see what's wrong, but I do feel like video appointments are quite handy, just being like more accessible – not accessible because you can access hospital – more convenient.

One participant expressed concern about a possible lack of privacy if early psychological interventions were delivered during hospital admission (e.g., if patients were in hospital bays).

Participants appeared to perceive psychological burn care in general, and therefore early psychological interventions, as not sufficiently normalised or embedded within the burn care pathway. Related to this, participants also spoke about the need for psychological burn care to be more proactive, rather than reactive (e.g., to referrals). Accessing psychological care was considered to fall on the patient to seek out (e.g., by contacting the service or asking for a referral) which felt effortful and off-putting. Proactive, routine, attempts to explore appearance concerns by the psychological care team was suggested. For example, Nicola said,

Maybe one of you phone me to chase it up and then I might have initially done it – does that make any sense? Rather than having the leaflet option. Maybe the psychologist I seen in hospital could have caught me on a phone call, maybe like six weeks later to see how you are. I know you haven't got the facilities, it's just a suggestion in my mind, I thought because I was talking to her originally, if she rang me and asked how I was I could be honest and then she could say 'do you want me to put you on the waiting list?', that maybe, because I think a leaflet isn't the same, it's not the same.

Participants suggested normalising early interventions, and psychological burn care in general, by clearly embedding it into the burn care pathway, in order to enhance acceptability. For example, John said,

If it came, I suppose, as part of the care package, you know, part of the whole package. So

whether you would actually see, as in my case, see the triage nurse, then get transferred over to the burns unit and then after the burns unit you would then – or as part of that – speak to somebody about your experiences, how you feel, you know...It's not 'do you think you need to speak to somebody?' if they say 'this has been booked for you so you have to go,' and I think that would probably be better for somebody like me because otherwise you wouldn't choose to go and talk to someone.

Timing

This subtheme represented participants' views about when psychological interventions for appearance concerns should be introduced. During hospital admission was often considered to be an optimal time to start early interventions, or at any early stage in outpatient care for those who had not been admitted to hospital with their injuries. Participants believed that coinciding early interventions with initial dressing changes or hospital showers would be useful. Typically, these events are when patients see their injuries for the first time, when they are confronted by the reality of their injuries. For example, Lauren said,

I think that the best psychological support wise would be once the dressings come off or at least once they're kind of coming off, like preparing somebody for how they might

feel, preparing, almost like it's normal but I kind of know it is from other situations and injuries, try and be reassuring and then I think it's then as the dressings are coming off, say, is when somebody needs to kind of assert themselves because that's when the reality stage starts, at least from my point of view, and it's not happening if you can't see it – when the dressings are there.

In contrast, Alexei held a differing view. He believed that early interventions would be better starting a few weeks after discharge from hospital, to allow time for an initial focus on physical recovery, attempts to re-establish normality and time for patients to learn whether their appearance changes are likely to be longer lasting or permanent. He said,

When I first got back (home), I couldn't even get a proper shower, I couldn't even look at my body how it's changed because I didn't know which parts are going to be like fully healed, which parts could be scarred, you don't really know it before you start, yeah, I would say six or seven weeks, that's probably the time when you could talk to someone and then just, like, you can hear someone because at that stage probably

you feel more down than at the stage where you've been dismissed from the hospital, that's when you start looking at yourself, you start analysing, you start thinking.

Discussion

This study aimed to explore the acceptability of early psychological interventions for appearance concerns after burns in a sample of individuals who were experiencing these concerns within three months of their injuries. Participants perceived that early psychological

interventions for appearance concerns were missing from burn care, but the idea of these were acceptable to many participants. The finding that participants wanted help for their distress within a therapeutic relationship is not surprising given the importance placed on the therapeutic alliance in psychological therapy [57-58]. In the context of appearance concerns after burns, the therapeutic relationship might be particularly important to individuals because of the stigma associated with being visibly different and the unwanted reactions from other people [3-4]. Although not a focus of this paper, participants did speak about their self-consciousness, shame, and desire to conceal their burns from other people. Therefore, a therapeutic relationship with someone who is authentic, empathic and accepting (unconditional positive regard) [57] may be vital when considering early psychological interventions. However, some were ambivalent and all identified either psychological or contextual barriers to engaging in early psychological interventions. This is the first study to focus on the acceptability of early psychological interventions specifically for appearance concerns after burns, extending the literature from that of a previous study that explored acceptability of an early psychological intervention for a variety of psychological difficulties after burns [37].

The current results are consistent with findings from a recent study where burns patients were interviewed two years post-burn to identify barriers and facilitators to accessing psychological support for any burns-related difficulty [37]. That study found that increased psychological presence within burns services was required, so that psychological care felt familiar and available [37]. The current findings also highlight the importance of normalising early psychological interventions into routine burn care. The current findings identified both psychological and contextual barriers to engaging in early psychological interventions for appearance concerns, which also aligns with previous findings of negative beliefs about mental health or psychological therapy, time and financial pressures for outpatients, and acute

physical health priorities when in hospital and during early discharge [37]. Indeed, there are likely to be general obstacles to engaging in any psychological interventions following burns for a variety of difficulties. Some of these barriers are generic to psychological therapy or seeking mental health support due to stigma [38]. However, stigma accessing psychological support for appearance concerns in individuals with visible differences do appear to exist [12].

The current findings also extend previous research by identifying additional psychological barriers to engaging in (early) psychological interventions for appearance concerns specifically. These are beliefs that: 1) appearance concerns, or the burn injury itself, were not severe enough to warrant a psychological intervention or take resources away from other patients who have increased levels of appearance concerns or more severe injuries; and 2) psychological interventions cannot change the physical appearance of a wound/scar, thereby limiting the utility of a psychological intervention.

Study strengths and weaknesses

The findings from the current study should be considered in light of several strengths. Both female and male adults after burns were included, and there was diversity in age, socio-economic status and burn injury factors (severity, mechanism and areas of body affected). There was also a diverse range of appearance-related distress. In order that the transferability of the findings can be judged, the characteristics of the sample are clearly described. Nevertheless, it is important to acknowledge that the majority of participants were White British, and clearly the findings will not be transferrable to all individuals following burn injury, including those from Black/Asian/other ethnic minority groups. Further, as convenience sampling was adopted the population was self-selecting and this may represent some specific bias. Furthermore, the sample differed in the time post-burn (ranging from just

over two weeks to almost eleven weeks), and so were at different stages in terms of wound healing and scar development. Similarly, some participants had required hospital admissions for their burns whereas others had only needed outpatient burn care.

The current study focused solely on the acceptability of early psychological interventions for appearance concerns. Future research may therefore benefit from exploring the acceptability of education and information materials related to appearance changes (e.g., wound healing, scarring, pigmentation changes and treatment options) and how these could be usefully combined with, or form part of, early psychological interventions. Similarly, a small number of female respondents spoke about receiving support (or considering accessing) support from other burns survivors, and future research could also consider the acceptability of embedding peer support into early psychological interventions. Finally, individuals in the current study did not talk about or infer that social skills training may be acceptable or useful. But given its evidence base [27-29] and the possibility that patients may not be explicitly aware of social skills training and what it might offer, future studies should also consider whether this would be an acceptable part of early psychological interventions.

Clinical implications

The study has important clinical implications. Offering and delivering early interventions for appearance concerns should be a clear focus for burns services. The findings suggest that early interventions should likely be introduced during hospital admission or initial outpatient burn care appointments, coinciding with initial dressing changes or hospital showers. However, the timing of early interventions likely needs further consideration, and interventions likely need to be adaptable to individuals who focus on physical priorities initially, perhaps having a preventative focus. Indeed, a period of psychological adjustment to appearance concerns after burns occurs [59-60], and individuals are likely to experience these

at different rates. Early interventions should focus on helping patients to manage their distressing thoughts and feelings related to their appearance, and be delivered within a therapeutic relationship by those who have understanding of, and experience in, helping other individuals after burn injuries. Psychosocial professionals working within burns services would be ideally placed to deliver interventions. Other healthcare professionals have been found to lack knowledge and confidence in communicating with patients around appearance concerns when this has been explored across a variety of visible differences [61]. Furthermore, self-help interventions may not meet the needs of burns patients, given the absence of a therapeutic relationship. The value of face-to-face psychological support for appearance concerns in those with visible differences has indeed been reported in a previous study [17].

The current study suggests that some individuals will be ambivalent about early interventions, and that contextual and psychological barriers will be prevalent. Delivering early interventions during hospital admission would alleviate some of the contextual barriers and flexibility in delivery (e.g., in person versus remote) may be useful for those receiving outpatient care. Embedding early psychological interventions into routine burn care may increase acceptability through normalisation, and this has been considered important in other long-term conditions [62]. Indeed, proactively offering early interventions for appearance concerns to all patients may reduce stigma and the impact of beliefs about self-blame about the accident, and the level of distress or injury severity. However, this would have clinical resource implications that would need to be considered. Education when offering early interventions may also be important. Specifically, being informed that whilst a psychological intervention cannot change the appearance of a wound/scar, it has the possibility of helping patients respond to or manage any distressing experiences they have about appearance. Finally, acknowledging and normalising that some individuals find it difficult to ‘open up’

and talk about their experiences and/or experience challenges being self-compassionate after an accident and when in distress would be useful.

Further research focusing on the acceptability of specific early psychological interventions for appearance concerns should be conducted, in line with recommendations for the development of healthcare interventions [39]. This could identify and address ambivalence and barriers to engaging in interventions, prior to being investigated for effectiveness in controlled trials. Once an early intervention is developed, further research may benefit from applying a specific framework of acceptability for the specific early intervention being investigated for thoroughness. For example, the theoretical framework of acceptability which comprises seven components: affective attitude, burden, perceived effectiveness, ethicality, intervention coherence, opportunity costs and self-efficacy [40].

Conclusions

Early psychological interventions for appearance concerns following burns may be acceptable for some patients. However, ambivalence and potential barriers are apparent and need to be addressed. The timing of introducing early psychological interventions should also be considered. Nevertheless, normalising early interventions for appearance concerns by embedding them into routine burn care is likely to be important for their acceptability.

Data availability statement: The data that support the findings of this study are openly available in the Open Science Framework at <https://doi.org/10.17605/OSF.IO/FBQUY>.

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Supplementary materials

A priori themes

Theme	Operationalised definition
Early interventions as (un)helpful	Whether early interventions are viewed as helpful or unhelpful
Timing of early interventions	When interventions should start/be offered
Early support received	What support has been received so far
Helpfulness of early support received	Whether any early support received so far has felt helpful or not
Aims / goals of early intervention	What the aims or goals of an early intervention should be
What interventions should(n't) include/look like	Ideas around content / strategies / format / other issues related to what interventions should(n't) include or look like
Challenges in engagement in early interventions	Challenges, barriers or concerns believed to be present in relation to patients engaging in early interventions

Interview schedule

Focus area	Questions (Prompts)
Introduction	Thank you for taking part in this study. I really appreciate you taking the time to share your experiences and thoughts with me. As you are aware, the aim of the study is to learn more about why some patients feel upset or self-conscious about their appearance or body after burn injuries, and what early psychological, or emotional, support patients may find helpful to manage feeling upset or self-conscious. During the interview, I will be asking some questions on these topics. Do you have any questions before we start?
Views of early psychological interventions	Do you think some psychological, or emotional, support would be helpful to you at this stage, to manage your experiences about your changed appearance or body? Why/why not? At what point do you think this psychological, or emotional, support should have started? When do you think this would have been helpful to begin? Has any psychological, or emotional, support been available to you already? If so, who was this by and what did it involve? If you have received any psychological, or emotional, support was this helpful to you or not, and why? If psychological, or emotional, support could be available to you, what would you want to gain from it? What would you want to change? What do you think would be important to include in psychological support to help you manage your experiences related to your appearance or body? What would have made / make it easier or more acceptable for you to have taken up psychological support (if it had been offered to you) for how you felt about your appearance? Can you think of any reasons that would make it difficult for you, or would make it difficult to other people after burn injuries, to take up psychological support for this difficulty?
Close	Thank you so much for sharing your experiences. Is there anything else I have not asked about that you think is important in terms of me understanding your experiences?

6. A Mixed-methods Study Investigating the Acceptability and Effectiveness of an Early Acceptance and Commitment Therapy (ACT) Intervention to Aid Adjustment to Appearance Changes After Burns
(Submitted Manuscript 4)

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Preface

Prior to the thesis research, and as presented in the introductory chapter, there was a lack of strong evidence for any type of psychological therapy for appearance concerns in populations living with a visible difference. Furthermore, no research existed that had explored the acceptability of early psychological interventions for appearance concerns, either after burn injuries or any other injury- or health-related context. It was established within the first and second manuscripts that appearance concerns develop early following burn injuries and that psychological flexibility and self-compassion are implicated in early appearance concerns, and that psychological flexibility during hospital admission could predict appearance concerns over time. Furthermore, the third manuscript revealed that early psychological interventions for appearance concerns may be acceptable to many individuals after burn injuries but that ambivalence and barriers exist. The final manuscript details a study that built upon these findings and investigated the acceptability and effectiveness of a novel early psychological intervention to help individuals adjust to appearance changes after

burn injuries, utilising acceptance and commitment therapy (ACT). Supplementary materials that have been submitted for peer review follow the manuscript.

A mixed-methods study investigating the acceptability and effectiveness of an early acceptance and commitment therapy (ACT) intervention to aid adjustment to appearance changes after burns

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A mixed-methods study investigating the acceptability and effectiveness of an early acceptance and commitment therapy (ACT) intervention to aid adjustment to appearance changes after burns

Abstract

Appearance concerns after burns are known to start soon after injury. However, early psychological interventions to support individuals with their changed appearance are absent. This study investigated the acceptability of an early acceptance and commitment therapy (ACT) intervention delivered by a psychological therapist to help individuals adjust to changes to their appearance after burns. The potential effectiveness of ProACTIVE was also investigated. Using mixed-methods, 13 adults (eight women, five men) participated. Acceptability was measured by uptake rates, module completion rates and interview data. Potential effectiveness was measured by helpfulness ratings, qualitative feedback and pre- and post-intervention scores on standardised questionnaires of appearance concerns, positive and negative affect, psychological flexibility and self-compassion. Findings suggest that ProACTIVE is acceptable. Over two-thirds of participants completed all modules. Three main themes were identified from interviews: *An acceptable intervention*; *Valuing the therapeutic relationship*; and *Early support is key*. Ratings of helpfulness were positive and qualitative feedback suggested that ProACTIVE is helpful by providing space to explore and reflect on appearance changes, developing psychological flexibility and self-compassion, and preparing individuals for being around other people. Positive affect significantly increased and negative affect significantly decreased. No statistical changes on standardised measures of appearance concerns, psychological flexibility or self-compassion were revealed. In conclusion, ProACTIVE is an acceptable early psychological intervention to support the adjustment of appearance changes after burns. Individuals with appearance concerns reported finding it

helpful. Further study is needed to determine effectiveness but the intervention holds promise to support individuals soon after burns.

Keywords: burn; appearance; visible difference; acceptance and commitment therapy; ACT; psychological therapy

1. Introduction

Burns cause sudden changes to the appearance of the skin. These include acute wounds (that typically heal over time) and longer-term or permanent scarring, pigmentation changes or limb loss, creating distress for some individuals (Attoe & Pounds-Cornish, 2015). Individuals can struggle with adjusting to appearance changes, and some will experience distress (e.g., anxiety, self-consciousness, shame) which can lead to impairment in work, social and relational functioning if these persist and entail significant distress (Rumsey & Harcourt, 2012; Sarwer et al., 2022). There is strong evidence that appearance concerns start early following burns, during or shortly after hospital admission when individuals begin to look at their injuries (Shepherd et al., 2024a) and grieve for their pre-burn appearance (Gullick et al., 2014), and fear rejection (Shepherd et al., 2024a), stigma (Dunpath, Chetty, & Van Der Reyden, 2015) or impact on relationships with others (Bergamasco et al., 2002). Acceptable and effective early psychological interventions to support individuals soon after burns and possibly prevent or reduce longer-term difficulties are warranted.

1.1 Psychological interventions for appearance concerns

Very few studies have investigated psychological interventions focused on appearance concerns at any stage after traumatic injury such as burns. Research on interventions is typically generic rather than focused on appearance concerns specifically, and lack standardised measurements of appearance concerns or control groups (Blakeney et al., 2005; Cooper & Burnside, 1996; Hwang, Kim, & Baek, 2019; Seehausen et al., 2015; Shepherd et al., 2020). To date, only one study has evaluated an intervention after burns that specifically measured and focused on appearance concerns (Shepherd et al., 2020). Specifically, acceptance and commitment therapy (ACT: Hayes, Strosahl, & Wilson, 1999) was delivered to three adults with appearance concerns (two with burns and one with necrotising fasciitis, 5-13 months after injury/onset) in an uncontrolled case series (Shepherd

et al., 2020). The only study (Blakeney et al., 2005) that included a control group, reported a positive impact of a social skills training programme for adolescents who sustained burns at least two years prior.

To date, only one study (Cukor et al., 2015) has considered early psychological intervention for appearance concerns after burns. This 14-session intervention (delivered to 10 adults, 1-7 months post-burn) covered a range of psychological difficulties, with only 3 sessions specifically focussed on appearance. The majority reported improvements in body image and community integration, but Cukor et al. (2015) acknowledged that improving coping with scarring was problematic. The sessions focused on reducing appearance concerns involved social skills training, rather than psychological techniques to respond to distress, and the study lacked a control group. In summary, there is a dearth of research exploring early psychological interventions explicitly focused on appearance concerns after burns.

Systematic reviews have noted there are few high-quality studies evaluating psychological interventions for appearance concerns in adults with any injury or medical condition or treatment that affects appearance (Bessell & Moss, 2007; Muftin & Thompson, 2013; Norman & Moss, 2015). Most of the studies in these reviews have used cognitive behaviour therapy (Clarke et al., 2014), to identify and modify unhelpful thoughts or behaviour, and social skills training, to teach people how to manage other people's reactions to their appearance, with interventions including individual and group formats, in person and telephone delivery and self-help. In addition, a manual to guide CBT for appearance concerns was developed based on findings from a large multi-centre set of studies (Clarke et al., 2014). However, there is a lack of high-quality evidence for CBT for appearance concerns.

1.2 Acceptance and Commitment Therapy (ACT)

ACT is a third-wave psychological therapy incorporating acceptance and mindfulness. ACT aims to enhance psychological flexibility, a construct associated with psychological

wellbeing. Psychological flexibility involves being open to experiencing distressing internal experiences (e.g., thoughts and emotions), being present-focused, and acting in line with personal values in the presence of distressing experiences (Harris, 2009; Hayes et al., 1999). It can include developing skills for effectively responding to distressing emotions and thoughts or beliefs about the self or others and engaging in behaviour that is meaningful to the individual, all of which are relevant to those with appearance concerns (Rumsey & Harcourt, 2012; Sarwer et al., 2022). In contrast, psychological inflexibility is associated with psychological difficulties and inherently includes experiential avoidance (attempts to control or avoid distressing internal experiences; Hayes et al., 1999).

Self-compassion involves engaging in self-kindness rather than self-criticism, seeing one's own suffering as common to the human experience rather than feeling isolated and having a balanced perspective on painful thoughts and emotions rather than overidentifying with them (Neff, 2003). Theoretical evidence suggests psychological flexibility and self-compassion are related in that self-acceptance (as opposed to experiential avoidance) facilitates self-compassion, both allow an appreciation that the self and others have moment-to-moment perspectives that involve being witness to difficult experiences, and both emphasise mindfulness (Yadavaia, Hayes, & Vilardaga, 2014).

ACT has been shown to be effective across a wide range of psychological difficulties and physical health conditions to help individuals respond to their distressing internal experiences in ways that help them live meaningful lives (Hayes & King, 2024). Brief ACT interventions have also shown to be effective (Dochat et al. 2021). Techniques to foster self-compassion can be integrated to further enhance ACT's ability to help individuals acknowledge and allow distressing inner experiences whilst engaging in valued action (Bernstein, 2025). A growing body of evidence suggests that difficulties with psychological flexibility is associated with appearance concerns, including after burns (Shepherd et al., 2024a; Shepherd et al., 2025)

and breast cancer (Policardo et al., 2024), in those with dermatological conditions (Vasiliou et al., 2023) and visibly injured military veterans (Keeling et al., 2025) and in those other visible differences (Zucchelli, White, & Williamson, 2020b). Whilst most have employed cross-sectional designs, one study revealed that lower psychological flexibility during hospital admission after burns was prospectively associated with increased appearance concerns up to six months later (Shepherd et al., 2025). Qualitatively, difficulties responding to appearance concerns with psychological flexibility after burns may be influenced by a fear of rejection and stigma and internalised societal ideals around appearance and gender (Shepherd et al., 2024a). This research provides a theoretical rationale for the use of ACT to support individuals with appearance concerns, including after burns. Similarly, self-compassion has also been implicated in appearance concerns after burns (Shepherd et al., 2024a; Shepherd et al., 2025), other medical conditions (Clarke, Thompson, & Norman, 2020; Todorov, Sherman, & Kilby, 2019) and in military veterans with visible injuries (Keeling et al., 2025), and a lack of self-compassion is a barrier to engaging in early psychological interventions for appearance concerns (Shepherd et al., 2024b).

Emerging research highlights the promise of ACT as a psychological intervention for appearance concerns. Zucchelli et al. (2020a) reported that ACT helped six women with visible differences caused by injuries and medical conditions live more valued lives, develop ways to influence other people's reactions and respond to their internal distress and foster self-compassion. As detailed above, Shepherd et al. (2020) described a case series where ACT reduced functional impairment and improved valued living in three individuals with appearance concerns due to burns and necrotising fasciitis. Siemann et al. (2023) presented a single case description of a woman with facial palsy with appearance concerns who had positive outcomes after a group intervention based on CBT and ACT. Hotton et al. (2022) evaluated information and self-help therapy guides based on CBT, ACT and social skills

training in 132 participants with facial palsy, some of which were focused on appearance concerns and managing other people's reactions to visible differences, and reported reduced appearance concerns and good levels of acceptability. Powell, Vasiliou, and Thompson (2023) conducted a pilot randomised feasibility and acceptability study of a four-week ACT digital self-help intervention in 145 individuals with a visible difference. A dropout rate of 68% was reported, although many rated the intervention as useful (77%) and helpful (74%). Powell et al. (2023) suggested that some individuals might have needed a therapist to deliver the intervention. Similarly, Zucchelli et al. (2021) developed a mobile phone app to deliver ACT to people with visible differences but feedback suggested that the technology should not be a substitute for therapist delivered interventions. Despite this promise, the evidence to date is limited to the application of ACT for chronic appearance concerns rather than as an early intervention when appearance concerns are emerging. Self-compassion may also be a therapeutic target for those with appearance concerns using ACT interventions.

1.3 Acceptability of early psychological interventions

Acceptability, feasibility, uncertainties and real-world implementation are essential aspects of intervention development and evaluation (Skivington et al., 2021). Acceptability is typically assessed by objective measures of behaviour (i.e., dropout, withdrawal or discontinuation rates) and questionnaires or interviews measuring satisfaction, attitudes and experiences. The Theoretical Framework of Acceptability (TFA; Sekhon, Cartright, & Francis, 2017) proposes that acceptability is a multi-faceted construct that reflects the extent to which individuals delivering or receiving an intervention consider it to be appropriate, based on cognitive and emotional responses to the intervention that are either anticipated or experienced. It has seven components measuring affective attitude, burden, perceived effectiveness, ethicality, intervention coherence, opportunity costs and self-efficacy.

The only acceptability study of early psychological interventions for appearance concerns after burns (Shepherd et al., 2024b) interviewed 15 individuals within three months of their injuries. Early psychological interventions for appearance concerns were perceived as absent from routine burn care but likely to be acceptable if delivered within a therapeutic relationship. However, psychological (e.g., negative beliefs about talking therapies or accepting help/stigma) and contextual (e.g., time restrictions and travel requirements to return to the hospital) obstacles to engagement were identified, similar to obstacles to engaging in support for any psychological difficulty at any stage following burns (McDermott, Hotton, & Cartwright, 2023). Shepherd et al. (2024b) concluded that interventions should be embedded into the burn care pathway to enhance acceptability through normalisation and that the optimal time to introduce an early psychological intervention was during hospital admission or the early stage of outpatient care. In summary, early psychological interventions for appearance concerns may be acceptable but further research is needed.

1.4 Aims

The aim of the current study was to investigate the acceptability of ProACTive, an early ACT intervention to help individuals adjust to changes to their appearance after burn injuries. As a secondary objective, the study aimed to explore the impact of the ProACTive intervention on appearance concerns, positive and negative affect, psychological flexibility and self-compassion. Appearance concerns and negative affect were expected to decrease, and positive affect, psychological flexibility and self-compassion to increase, from pre- to post-intervention.

2. Method

2.1 Design

A mixed-methods acceptability study was conducted. Qualitative data from interviews following the ProACTIVE intervention were analysed using template analysis, a form of thematic analysis that allows both inductive and deductive reasoning to be applied within the analysis of acquired data (King & Brooks, 2017). Template analysis allows for the development of a priori themes to enable initial coding of interview transcripts, whilst also allowing for novel constructs to be identified as the analysis progresses. Standardised self-report questionnaires were also completed to provide preliminary indications of clinical effectiveness.

Adults (18 years or over) with an acute burn injury were invited to participate. Participants started the ProACTIVE intervention either during their hospital admission to a regional burns unit in the United Kingdom, or within one month of hospital discharge or within one month of their injury if they had received outpatient burn care only. Individuals were excluded if they were: in hospital for reconstructive surgery; too physically unwell to participate; in a mental health crisis; not fluent in English; known to have a cognitive impairment; or were already receiving psychological support.

Participants were not required to have appearance concerns or distress related to their appearance changes in an attempt to investigate the acceptability of an intervention that could be offered to all burns patients in order to normalise it and embed it into routine burn care (Shepherd et al., 2024b). Therefore, participants could experience a degree of appearance concern or distress or have no concerns about their appearance changes. Furthermore, there were two levels of participation. Firstly, individuals could complete the ProACTIVE intervention. Secondly, if individuals did not want to complete the ProACTIVE intervention, they could participate by providing a reason why this was the case. This secondary level of participation supported further learning about the acceptability of the intervention (see Supplementary Materials).

The study protocol was uploaded to the Open Science Framework prior to recruitment (<https://doi.org/10.17605/OSF.IO/9DBU5>). Ethical approval was obtained from the London – Bromley NHS Research Ethics Committee (REC) and Health Research Authority (IRAS ID: 339105; REC ref.: 24/LO/0402). The study was also registered on ClinicalTrials.gov (identifier: NCT06377709).

2.2 Participants

2.2.1 Participants who began the ProACTIVE intervention

Thirteen adults (eight female, five male) aged between 20 and 78 years (median: 46 years) complete at least one module of the ProACTIVE intervention. Table 1 displays their pseudonyms and demographic information.

Table 1

Pseudonyms and Demographic Information of Participants Completing the ProACTIVE Intervention

Pseudonym	BESAA-A mean score	Gender	Age (years)	Ethnic group
Julie	0.9	Female	51	White British
Aadila	1.0	Female	20	Pakistani
Rachel	1.2	Female	62	White British
Csilla	1.6	Female	47	Other White background
Sarah	2.0	Female	40	White British
Robert	2.2	Male	22	White British
Paul	2.4	Male	55	White British
Rose	2.4	Female	78	White British
Hannah	2.5	Female	42	White British
David	2.6	Male	62	White British
John	2.7	Male	46	White British
Elena	2.8	Female	22	Other White background
Neil	3.3	Male	38	White British

Note. BESAA-A: Appearance Subscale of the Body Esteem for Adolescents and Adults

Lower scores on the Appearance Subscale of the Body Esteem for Adolescents and Adults (BESAA-A; Mendelson et al., 2001) represent lower body esteem and therefore increased appearance concerns. Scores on this measure at the start of the intervention ranged from 0.9 to 3.3 (median: 2.4), and the measure is further detailed below. Burn injury information was gathered from medical records. Eight participants began the ProACTIVE intervention during their hospital admission, two started after hospital discharge and three received outpatient burn care only. Time from the burn injury to completing the first module of the ProACTIVE intervention ranged from 2 to 131 days (median: 8 days). Eight participants began the intervention within 10 days of their injury and eleven participants began the intervention within three weeks of their injury. Injuries included flame ($n=7$) and scald ($n=6$) burns. Total body surface area (% TBSA) burnt ranged from 0.25 to 60% (median: 3%).

One participant received a single session of psychological support from the usual clinical care team during the intervention for an issue unrelated to appearance concerns. No other participants received any burns-related psychological support during the intervention.

2.3 ProACTIVE intervention

The ProACTIVE intervention consisted of up to five 30-minute sessions (modules), delivered in person or virtually. All intervention modules were delivered by author LS, a Consultant Clinical Psychologist with significant experience in delivering psychological care to individuals following burn injuries and training/supervised clinical practice in ACT, who followed the ProACTIVE psychological therapist guide, and audio-recorded sessions for fidelity checking. The intervention was based on ACT and aimed to provide early support to individuals in relation to changes to their appearance following burns. It aimed to increase psychological flexibility and self-compassion. It also included social skills training,

incorporating ACT concepts. The intervention and associated patient resources was developed by authors LS, LM and AT. Contributions were also provided by a Patient Advisory Group, a group of clinical psychologists working in burn injuries, and authors PN, FS and DH. As detailed earlier, the intervention was developed so it could be completed whether or not any appearance concerns were present so individuals could use it to help them respond to current distress or any distress they may have experienced afterwards in relation to appearance changes following their burns.

The content of the intervention, including the exercises, scripts and resources, was guided by a review of relevant protocols by author LS. Participants complete the first introductory module but could subsequently choose how many other, and which, modules they wished to complete and the spacing of modules. Patient resources, including scripts of exercises completed during the module and accompanying QR codes/website links to audio-recordings of the exercises on YouTube, were provided following completion of each module. A summary of the intervention is provided in the Supplementary Materials, and the intervention protocol and patient resources to accompany the intervention are available from the first author upon request.

2.4 Data collection

2.4.1 Demographic and burn injury information

Demographic (age, gender, ethnicity) and burn-injury information (mechanism of burn, percentage body surface area burnt (% TBSA)) was gathered for all participants, whether they were completing or had declined the intervention. This information was collected from the medical records by author LS.

2.4.2 Investigating acceptability

2.4.2.1 Descriptive data

Uptake rate and details related to module completion were gathered. Modality preferences for receiving post-session resources (in person; post; email) and the number of views of the online YouTube videos containing audio-exercises was also collected.

2.4.2.2 Questionnaires

Helpful Aspects of Therapy Form (Llewelyn et al., 1988): This is a seven-item standardised self-report questionnaire that gathers data about helpful and hindering aspects of therapy sessions. It was completed immediately after every module completed by the participant. Participants are asked to rate how helpful the most helpful or important event within the module (and if applicable, a second helpful event) was on a visual analogue scale from one (Extremely hindering) to 9 (Extremely helpful). Similarly, they are asked whether anything happened during the module that was hindering, and if so, how hindering this was on a scale from one (Extremely hindering) to four (Slightly hindering). Participants are also prompted to describe what was most helpful or hindering.

Questionnaires to assess reasons for ending the ProACTIVE intervention before completion or declining the intervention: In participants who agreed to complete the ProACTIVE intervention, a single-item multiple choice question was asked to capture the reason(s) for ending the ProACTIVE intervention prior to all modules being completed, if applicable (e.g., ‘Now does not feel like the right time for me,’ ‘Practically, it feels too difficult to access sessions’). A similar questionnaire was used for individuals who did not want to complete the ProACTIVE intervention but consented to providing a reason why. Both questionnaires can be found in the Supplementary Materials.

2.4.2.3 Interview schedule

A priori themes based on template analysis guided the semi-structured interview schedule (King & Brooks, 2017). A Patient Advisory Group comprising individuals with lived experience of burn injuries contributed to the design of the interview schedule. The a priori

themes and interview schedule can be found in the Supplementary Materials. The interview schedule was guided by the Theoretical Framework of Acceptability (TFA: Sekhon et al., 2017) and included questions around each component of this model. Questions also explored participants' views around the flexibility (e.g., 'What did you think about the intervention being flexible in terms of choosing whatever sessions you wanted, and when?'), delivery (e.g., 'How important was the presence of a psychologist in the delivery of the intervention to you?') and timing (e.g., 'How do you feel about the timing of the intervention, that is was introduced to you whilst you were still in hospital?') of the intervention. Interviews ranged from 10-42 minutes in duration.

2.4.3 Evaluating potential clinical effectiveness

To gather preliminary data on the potential clinical effectiveness of the ProACTIVE intervention, the following standardised self-report measures were used.

Body Esteem Scale for Adolescents and Adults – Appearance subscale (BESAA-A; Mendelson et al., 2001): This is a standardised 10-item subscale of a self-report questionnaire that measures appearance concerns/body esteem. The total mean score of this measure was calculated, which has a possible range of values between 0 and 4, with lower scores indicating reduced body-esteem (higher appearance concerns). It has been used in previous research with individuals with burn injuries with an alpha coefficient of .95 reported (Lawrence, Fauerbach, & Thombs, 2006; Shepherd et al., 2025). In the current study, the internal consistency for the BESAA-A was $\alpha = .78$ before the intervention and $\alpha = .78$ after the intervention.

Positive and Negative Affect Schedule (PANAS-GEN; Watson, Clark, & Tellengen, 1988): This is a 20-item standardised measure of positive and negative affect (10 items for each). Higher scores for each subscale represent greater positive or negative affect. It has been shown to have internal consistency of .86-0.90 for positive affect and .84-.87 for negative affect, and test-retest reliability of .79 for positive affect and .81 for negative affect

over one week (Watson et al., 1988). In the current study, the internal consistency for the positive affect score before the intervention was $\alpha = .79$ and for the negative affect score it was $\alpha = .80$. After the intervention, internal consistency for the positive affect score was $\alpha = .69$ and $\alpha = .88$ for the negative affect.

Comprehensive assessment of Acceptance and Commitment Therapy processes (CompACT; Francis, Dawson & Golijani-Moghaddam, 2016): This is a standardised 23-item self-report measure of psychological flexibility. It has been used in a previous study that explored an online self-help ACT intervention for people with visible differences (Powell et al., 2023). Higher total scores with a possible range of 0-138 were calculated, with higher scores representing greater psychological flexibility. It has been reported to have adequate internal consistency (.34; Francis et al., 2016) and stronger discriminant validity compared to other measures (Ong et al., 2020). In the current study, the internal consistency for the CompACT was $\alpha = .89$ before the intervention and $\alpha = .86$ after the intervention.

Self-Compassion Scale - Short Form (SCS-SF; Raes et al., 2011): This is a standardised 12-item self-report measure of self-compassion. It has been used in previous research exploring self-compassion and body image in populations with a visible difference, including burns (Shepherd et al., 2025; Sherman et al., 2017). The total mean score of this measure was calculated, which has a possible range of values between 1 and 5. Higher scores indicate higher self-compassion. In the current study, the internal consistency for the SCS-SF was $\alpha = .83$ before the intervention and $\alpha = .81$ after the intervention.

2.5 Procedure

Recruitment took place between June 2024 and January 2025 at a regional burns service in the UK. Potential participants were approached during their hospital admission, within one month of hospital discharge or within one month of their injury if they had received outpatient burn care only if they were deemed to meet inclusion criteria by a

psychologist working in the service. Initially, only inpatients were recruited. However, this was extended in December 2024 to include those within one month of hospital discharge or within one month of their injury if they had received outpatient burn care only. This was due to the frequency of inpatients not meeting inclusion criteria and an increasing pressure within the hospital to discharge patients from the ward, leading to short admissions that posed difficulties for recruitment. During recruitment, the number of inpatients and outpatients receiving care within the burns service was recorded alongside the number of those eligible for the study, the number who took part and those who declined participation. This information is detailed in the Supplementary Materials.

Those who declined the intervention but wished to participate in the study by providing a reason why completed the single-item questionnaire to capture this. Individuals who consented to the intervention were asked to complete the four self-report questionnaires on two occasions, as soon as was feasible before and after the intervention.

After completing the pre-intervention measures, participants completed the introductory module of the intervention. After every completed module, participants were given the accompanying patient resources and they completed the Helpful Aspects of Therapy questionnaire. If participants ended the intervention before all modules had been completed, they were asked to complete the single-item questionnaire to gather their reason(s) for this.

After the end of the intervention (either when all modules had been completed or the participant expressed the wish to end the intervention), a semi-structured interview was completed as soon as possible and within two weeks. This was conducted by a different psychologist working in the service, either in person or over a video or telephone call depending on whether the participant was admitted to hospital and participant preference. Interviews were audio-recorded and then transcribed for analysis. Pseudonyms were

assigned. Participants were offered a shopping voucher in recognition of their time spent participating in the semi-structured interview.

2.6 Fidelity checking

When recruitment stopped, a selection of audio-recordings was randomly selected for fidelity checking by a Clinical Psychologist external to the study and research team and experienced in supporting people following burn injuries and ACT. The audio-recordings were checked against the ProACTive psychological therapist guide by the external psychologist to check that the modules had been delivered consistently with respect to the therapist manual, and a fidelity checklist was completed. One recording for each of the five modules from five different participants was checked. Data describing fidelity to the intervention can be found in the Supplementary Materials.

2.7 Data analysis

Descriptive statistics were conducted to analyse quantitative indices of acceptability. Inspection of histograms, Q-Q plots and boxplots suggested that the questionnaire data were not normally distributed. Differences between pre- and post-intervention mean scores were used to generate the effect size of the intervention (Cohen's *d*; Cohen, 1992). Wilcoxon tests were used to compare pre- and post-intervention questionnaire scores to provide a preliminary indication of whether appearance concerns and negative affect decreased, and positive affect, psychological flexibility and self-compassion increased post-intervention compared to pre-intervention. The Statistical Package for the Social Sciences (SPSS) version 17 was used for descriptive and statistical analyses.

Qualitative data from the Helpful Aspects of Therapy questionnaire were analysed using descriptive thematic analysis and followed the six conventional steps: familiarisation with the data; generating initial codes; searching for themes; reviewing potential themes; defining and naming themes; and producing a written account (Braun & Clarke, 2006).

Guidance for template analysis (King & Brooks, 2017) was followed to analyse the interview transcripts. Template analysis is not aligned to any particular philosophical position, deferring this to researchers (King & Brooks, 2017). The data were analysed within a critical realist perspective (Bhaskar, 2010) as all authors take this stance in their research. The researchers assumed that participants' responses during the interviews represented meaningful psychological phenomenon. However, it was acknowledged that knowledge is generated and perceived through lenses of cultural, historical, personal and social experiences and therefore researchers cannot be completely objective during the research process.

Whilst a priori themes were identified, these were used with the awareness that they may not necessarily prove relevant, useful or meaningful and may be refined or discarded. They were used to guide preliminary coding of an initial subset of the data (four interview transcripts), which led to additional themes and sub-levels being developed into an initial template, using both inductive and deductive reasoning. The next subset of data (another four interview transcripts) was applied to this initial template and it was revised accordingly. This was repeated again with the final four interview transcripts so that all data had been applied to the latest version of the template, with a priori themes being discarded and refined as necessary, following which interpretation of the template began (following guidance by King & Brooks, 2017). The analysis therefore had seven stages, completed sequentially and iteratively: 1) familiarisation with the data; 2) preliminary coding; 3) clustering; 4) producing an initial template; 5) developing the template; 6) applying the final template; and 7) final interpretation (King & Brooks, 2017). NVivo version 15 was used to assist with qualitative analysis.

2.8 Quality control, rigour and reflexivity

Credibility and rigour can be established using a variety of methods, including auditing the analytic process, keeping detailed audit notes and reflexivity (Malterud, 2001; Spencer & Ritchie, 2012). Template analysis is a form of thematic analysis (King & Brooks, 2017), and therefore it was considered important for researchers to reflect and interrogate how their assumptions and expectations impact on their engagement with the data (Braun & Clarke, 2019). Combined with the critical realist stance taken in the current study, reflexivity was important (Braun & Clarke, 2019; King & Brooks, 2017). A reflective diary was maintained throughout the study by LS and used to inform reflection as to the concepts evident in the data. Transparency was explicit and an audit trail with detailed notes was kept, which also detailed reflexive comments about how LS's own position influenced coding choices/template development and interpretation, in line with the process of template analysis (King & Brooks, 2017). An audit checklist was developed prior to the study commencing and completed at the end of the study by LS and AT. To provide rich and detailed accounts, participant quotes and thick description were also utilised (King & Brooks, 2017). AT also listened to a selection of interview recordings to ensure quality control. A positionality statement can be found in the Supplementary Materials. In keeping with utilising reflexivity in qualitative research (Olmos-Vega, Stalmeijer, Varpio, & Kahlke, 2023) the research team continually reflected on the relationship between preconceptions and the emerging findings during team meetings and through field notes. This informed the analysis through the consideration of other relevant theories that explained the data.

3. Results

3.1 Acceptability of the intervention

3.1.1 Descriptive data

Of the 51 inpatients and 35 outpatients eligible to participate in the study and were approached and provided with the study information, 19.6% (n=10) of inpatients started the

intervention and a further 3.9% ($n=2$) expressed interest or intention to start the intervention but clinical reasons prevented this. Therefore, almost a quarter of inpatients expressed interest in the intervention. Of eligible outpatients who consented to being sent the study information, around one in 12 (8.6%; $n=3$) completed the intervention. See flow diagrams in the Supplementary Materials.

Details of module completion are shown in Table 2. Over two thirds ($n=9$; 69.2%) completed the entirety of the intervention, one (7.7%) completed two modules, one (7.7%) completed three modules and two (15.4%) completed the introductory module only.

Table 2

Number of modules completed, spacing of modules and delivery format

Pseudonym	No. (%) of modules completed	Days between first and last module	No. of inpatient modules	No. of outpatient modules	Mode of delivery
Rachel	5 (100%)	10	5	0	In person
John	5 (100%)	14	0	5	In person
Aadila	5 (100%)	12	3	2	In person/virtual
Sarah	5 (100%)	19	1	4	In person/virtual
Robert	5 (100%)	16	1	4	In person/virtual
David	5 (100%)	4	4	1	In person/virtual
Csilla	5 (100%)	8	0	5	Virtual
Elena	5 (100%)	10	0	5	Virtual
Neil	5 (100%)	14	0	5	Virtual
Rose	3 (60%)	10	3	0	In person
Julie	2 (40%)	4	2	0	In person
Paul	1 (20%)	-	1	0	In person
Hannah	1 (20%)	-	1	0	In person

For participants who completed more than the introductory module, remaining modules were completed within four and 19 days (median: 10 days). The main reason for ending the intervention before all modules were completed was practical ($n=2$; e.g., perceived difficulties accessing the intervention after hospital discharge). Two participants only

completed the introductory module, one of whom reported that appearance changes were not a concern for them. The other participant disengaged from the study and therefore a reason for ending the intervention is not available.

In line with participant preference, the post-session resources were provided on paper to three (23.1%) participants and by email to one (7.7%). Nine (69.2%) wanted the resources to be provided through a variety of methods (in person, email and/or post).

Between the start of recruitment and one month after the end of data collection, there had only been five views of the online content (audio exercises) on YouTube: Mindful Breathing ($n=2$); Five Senses ($n=2$); Allowing Unpleasant Feelings and Thoughts ($n=1$); and Leaves on a Stream ($n=0$).

3.1.2 Interview data

Twelve participants completed the post-intervention semi-structured interview and one participant was lost to follow-up. Analysis yielded three main themes: *1. An acceptable intervention*; *2. Valuing the therapeutic relationship*; and *3. Early support is key*. The full final template can be found in the Supplementary Materials and each theme is detailed below, with supporting quotations. Further quotations are also in the Supplementary Materials.

3.1.2.1 Theme 1: An acceptable intervention

All participants spoke positively about the intervention and the post-session resources. Within this theme, there were seven subthemes that correspond to the components of the TFA (Sekhon et al., 2017): *Affective attitude: Positive views*; *Burden: Easy and accessible*; *Self-efficacy: Confidence in using the techniques and resources*; *Ethicality: It is fair*; *Opportunity costs: No costs*; and *Perceived effectiveness: A helpful intervention*.

Affective attitude: Positive views: This subtheme represents how all participants viewed the intervention in a positive way. Participants liked the flexibility of choosing modules, spacing modules and the delivery format of the intervention (in person/virtually)

depending on their needs and preferences. They also liked the module structure to provide a clear focus and sense of containment, the length of the modules and how the post-session resources mapped onto the delivered module content. In addition, respondents liked learning skills and techniques to promote adjustment to appearance changes, that they could use now or in the future as described by Sarah:

I know you guys see it all the time but when your face is swollen like that and you're in the first stages you don't know how long you're going to be like that, but maybe in six months' time I may, when I've still got a bit of marking, a bit of pigmentation, that may bother me, but I know how to deal with that now, you know, I've worked out how to allow how I'm feeling and deal with it - with the tools.

The value of the post-session resources to use now or in the future to reinforce the skills and techniques was described by some, although others felt that the post-session resources were not necessary over and above the delivered modules. However, all respondents liked the idea of having the post-session resources available to them over time.

Intervention coherence: A clear intervention aiding reflection and developing skills to respond to appearance concerns: Participants believed that the focus of the intervention and how it aimed to work were clear. They understood that the intervention aimed to help people adjust to their changed appearance, reflect on their early reactions and develop skills to respond to these. For example, David explained:

It's clear to me what I think it aims to do and what it wants to achieve. Um...if the idea of the intervention is to actually challenge or [pause] alter how I felt and what I believed relating to the injury, it's certainly done that and made think kind of outside my box.

However, two participants seemed to struggle with the experience of acceptance underpinning ACT and thus may benefit from additional or more nuanced support to help these individuals reduce their experiential avoidance.

Burden: Easy and accessible: Participants typically described the intervention as easy and accessible, placing minimal burden on them. For example, Rachel said, “No effort. It was all very easy, very relaxed. Very logical. I was given time to talk, I was given time to listen, so it was not an effort for me.” The intervention required some cognitive and emotional effort for some people at times. This was largely framed within the aim of the intervention. One respondent talked about burden caused by the physical consequences of the burn, which initially influenced engagement with the post-session resources.

Self-efficacy: Confidence in using the techniques and resources: Participants expressed confidence and self-efficacy in using the techniques they had learnt during the delivered modules, and reinforced in the post-session resources, to help them respond to their current and future appearance concerns. For example, Aadila expressed the ability to use the post-session resources: “Because it’s there. Like sometimes if I just need a minute to stop, I’ve got it on my phone if I want to, or if I’m at home I can look at the book.”

Ethicality: It is fair: Respondents considered the intervention to be ethical, with no concerns around it conflicting with their value systems. This was described by Sarah:

I don’t think it could be – I don’t think there could be an unfair element to it – it’s a tool, it’s there, it’s a service that’s available if somebody feels they need it or, yeah, I don’t think there’s anything unfair about it.

Opportunity costs: No costs: Individuals perceived the intervention as having no costs and that no benefits, profits or values had to be given up to engage in the intervention. For example, John said:

No. Again, as soon as I had an appointment I would ring up the person and say “Look, I’ve got this appointment at this time.” I had to travel from [home town] to [location of hospital]. So again, I was more concerned about if trains are late and I can’t make it in time. But no, even when I had, if I arrived early, and one session I arrived early and I called up. And I said “Look, I’m here now. Is there any chance we could do it a bit earlier?” and she was happy to do that. So no, it didn’t really interfere or anything. It fitted in quite well with everything.

Perceived effectiveness: A helpful intervention: Participants viewed the intervention as helpful in terms of enabling them to adjust to their appearance changes. Individuals described how the intervention reduced their distress, developed psychological flexibility and their ability to cope with other people’s reactions and improved their ability to do daily activities. Csilla talked about feeling less distressed following the intervention:

All [modules were] effective and all were really helpful and it was really great...it was all good and it was really helpful for me. I feel much better...I don’t have that much deep emotional feelings about it. I mean, I feel better, I feel totally better about it and I can move on.

Increased psychological flexibility, including increased acceptance of inner experiences (e.g., emotions and thoughts), was described by many participants because of the intervention:

The passenger on the bus. That’s it. Yes. That was quite early on. That just made me

realise like, think about what feelings are there and how to deal with them, and they're always there. Just, you make your own route type thing. So I think it's a bit of an eye opener. But yeah, it just, it was all right to be fair. It was fine. That was a good one (Neil).

However, the intervention was considered to likely be more useful for those with appearance concerns by participants who described no or mild appearance concerns who thought that others who were more distressed would find it useful. David reported:

Um...I don't mean this in a negative way, but it helped but not as much as it would have done had I been concerned about – had I been more concerned about the injury. If I'd been facially scarred then I'm sure the intervention would have been even more helpful but, as it is, with leg scarring and what have you, I'm aware that that can be covered up and hidden away.

3.1.2.2 Theme 2: Valuing the therapeutic relationship

The value and importance of the therapeutic relationship to enable and allow reflection on their inner experiences was described by all individuals. Participants considered the therapeutic relationship to be a key part of the intervention and that without this (e.g., if it was offered in self-help or digital formats), they would not have engaged in the intervention or it would not have been as helpful for them. This is illustrated in the following quotes:

It did impact me. It did make me think, and it did support me, even if it just gave me that half an hour with no-one else around, just me and [psychologist] doing our thing and talking round things. So, it was impactful on the actual day and I'm sure it will impact me as I go forward as well, using what I've been given (Rachel).

With that [self-help or a digital delivery] it just feels very, I think it would feel very, just very fake. Very like ‘oh, it’s just a procedure, you don’t really matter, you’re just a number and we just have to offer it because we have to almost, you know, not because we actually care’, in that way (Elena).

For many, virtual appointments were as acceptable as in person appointments. However, for a small number, even delivering appointments via video-appointments would have felt less helpful than in person because of valuing the personal connection with the psychologist.

3.1.2.3 Theme 3: Early support is key

Respondents thought that offering early support to help people adjust to their changed appearance was key, and that the timing of introducing the intervention felt appropriate as it helped people manage their initial emotions and worries about the appearance of the wound and how it might look in the future, as well as the uncertainty around this. Hannah said:

Like I say, I think that’s very important, because I think at that point - for other people particularly, that would be the time when there’s a lot of emotions going off and actually that’s the time when people would need the support to, sort of, try and channel those feelings and channel those and find the help and the support rather than when they’ve left hospital - and it’s almost like the nurse described to me earlier, it’s a safety blanket in here, you know, so to have that sort of support network there before you leave the hospital is a much better idea, in my opinion.

Getting the timing right when uncertainty around longer-term appearance is present:

In contrast, this subtheme represented the views of a minority of individuals who felt that the intervention might have been better after a bit more time had passed, when the longer-term

appearance of the burn was known and uncertainty was removed. These individuals had no or mild appearance concerns. Neil reported:

...well I'm still healing, so as I said to you, I've not seen the full extent of what it's going to look like. So like I said to [name of psychologist] at the end, I said maybe something a month down the line, once I'm fully healed, it might be worth doing something like this, because at least then I've had chance to look at it, process it and things like that, I think might be the best way for me personally. But I mean other people are different, so –

3.2 Clinical effectiveness of the intervention

3.2.1 Participant self-report

Data from the Helpful Aspects of Therapy questionnaire suggested that participants found the intervention helpful. The median primary rating for each module is presented in Table 3 (on a scale from 1-9; Extremely hindering to Extremely helpful, with 5 representing a neutral position). All modules were rated highly in terms of helpfulness and no participants reported any of the modules to be unhelpful.

Table 3

Helpfulness ratings for each module

Module	Median rating	Range
Introduction	8	6-9
Responding to our feelings and thoughts	8	5-9
Getting distance from our thoughts	8	7-9
Doing what is important to us	8	7-9
Being around other people	8	7-9

Analysis of the qualitative data from the Helpful Aspects of Therapy questionnaires, where participants described the most helpful or important aspect of the module, identified four main themes: *1. Exploring and reflecting on appearance changes; 2. Developing and reinforcing psychological flexibility; 3. Fostering self-compassion; and 4. Preparing for being around other people.* These are detailed in turn, with illustrative quotations.

3.2.1.1 Theme 1: Exploring and reflecting on appearance changes

Individuals found it helpful to explore, reflect upon and express their feelings and thoughts related to their changed appearance, facilitated by the intervention. This often enabled a greater understanding of their appearance concerns, and prompted reflection about situations that may feel more difficult due to their appearance changes. This was described by Csilla who said, “I’m not wearing dresses that show my body, and my wound isn’t where others would see it, but it is good to go through thoughts I have, to work out the feelings I have about myself now.” Within this theme, there was a subtheme *‘Valuing the therapeutic relationship.’* This represented participants valuing the therapeutic space to explore and share distressing experiences related to appearance changes with someone else. Within this frame, participants found the intervention helpful because they felt listened to and validated. Elena stated:

It was nice to be heard. Giving someone the space to bring a scenario in their heads, with someone else, and not be consumed by it gives a lot of opportunity to think of future problems, insecurities and fears. A problem shared is half-solved.

3.2.1.2 Theme 2: Developing and reinforcing psychological flexibility

All participants described psychological flexibility and how the intervention had developed or consolidated this. For some, it enabled a shift in how inner experiences were viewed, for example, through metaphors. Csilla described how her relationship to her inner experiences had changed in the following quote:

The passengers on the bus exercise was particularly helpful. It's a good exercise because I can do it in the future as well. I can imagine myself as the driver of my bus and I can carry the passengers.

Respondents talked about the value of content or techniques focused on acceptance (e.g., “Learning ways to accept these feelings. The exercise. Realisation of sitting with the feeling” (Sarah)), cognitive defusion (e.g., “The introduction of a completely alien (to me) concept of thanking my mind. Very thought provoking. It made me appraise and think in a completely different direction that I couldn’t have otherwise thought of” (David)) and present moment contact (e.g., “The breathing exercise today. Today has felt really overwhelming and it was a minute to stop. Just feeling relaxed” (Aadila)). A small number also spoke about the usefulness of enhancing self-as-context (e.g., “The observing self. I've never noticed that before. I feel it creates a sense of an observation. You can observe it in a different way and observe different things as well” (Robert)), values identification (e.g., “When I realised my passengers and I had to tell you my values and what is important for me. Because in normal life, you don’t think about these really, and it is good to know” (Csilla)) and committed action (e.g., “Thinking about the challenges to doing something for the first time. It made me think about getting my life back on track” (Rachel)).

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3.2.1.3 Theme 3: Fostering self-compassion

Some participants found it helpful to develop an aspect of self-compassion, kindness to oneself, and the ability to respond to internal experiences with self-kindness. Neil described this:

Trying to be kind to myself and think more about myself. You've made me think that I don't think about myself enough, with my feelings and thoughts, and maybe I should think of myself more, instead of being chilled and batting it off all the time.

3.2.1.4 Theme 4: Preparing for being around other people

The intervention also provided a helpful opportunity for individuals to consider social or relational situations that may feel difficult for them following their burn, reflect on how other people may react to them, and learn skills that may be helpful when around other people. People valued considering specific situations that they were concerned about. For example, Robert described feeling more prepared for social interactions:

Thinking about how people might react and how I might react to them. I can think about what people might say before I see people, and I feel I'd be a lot more prepared for their questions. And also, I'd be less emotional and react better, because I can plan.

3.2.2 Changes in outcome measures

Changes in pre- and post-intervention scores on the four standardised self-report questionnaires (BESAA-A, PANAS, CompACT and SCS-SF) were also analysed to explore effectiveness. Data from one participant was not available due to loss to follow-up.

Considering effect sizes, there was a small reduction in appearance concerns (Cohen's $d = -0.29$), a moderate reduction in negative affect (Cohen's $d = -0.46$), a moderate increase in positive affect (Cohen's $d = -0.44$) and small increases in psychological flexibility (Cohen's $d = -0.15$) and self-compassion (Cohen's $d = -0.24$).

Pre- and post-intervention questionnaire scores, the number of participants who improved, worsened and were unchanged on the questionnaires and values from Wilcoxon signed-rank tests are displayed in Table 4.

Table 4

Questionnaire scores pre- and post-intervention

Questionnaire	Median (range) pre- intervention	Median (range) post- intervention	Improved ^a (<i>n</i>)	Worsened ^b (<i>n</i>)	No change (<i>n</i>)	Wilcoxon signed- rank values
BESAA-A total mean score	2.3 (0.9-3.3)	2.1 (1.7-3.5)	8	4	0	$Z=-1.4, p=.08$
PANAS negative affect subscale score	22 (11-38)	17.5 (11-37)	9	1	2	$Z=-2.2, p=.01^{**}$
PANAS positive affect subscale score	25.5 (18-40)	31.5 (24-40)	7	2	3	$Z=-2.1, p=.02^{*}$
CompACT total score	82.5 (39- 106)	81.5 (59- 109)	7	5	0	$Z=-0.7, p=.23$
SCS-SF total mean score	2.96 (2.17- 4.25)	3.21 (2.08- 4.17)	7	3	2	$Z=-1.2, p=.12$

Note. BESAA-A: Appearance Subscale of the Body Esteem for Adolescents and Adults.

PANAS: Positive and Negative Affect Schedule.

CompACT: Comprehensive assessment of Acceptance and Commitment Therapy processes.

SCS-SF: Self-Compassion Scale - Short Form.

^a Improvement reflects increases in BESAA-A, PANAS positive affect, CompACT and SCS-SF scores and decreases in PANAS negative affect scores pre- to post-intervention.

^b Worsening reflects decreases in BESAA-A, PANAS positive affect, CompACT and SCS-SF scores and increases in PANAS negative affect scores pre- to post-intervention.

* $p < .05$ level.

** $p < .01$ level.

p values are one-tailed.

Table 4 suggests that at an individual level two-thirds of participants had decreased appearance concerns after the intervention compared to before. At a group level, there were non-significant differences in appearance concerns (BESAA-A scores), psychological flexibility (CompACT scores) and self-compassion (SCS-SF scores) from pre- to post-

intervention. However, there was a statistically significant reduction in negative affect and increase in positive affect (PANAS subscale scores) from pre- to post-intervention.

4. Discussion

This study is the first to investigate an early manualised, therapist-led, psychological intervention specifically focused on helping individuals adjust to changes to their appearance after burns. In line with Shepherd et al.'s (2024b) finding that early psychological interventions were likely to be acceptable, the results from this study suggest that the ProACTIVE intervention is an acceptable intervention evidenced by: uptake rate (around a fifth of inpatients and one in 12 outpatients took up the intervention); completer rates (over two-thirds of patients completed all five modules); positive questionnaire ratings and feedback from post-intervention interviews. Appearance concerns fall along a continuum and therefore prevalence rates are difficult to ascertain, although studies that have attempted to state these have reported appearance concerns in around one third of individuals after burns (Connell et al., 2013; Shepherd et al., 2017). Within this context, the uptake rate of ProACTIVE appears reasonable given that it was delivered as part of a research study.

Themes identified from post-intervention interviews suggest that ProACTIVE was liked, perceived as low burden, ethical, coherent, low cost and effective, and created self-efficacy in practicing skills and techniques taught within the intervention. Although not directly comparable due to employing different methodologies and designs, the acceptability of ProACTIVE in the current study is consistent with other studies that have found ACT to be an acceptable psychological intervention for chronic appearance concerns after burns (Shepherd et al., 2020) and facial palsy (Siemann et al., 2023) and in women with differing visible differences (Zucchelli et al., 2020a). In the current study, ProACTIVE had better completer rates

compared to Powell et al.'s (2023) self-help, digitally delivered, ACT intervention which had a 68% drop out rate. This is likely due to ProACTIVE being delivered by a psychologist and finding around the value of this is discussed further below. The data in the current study mapped well onto the TFA, suggesting that this conceptual framework of acceptability may be useful for evaluating these types of interventions (Sekhon et al., 2017). However, the intervention was perceived as less helpful to those without any appearance concerns, and these individuals suggested that the intervention would likely be more effective for those who were struggling with adjusting to the appearance of their burns/changed appearance. Interview data also suggested that participants valued the flexibility of the intervention. The intervention appeared to be acceptable whether it was delivered in person or virtually, although data suggested that a small number of participants ended the intervention before completion due to being discharged from hospital and not being able to engage in virtual appointments. Similar barriers to engaging in psychological interventions generally after discharge from hospital have been described (McDermott et al., 2023; Shepherd et al., 2024b).

Individuals valued the therapeutic relationship within ProACTIVE, and the delivery of the intervention by a psychologist was considered important. Interview data suggested that participants did not think that digitally delivered/self-help formats of the intervention would be acceptable. This is unsurprising given the general importance that is placed on the therapeutic relationship (Rogers, 1959; Wampold, 2015) and is consistent with previous evaluations of digital/self-help interventions for appearance concerns in those with visible differences which has highlighted that digital interventions should not replace in-person interventions (Zucchelli et al., 2021), interventions delivered by therapists are important for at least some individuals (Powell et al., 2023), and that some people struggle to engage in self-help materials for appearance concerns without additional specialist psychological support (Pasterfield, Clarke, & Thompson, 2019).

The timing of ProACTIVE post-burn (typically, within three weeks of injury) was acceptable for most participants, although a small number queried whether it may be more helpful when more certainty around scarring/longer-term appearance changes was known. Interview data suggested that engagement with the post-session resources outside of sessions was variable, and views of post-session online content was very limited. Therefore, the acceptability of the intervention may be higher for the sessions delivered by the psychologist rather than the post-session resources. This may be in line with the broader therapy literature which suggests that compliance with out-of-session tasks can be less than 50% (Bryant, Simons, & Thase, 1999). Findings from this study suggest that participants likely did not engage fully with the post-session resources but liked and were reassured by the idea that they were there for the future should they need them.

In terms of potential clinical effectiveness, participants rated the helpfulness of ProACTIVE highly and no hindering/unhelpful elements were reported. Two-thirds of participants had decreased appearance concerns pre- to post-intervention and qualitative findings suggested that participants reported that ProACTIVE reduced their distress, developed their psychological flexibility and self-compassion, prepared them for being around other people and provided an opportunity to explore and reflect on their distress around the appearance of their burns within a valued therapeutic relationship. The finding that two-thirds of people in the current study had improvements in appearance concerns is similar to Powell et al.'s (2023) finding that around three quarters of individuals completing their digitally delivered ACT self-help intervention found it useful and helpful. At a group level, a small reduction in appearance concerns, moderate reduction in negative affect, moderate increase in positive affect and small increases in psychological flexibility and self-compassion were found. Participants had statistically lower negative affect and increased positive affect following the intervention in the current study. However, statistically

significant changes in appearance concerns, psychological flexibility and self-compassion were not achieved. Group-level changes in social anxiety and psychological flexibility were similarly not found by Powell et al. (2023). It is unsurprising that group-level changes were not found on the outcome measures in the current study given that it was not powered to detect statistically significant change. However, there are a number of alternative reasons for this lack of statistical change.

Measuring appearance concerns in the early period post-burns may be problematic given that wounds are still healing, their appearance is changing, individuals may not have fully considered how they feel about their appearance changes and some may not yet be aware or have come to terms with the idea that they may be permanently scarred. Indeed, a natural progression for some individuals is for their appearance concerns to increase over time, whereas for others their fears may be allayed or their distress may subside as their wounds heal and they are provided with more information or reassured by the burns team about longer-term appearance changes (Shepherd et al., 2024a). It is possible that, for some individuals, the intervention permitted an exploration of their feelings about their appearance changes or coincided with them making sense of how their wounds may leave lasting scars, through the process of assimilation (Piaget, 1971). This issue could impact the feasibility of any future trials of early psychological interventions for appearance concerns as positive intervention effects could be masked (Norman, Davids, & Smith, 1991; Norman & Parker, 1996). It also indicates that long-term follow-up would be needed to investigate effectiveness. It is also possible that some individuals may have become more aware of their feelings and thoughts/worries about their appearance changes over the course of the intervention, or have more understanding about their appearance concerns, thereby creating a change in how they responded on the post-intervention questionnaires (Fokemma et al., 2013; Norman et al., 1991; Norman & Parker, 1996).

Furthermore, generic measures of psychological flexibility and self-compassion may not be specific enough to detect changes in appearance-specific psychological flexibility or self-compassion. Context-specific measures of psychological flexibility are generally recommended to detect changes over treatment (Ong et al., 2019) and body-image compassion measures exist (Altman et al., 2017). However, the closest psychological flexibility measures currently available are restricted to those developed for individuals with eating disorders, body dysmorphic disorder or weight concerns which do not map onto the experiences of those with actual appearance changes caused by injuries or medical conditions. Similarly, body-image compassion measures have not yet been used in those with visible differences. As above, it is also possible that some individuals may have become more aware of their difficulties with psychological flexibility and self-compassion over the course of the intervention, thereby creating a change in how they responded on the post-intervention questionnaires and masking positive intervention effects (Norman et al., 1991; Norman & Parker, 1996).

Finally, it is not possible to determine how engaged participants were with the intervention outside of sessions they completed with the psychologist (i.e., whether they practiced any of the content independently). The interview data suggests that some individuals may not have felt they needed to practice these outside sessions with the psychologist. It is possible that the lack of statistical change on the standardised measures of appearance concerns, psychological flexibility and self-compassion could be due to this and again points to the need for longer follow-up and sample sizes with sufficient power to detect statistically significant changes in future studies. Related to this, it is possible that the statistically significant improvement in positive and negative affect may reflect the common factor of a therapeutic relationship (Rogers, 1959; Wampold, 2015).

4.1 Clinical implications

ProACTIVE is likely to be acceptable and helpful to patients with appearance concerns and could be offered and delivered routinely to individuals after burns by psychological therapists. It could also be adapted to other populations where appearance has changed due to another type of injury, a medical condition or treatment. The nature, brevity and flexibility of the intervention means that it can be delivered in person or virtually to patients without considerable clinical resource. ProACTIVE is likely to be most acceptable and helpful to individuals after burns with some degree of appearance concerns but all should be informed about it should appearance concerns develop. Uptake rates reported in this study suggests that delivering the intervention in routine clinical practice may be feasible. Offering flexibility in delivery (in person or virtually) is likely to be important. The development of digital/self-help formats of ProACTIVE should be avoided given the findings. A small number of individuals will likely require additional support in addition to ProACTIVE. Future research should focus on feasibility of a controlled trial and real-world implications of delivering ProACTIVE in burns services (Skivington et al., 2021).

4.2 Limitations

The study cannot make firm conclusions about the effectiveness of ProACTIVE as it was not powered for this purpose. This should be the focus of future research in addition to the feasibility of a controlled trials. The current study initially aimed to recruit inpatients only but experienced recruitment difficulties due to short inpatient admissions. This, and the challenges associated with outcome measures, should be considered in future study designs. The qualitative findings may be subject to social desirability. The study is also limited in its ability to determine whether ProACTIVE can prevent appearance concerns or stop appearance concerns from worsening over time. How much the intervention was considered acceptable and helpful due to the generic therapeutic relationship rather than the specific ACT content is difficult to ascertain. Furthermore, it is difficult to establish how engaged individuals were

outside of sessions with the psychologist and future research should inform how out-of-session engagement can be enhanced. Moreover, the study cannot identify what proportion of those with appearance concerns after burns took up the intervention and therefore whether the intervention reached those who may benefit the most. In addition, men typically represent almost two thirds of the burn injury population (Mehta et al., 2022; Stylianou, Buchan, & Dunn, 2015) but more women took part in the current study, making it possible that ProACTIVE is more acceptable to women compared to men and further research is needed to examine this further. Finally, a significant proportion of patients were excluded from the study due to not being fluent in English and having complex mental health problems, possibly limiting the generalisability of the findings to these individuals.

4.3 Conclusion

ProACTIVE is an acceptable early psychological intervention that can be delivered by psychological therapists to support the adjustment of appearance changes after burns. Individuals with burns reported finding it helpful, particularly those who had appearance concerns. Further research is now needed to determine clinical effectiveness and real-world feasibility of making ProACTIVE part of routine burn care.

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Supplementary Materials

Reasons for declining the intervention

Of those eligible to participate in the study and were approached and provided with the study information, five (9.8%) patients admitted to hospital declined the intervention and provided a reason why. Three were male and two were female, with a mean age of 51.4 years (range: 20-93 years). All were White British. Mean TBSA was 6.5% (range: 0.5–20%). Two participants had flame burns, one had a scald, one received a contact burn and one had a burn coded as ‘Other.’ Three participants had burns to their chest/abdomen, three had burns on their legs, two had burns on their arms and one had a burn on their back. Participants could select a number of reasons for declining the intervention, which included the intervention not feeling relevant to them ($n=3$), not being interested ($n=1$), it not feeling like the right time ($n=1$), not having time ($n=1$) and another non-specified reason ($n=1$).

Summary of ProACTIVE intervention

Module	Aims	Content	Timings
Introduction	Providing an introduction to the intervention; building therapeutic rapport and gaining a sense of the patient's experiences; validating and normalising the patient's experiences; self-compassion; developing creative hopelessness; introducing acceptance and contact with the present moment	Introduce the aim of the intervention, acknowledging that it may be useful now, in the future or both	5 minutes
		Invite the patient to briefly describe their experiences related to how their burn looks and their appearance change(s) and how they are responding to these, incorporating self-compassionate perspective-taking	10 minutes
		Reflecting on the workability of the patient's strategies	5 minutes
		Unwanted party guest metaphor – introducing the idea of reducing the control agenda (acceptance)	5 minutes
		Mindful breathing exercise (or five senses exercise if breathing creates discomfort)	5 minutes
Responding to our feelings and thoughts	Promoting acceptance; continuing being present moment focused; self-as-context; self-compassion	Reminding the patient about the unwanted party guest metaphor and reducing the control agenda	5 minutes
		Passengers on the bus exercise	10 minutes
		Experiential acceptance exercise (breathing into/making room for/allowing internal experiences)	5 minutes

Getting distance from our thoughts	Developing cognitive defusion; continuing being present moment focused; self-as-context; self-compassion	‘Who is noticing?’ reflection, and self-compassionate perspective-taking	5 minutes
		Mindful breathing exercise (or five senses exercise if breathing creates discomfort)	5 minutes
		Reminding the patient about the unwanted party guest metaphor and reducing the control agenda	5 minutes
		Experiential cognitive defusion exercise (noticing the thought, naming the story, thanking your mind)	10 minutes
		Leaves on a stream exercise	5 minutes
Doing what is important to us	Increasing committed action; acceptance; continuing being present moment focused; self-compassion	‘Who is noticing?’ reflection, and self-compassionate perspective-taking	5 minutes
		Mindful breathing exercise (or five senses exercise if breathing creates discomfort)	5 minutes
		Reminding the patient about the unwanted party guest metaphor and reducing the control agenda	5 minutes
		Values reflection	5 minutes
		Doing what Matters exercise	10 minutes
		‘Two sides of a coin’ metaphor	5 minutes
		Mindful breathing exercise (or five senses exercise if breathing creates discomfort)	5 minutes

Being around other people	Developing self-efficacy and skills in being around other people and other people's reactions, utilising acceptance and self-compassion	Allow-Assert-Act with Kindness exercise	20 minutes
		Taking control when around other people	5 minutes
		Mindful breathing exercise (or five senses exercise if breathing creates discomfort)	5 minutes

Questionnaire

We would really value your honest feedback about your reason(s) for not taking up the intervention, as this will help us to improve and/or make more relevant the support we offer to patients. Please carefully read all answers from the list below before ticking the box(es) to indicate your reason(s) for not taking up the intervention. You may tick as many boxes as you wish, if you think the reason(s) are relevant for you.

☐ I am not interested in the psychological intervention / learning ways to cope with thoughts and feelings about my changed appearance

☐ I have some concerns/upsetting thoughts and feelings about my changed appearance, but I do not think the intervention will work/be helpful for me

☐ Now does not feel like the right time for me

☐ I do not think the support is relevant to me

☐ Other (please describe):

Thank you for taking part in the study.

Please note that you are welcome to access psychological support through the Burns Clinical Psychology Service at any time in the future, should you wish to access this.

End of Intervention Questionnaire

We would really value your honest feedback about your reason for ending the intervention, if you are willing to tell us. This will help us to improve the support we offer to patients. Please carefully read all answers from the list below before ticking the box(es) to indicate your reason(s) for ending the intervention. You may tick as many boxes as you wish, if you think the reason(s) are relevant for you.

- ☐ I would prefer not to give a reason
- ☐ The sessions I have done have been helpful but I don't think any further sessions will be of any further benefit to me
- ☐ I don't think the sessions I have done so far have been helpful for me
- ☐ I don't have time for any further sessions
- ☐ Now does not feel like the right time for me
- ☐ Support for changes to my appearance is not my main concern
- ☐ It feels too difficult to think about my appearance changes at the moment
- ☐ Practically, it feels too difficult to access sessions (e.g., coming back into hospital for outpatient appointments, difficulties with video-call appointments)
- ☐ Other (please describe):

Thank you.

Please note that you are welcome to access psychological support through the Burns Clinical Psychology Service at any time in the future, should you wish to access this.

Interview schedule

Focus area	Questions
1. Introduction	Thank you for taking part in this study. As you know, the aim of the study is to find out if the intervention you received was helpful or not, and how you think it could be improved. During the interview, I will be asking some questions about this.
2. Affective attitude	Do you have any questions before we start? How did you feel about the intervention? (Prompts: How much did you like the intervention sessions? Were there sessions you liked more than others, and why? Were there any exercises you liked more than others, and why? How much did you like the resources you were given after sessions to remind you of what was covered?)
3. Burden	How much effort did it take to complete the intervention? (Prompts: What felt the most effortful to you? Were any sessions or exercises particularly burdensome, and why? How much effort and time did it take to engage with the resources you were given after sessions?)
4. Ethicality	Do you think there are any moral or ethical consequences of the intervention, in terms of the content and timing of it? (Prompt: For example, do you think it's fair, or right, to ask patients to do the intervention and why/why not?)
5. Intervention coherence	How clear is it to you how the intervention works or what it aims to do? Please explain. (Prompt: What is less clear about how the intervention works or what it aims to do?)
6. Opportunity costs	Is there anything you missed out on, or could not do, as a result of doing the intervention or engaging with the resources you were given after sessions? (Prompt: For example, did it interfere with any other appointments or care from the burns team, or stop you from doing something else? Please explain)
7. Perceived effectiveness	How much do you think that the intervention was effective in helping you cope with, or adjust to, the changes to your appearance after your burn injury? How were they effective (what impact did they have)? Which session (or sessions) do you think were the most effective, and why? Which exercise (or exercises) do you think were the most effective, and why? How effective were the resources you were given after sessions? What improvements could be made to either the intervention or the resources you were given after sessions, to make it more helpful, and why?

-
8. Self-efficacy How confident are you that you can use what you learnt in the intervention to help you cope with changes to your appearance because of your burn injury?
How confident are you about using the resources you were given after sessions, now and in the future?
9. Flexibility What did you think about the intervention being flexible in terms of choosing whatever sessions you wanted, and when?
10. Delivery How important was the face-to-face delivery of the intervention to you, by the psychologist?
- How would you have felt about a digital delivery of the intervention? (Prompts: For example, if the sessions had been pre-recorded for you to access and listen to/work through on your own? Or, if the intervention could be delivered via an app or electronically somehow that you could complete by yourself, rather than being delivered by a psychologist?)
- How did you feel about how the resources were provided to you? Can you suggest any ways to improve how you accessed the resources, or how these were provided to you?
11. Timing How do you feel about the timing of the intervention, that is was introduced to you whilst you were still in hospital?
12. Close Thank you so much for taking part in the study.
- Do you have any other feedback about the intervention that we have not already talked about?
-

A priori themes

1. Affective attitude ('how an individual feels about the intervention')
2. Burden ('the perceived amount of effort that is required to participate in the intervention')
3. Ethicality ('the extent to which the intervention has good fit with an individual's value system')
4. Intervention coherence ('the extent to which the participant understands the intervention and how it works')
5. Opportunity costs ('the extent to which benefits, profits or values must be given up to engage in the intervention')
6. Perceived effectiveness ('the extent to which the intervention is perceived as likely to achieve its purpose')
7. Self-efficacy ('the participant's confidence that they can perform the behaviour(s) required to participate in the intervention')
8. Flexibility (views around the importance of flexibility within the intervention)
9. Delivery (whether the delivery method/how the intervention was delivered was acceptable)
10. Timing (whether the timing of the intervention was acceptable)

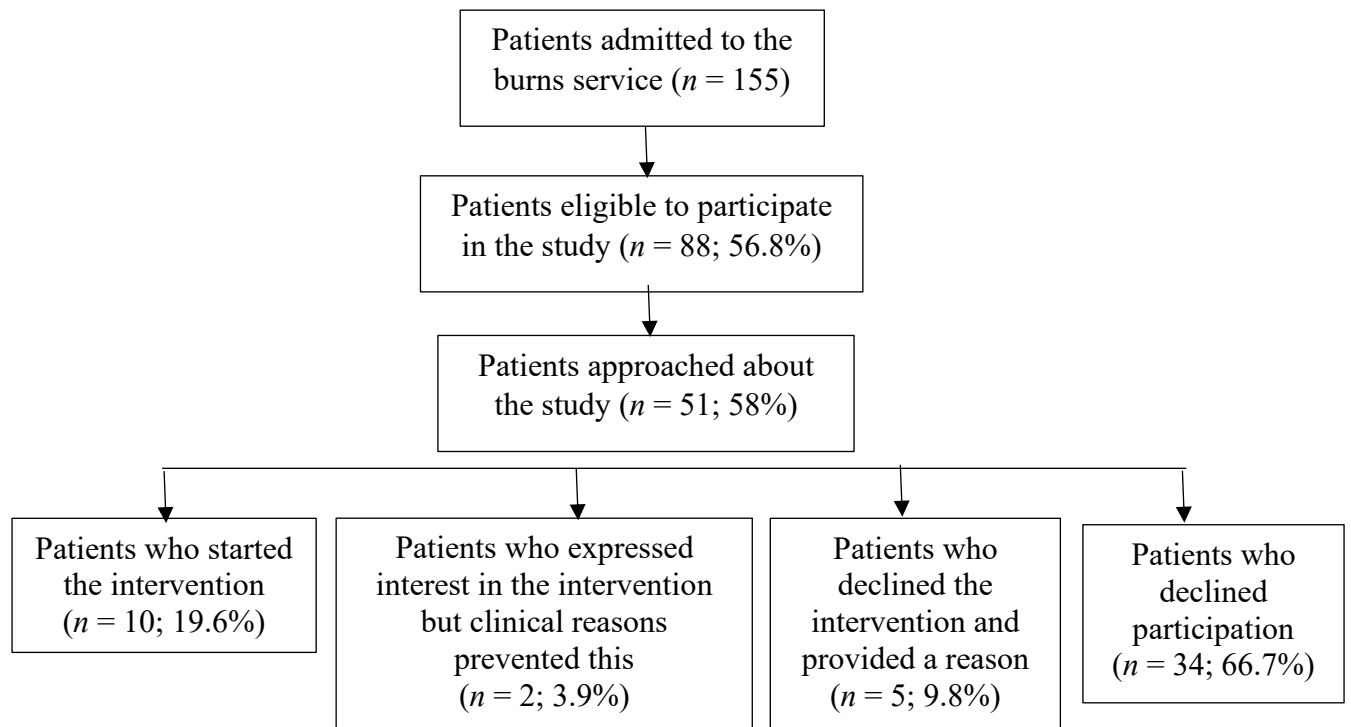
Conceptual definition of acceptability:

'A multi-faceted construct that reflects the extent to which people delivering or receiving a healthcare intervention consider it to be appropriate, based on anticipated or experienced cognitive and emotional responses to the intervention.'

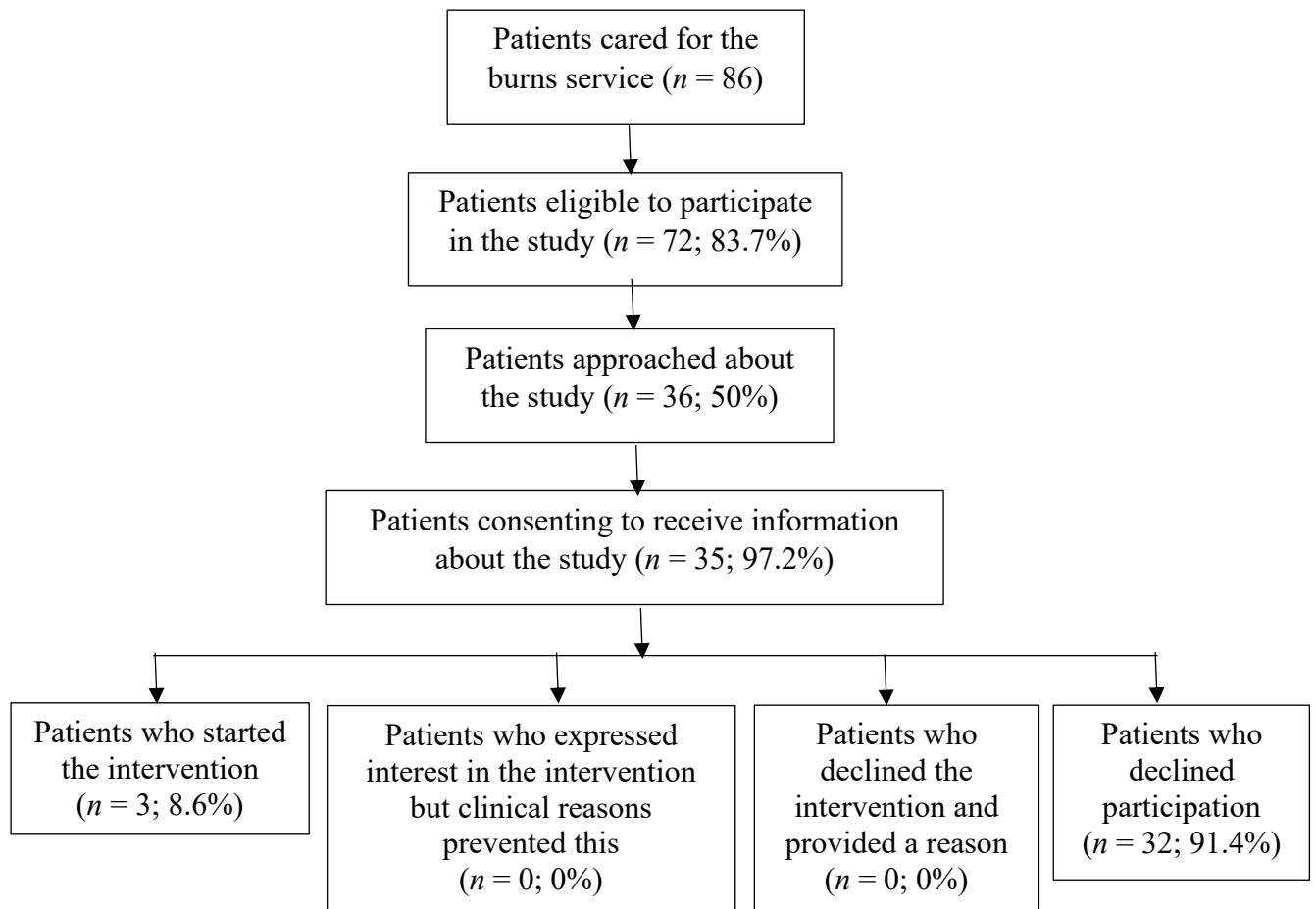
Reference:

Sekhon, M., Cartwright, M., & Francis, J. J. (2017). Acceptability of healthcare interventions: an overview of reviews and development of a theoretical framework. *BMC Health Services Research*, 17, 88.

Inpatients recruited



Outpatients recruited



Fidelity to the intervention protocol

	Not at all consistent with protocol	Partially consistent with protocol	Mostly consistent with protocol	Completely consistent with protocol
Fidelity ratings of sessions checked	0%	0%	0%	100%
Sessions with missing elements of protocol and relevant information	<i>n</i> =0			

Positionality statement

LS was aware of her ongoing clinical role as a Consultant Clinical Psychologist in a burns service. Specifically, she was aware of her previous experience of working clinically with burns patients who experience appearance concerns, including delivering ACT to try and help individuals respond to their distressing experiences. AT also had experience of providing clinical services to people who have sustained burn injuries. In addition, all authors had conducted prior work on the roles of psychological flexibility and/or self-compassion in appearance concerns after burn injuries and other populations.

Final template

Study aim: To explore the acceptability of 'ProACTive,' an early acceptance and commitment therapy (ACT) intervention, to help burns patients adjust to changes to appearance and prevent distress

1. An acceptable intervention

1.1 Affective attitude: Positive views

1.1.1 Skills building

1.1.2 Flexibility

1.1.3 Structure

1.2 Intervention coherence: A clear intervention aiding reflection and developing skills to respond to appearance concerns

1.3 Burden: Easy and accessible

1.4 Self-efficacy: Confidence in using the techniques and resources

1.5 Ethicality: It is fair

1.6 Opportunity costs: No costs

1.7 Perceived effectiveness: A helpful intervention

1.7.1 Reducing distress

1.7.2 Developing skills to respond to distress with psychological flexibility

1.7.3 Coping with other people's reactions

1.7.4 More helpful for people with appearance concerns

2. Valuing the therapeutic relationship

3. Early support is key

3.1 Getting the timing right when uncertainty around longer-term appearance is present

Additional supporting quotations from the semi-structured interviews

Theme	Subtheme	Quotations
Theme 1: An acceptable intervention	Affective attitude: Positive views	“I did move a couple (of modules) about because – the ‘being around people’ I moved ahead because I was going to a work party so obviously being around all my work friends and that since the injury, so I thought it was quite helpful that you could like prioritise things that you were more worried about or meant more to you at the time” (Robert). “I was looking through the book but I didn’t really go back to anything because I found - at the moment - I found it enough with the time and the sessions I did with [the psychologist]. But it is a good thing because I can go back and have a look again if I feel like it” (Csilla). “Because you could see what you were hoping to achieve from each bit, so that was really good... Yeah, because they were more like sharp little bite-sized bits” (Hannah).
	Intervention coherence: A clear intervention aiding reflection and developing skills to respond to appearance concerns	“Yeah, well it aims to take your thoughts to a different place, like a happy place, if you’re getting anxious or you said an unwanted guest at a party and stuff and I just said I’d avoid it, you know, I’d try to get rid of the guest, try and get rid of my thoughts” (Sarah).
	Burden: Easy and accessible	“I find it very hard to meditate anyway with the breathing ones and relaxing and trying to tune everything out. But I did like the five senses one where you get to say look at an object, take in the surroundings. I think that was probably one of the best exercises for me, which I got on better with” (John). “The first couple of days if I’m completely honest, I didn’t read the resources because I was just constantly sleeping. Not until I was actually feeling better did I actually start looking at the resources” (Aadila).
	Self-efficacy: Confidence in using the techniques and resources	“Yeah, I’m very, yeah, I’m really confident, I found it really useful” (Sarah).
	Perceived effectiveness: A	“I can cope with it now, yeah. I’m thinking about it a bit different and I’m not worried. I can cope with it now. I’m not worried about it so much” (Rose).

	helpful intervention	“Well, I do honestly think that if I hadn’t have had the sessions, I wouldn’t be going out to the shops and stuff” (Julie). “And it made the way I was feeling more familiar, so it wasn’t – there was less anxiety about it, it was like yeah, yeah, I recognise this feeling, I understand it. I suppose again with being able to allow it was another thing we talked about” (Sarah). “...it doesn’t particularly help me because I don’t have those feelings. But at the same time I think it should be there because it can help other people” (Elena).
Theme 2: Valuing the therapeutic relationship		“I think because it’s more of a personal one to one meeting. When you put a screen in the way or a phone in the way, it’s very impersonal and you are talking about something that’s actually happened to you and it is a very personal thing that’s happened to you. So I think to put a screen or a phone in the way of that, it just, to me it’s uncomfortable to do it that way at this point” (Hannah).
Theme 3: Early support is key		“Good, because I knew at one point I was going to be discharged and you know, obviously my appearance had changed dramatically, so it was like a bit of reassurance that it was done in the hospital and not outside” (Julie).

Additional supporting quotations from the Helpful Aspects of Therapy questionnaire

Theme	Subtheme	Quotations
Theme 1: Exploring and reflecting on appearance changes		“Asking me how I would feel in the situation I was worried about. It brought my attention to it and what I was anticipating. Just helping me think about different ways to drill down into stuff, if you know what I mean” (Sarah).
	Valuing the therapeutic relationship	“Talking about my thoughts. I always find it helpful to talk to someone who understands” (Rose).
Theme 2: Developing and reinforcing psychological flexibility		“The unwanted guest at the party. I try a lot to block it out and push it away, but it's not always the best way” (Robert).

Theme 3: Fostering self-compassion		“Introducing the concept of supporting someone else in the same position and then turning that on it's head to support myself. It made me think and put various ideas from this intervention into a context that I was unable to imagine. I feel a dillard - thinking how I could support someone else but turning that towards yourself - I've never thought of that” (David).
Theme 4: Preparing for being around other people		“Working through a scenario which is coming up - first visit to the café outside of the safe environment of the ward” (Rachel).

7. General Discussion

The research within this thesis aimed to investigate the roles of psychological flexibility and self-compassion in the development of appearance concerns in adults after burn injuries and develop an acceptable early ACT intervention for appearance concerns to enhance psychological flexibility and self-compassion. Discussions of individual studies can be found in the manuscripts within this thesis. This chapter provides a general discussion of the overarching contributions of the research: 1) theoretical contributions; 2) methodological contributions; and 3) clinical implications and impact on clinical practice. Limitations of the research and future directions for research are then presented, followed by overarching conclusions from the thesis.

7.1 Theoretical Contributions

The research within this thesis has developed knowledge about the role of psychological flexibility and self-compassion in appearance concerns. Specifically, theoretical advancements have been made in relation to the role of these psychological constructs in the development of early appearance concerns, the influence of the desire for social acceptance and internalised societal ideals, the onset and trajectory of appearance concerns, the acceptability of early interventions for appearance concerns and the acceptability and potential effectiveness of an early ACT intervention for appearance concerns after burn injuries.

7.1.1 The role of psychological flexibility and self-compassion in the development of early appearance concerns after burn injuries

The multi-centre prospective cohort study revealed that increased psychological flexibility and self-compassion during hospital admission were associated with decreased appearance concerns cross-sectionally and prospectively at two- and six-months. Furthermore, psychological flexibility and self-compassion predicted appearance concerns during hospital admission, and

psychological flexibility significantly predicted appearance concerns over time. However, the predictive value of psychological flexibility became non-significant when controlling for baseline appearance concerns. These findings are consistent with a growing body of cross-sectional research that suggested a role for psychological flexibility (Çelikbaş & Akbayrak, 2025; Keeling et al., 2025; Montgomery et al., 2016; Policardo et al., 2024; Shepherd et al., 2019; Vasiliou et al., 2023; Zucchelli et al., 2020) and self-compassion (e.g., Przewdziecki et al., 2013; Sherman et al., 2017; Todorov et al., 2019; Zhu et al., 2023a; Zhu et al., 2023b) in appearance concerns in those with a visible difference. However, the current findings have extended this body of evidence by employing a prospective cohort design, allowing the exploration of the predictive value of these variables over time. It was also the first study to investigate the roles of psychological flexibility and self-compassion prospectively at an early time point after a sudden appearance change due to an injury or medical condition (i.e., during hospitalisation).

Moreover, it is the sole study to investigate both psychological flexibility and self-compassion simultaneously in respect to their association with appearance concerns in those with visible differences. This is important given the conceptual overlap between the variables (Moreno, 2023; Neff & Tirsch, 2013; Yadavaia, Hayes, & Vilardaga, 2014). Indeed, the multi-centre prospective cohort study suggested that psychological flexibility plays a stronger unique role in appearance concerns relative to self-compassion.

It also adds to the wider limited literature that identifies psychological variables that are measured prospectively and can predict and aid understanding of appearance concerns over time after burn injuries (Amoyal et al., 2011; Fauerbach et al., 2002; Hoogewerf et al., 2014; Kurian et al., 2019; Thombs et al., 2008), and is the first study to explore psychological variables utilising a prospective cohort or longitudinal design in the UK. Based on the research findings, psychological flexibility and, to a lesser extent, self-compassion can be seen as having protective roles in the development of appearance concerns after burn injuries.

The qualitative study corroborated the findings from the multi-centre prospective cohort study in that individuals with appearance concerns within the first three months post-burn had difficulty responding to their early appearance concerns with psychological flexibility and self-compassion. In contrast, participants described experiential avoidance and self-criticism in response to their early appearance concerns, and this was particularly evident in those with increased levels of appearance concerns. Individuals tried to avoid or control their distress, were fused with their thoughts around their appearance and other people's reactions, had difficulty being present-focused and responding to distress mindfully and had difficulties engaging in meaningful behaviour in line with their values. They responded to their distress with harshness and self-criticism, and this was particularly noticeable in those who blamed themselves for the accident leading to their burn injuries. Individuals over-identified with their inner experiences and tried to suppress or deny them and common humanity/isolation varied. Prior to this qualitative study, the roles of psychological flexibility and self-compassion in appearance concerns with those with visible differences had not been investigated explicitly using qualitative methodology. Furthermore, the qualitative study was the first to explore the role of psychological flexibility and self-compassion in early appearance concerns, soon after burn injuries. Exploring both psychological constructs simultaneously in relation to appearance concerns provided additional novelty.

Both the multi-centre cohort study and qualitative study supported the conceptual overlap between psychological flexibility and self-compassion that has previously been reported (Moreno, 2023; Neff & Tirsch, 2013; Yadavaia, Hayes, & Vilardaga, 2014). In the multi-centre prospective cohort study, psychological flexibility and self-compassion were significantly positively related at all time-points (see Appendix J). In the qualitative study, there was notable double-coding in subthemes related to difficulties responding with psychological flexibility and self-compassion. However, the findings suggest that, comparatively, psychological flexibility may have a stronger

role in appearance concerns. The effect of self-compassion during hospital admission on appearance concerns two- and six-months later in the multi-centre prospective cohort study became non-significant when controlling for psychological flexibility. Moreover, a subtheme in the qualitative study highlighted that many participants experienced a sense of common humanity, perceiving their appearance concerns to be understandable and part of the human experience, whilst feeling isolated seemed to only be a part of some women's experiences. Furthermore, a small number of individuals were able to find self-kindness. This is a novel insight into the relative contributions of these variables in appearance concerns.

7.1.2 The influence of the desire for social acceptance and internalised societal ideals

The qualitative study revealed how appearance concerns soon after burn injuries were influenced by the need for social acceptance and the desire to conform to societal ideals around appearance and gender. The resulting fear of rejection and stigma from other people influenced the difficulties responding to early appearance concerns with psychological flexibility and self-compassion. Fear of rejection and stigma created by societal ideas around appearance has also been highlighted in other studies after burn injuries and other types of visible differences (e.g., Bergamasco et al., 2002; Dunpath, Chetty, & Van Der Reyden, 2015; Gullick et al., 2014; Johnson et al., 2016; Kent & Keohane, 2001; Macleod et al., 2016; Martin et al., 2017). In recent years, concerns around fear of rejection and stigma have been extended to social media use (Guest et al., 2025). Furthermore, theories around appearance concerns also acknowledge the role of anticipated stigma in the maintenance of distressing thoughts and feelings and social avoidance (Clarke et al., 2013; Kent, 2000; Newell & Marks, 2000; White, 2000). However, the research within the thesis provides novel insight into how social acceptance, societal ideals and fear of rejection and stigma combine and influence the adoption of experiential avoidance, self-criticism and emotion-focused coping to cope with appearance concerns.

Related to the above, the thesis also contributes to the literature related to the role of gender in appearance concerns. In the multi-centre prospective cohort study, gender significantly predicted appearance concerns during hospital admission and over time. Furthermore, in the qualitative study, women seemed to feel particularly isolated in their experiences, likely influenced by their perceived deviation from, and internalised, societal ideals around gender and appearance. Indeed, the qualitative study found that internalised gender and associated appearance ideals were threatened post-burn. Women viewed themselves as less attractive or sexually desirable to other people, representing the self-objectification (Fredrickson & Roberts, 1997) that women can experience, whereas appearance concerns triggered masculine ideals in men, culminating in experiential avoidance. The research therefore provides nuanced insight into how gender ideals is associated with attempts to respond to appearance concerns. The importance of socio-cultural contexts and intersectional identities (e.g., gender), and how these influence appearance-related experiences and stigma has recently been discussed by Harcourt et al. (2025). Indeed, previous research has identified that women with visible differences may have additional appearance-related pressures compared to men and are psychologically impacted more by this (Sharratt et al., 2018), consistent with the results from the qualitative study within this thesis. Similarly, masculine ideals revealed in the qualitative study have been reported in other studies where men have described feeling “weak” due to their visible difference caused by cleft lip and palate (Stock, Feragen, & Rumsey, 2018).

7.1.3 The onset and trajectory of appearance concerns after burn injuries

Findings from the multi-centre prospective cohort study suggested that, at a group level, appearance concerns remained stable from the time of hospital admission to six-months later. This is consistent with previous research which has indicated that appearance concerns after burn injuries persist over time (e.g., Connell, Coates, & Wood, 2013; Connell et al., 2014; Dahl et al.,

2016; Thombs et al., 2008). The qualitative study also revealed that the psychological impact related to appearance changes started soon after the burn injury, typically during hospital admission or early outpatient care when individuals saw their wounds for the first time (e.g., during dressing changes). This is consistent with the small amount of qualitative research conducted within the first three months of a burn injury which has suggested that appearance concerns begin early after burn injuries, for example, when wounds are uncovered to enable burn care or treatment (Bergamasco et al., 2002; Dunpath et al., 2015; Gullick et al., 2014; Johnson et al., 2016; McLean et al., 2015).

The qualitative study provides additional insight into the varying trajectories that appearance concerns can take on an individual level after burn injuries. For most, distress remained stable or worsened over time as wounds were progressing due to the development of scars or pigmentation changes. However, for other people (who typically had less serious burn injuries), they improved over time as their wounds healed and their fears about what their appearance would look like longer-term were allayed. As found in the qualitative study, and also discussed in the preceding section, burn injuries quickly triggered individuals' need for social connection and an awareness of perceived deviation from societal ideals around gender and appearance. This led to a fear of rejection and stigma from other people, creating coping strategies inconsistent with psychological flexibility and self-compassion. Such avoidant coping strategies such as denial, minimisation, rationalisation and repression, were also described in the study by Bergamasco et al. (2002) response to concerns about how burn injuries would impact relationships with others and other people's reactions. The findings from the qualitative study also revealed that the uncertainty around future or longer-term appearance changes after burn injuries was key in individuals adopting experiential avoidance due to the discomfort that this uncertainty created, again rooted in the need for social connection and concern about rejection and stigma due to deviating from societal ideals.

7.1.4 The acceptability of early interventions for appearance concerns after burn injuries

The research within this thesis offers a novel insight into the acceptability of early psychological interventions for appearance concerns following a burn injury. The qualitative study revealed that early interventions were perceived as absent from routine burn care but would be acceptable within the context of a therapeutic relationship. However, some people were ambivalent and all highlighted obstacles that needed to be considered. This is the first study to investigate views about early interventions following any type of appearance change, including after burn injuries, and suggested that early interventions would be acceptable for at least some individuals who were experiencing appearance concerns. Obstacles to engaging in early interventions included psychological barriers such as negative beliefs about talking therapies more generally and stigma around seeking help for psychological distress. Less commonly, lack of self-compassion and self-blame around the accident, lack of clarity about how psychological interventions could help when the objective appearance of the burn injury could not be changed by them and downward comparisons to other people (in terms of burn severity or distress). Contextual barriers included time and travel implications. Some of these barriers have been highlighted more generally in terms of accessing psychological care for any difficulty following burn injuries (McDermott, Hotton, & Cartwright, 2023). However, the qualitative study within this thesis adds to the literature by suggesting that embedding early psychological interventions for appearance concerns into routine burn care to increase normalisation, in addition to offering flexibility in the delivery of interventions, are essential to acceptability.

Indeed, stigma is a known barrier to seeking help for mental health problems in the general population (Clement et al., 2015) and has been reported to impact seeking psychological help more broadly after burn injuries (McDermott, Hotton, & Cartwright, 2023). In a survey exploring psychosocial professionals' views, Harcourt et al. (2018) also reported that a need for greater

awareness of psychosocial issues associated with a visible difference amongst health professionals and the general public was important in reducing stigma associated with seeking help for those with visible differences. The finding from the qualitative study related to the need to normalise early psychological interventions for appearance concerns could be situated within the context of stigma associated with psychological or mental health problems and seeking help for these (Clement et al., 2015), layered upon stigma associated with being visible different (Goffman, 1963; Major & O'Brien, 2005) including as a result of a burn injury (e.g., Bergamasco et al., 2002; Dahl et al., 2012; Dunpath et al., 2015; Furr, 2014; Macleod et al., 2016; Martin et al., 2017; Mercado et al., 2022; Taal & Faber, 1998a, 1998b; Watson & Perrin, 2022). These layers of internalised stigma may be a barrier for some individuals to seek or accept help for appearance concerns. As discussed above, the current research suggests that a fear of rejection and stigma, and the social context (and societal ideals), involved in appearance concerns after a burn injury may limit an individuals' ability to respond with psychological flexibility and self-compassion. This may also contribute to difficulties seeking and accepting psychological interventions for appearance concerns, as individuals may instead strive to avoid the internal discomfort involved in seeking or accepting help and experience critical self-judgments around this.

7.1.5 The acceptability and potential effectiveness of an early ACT intervention for appearance concerns after burn injuries

The theoretical advancements discussed above led to the development of an early ACT intervention for appearance concerns, called ProACTive. The mixed-methods acceptability study is the first known study to investigate the acceptability of an early intervention for appearance concerns after burn injuries (or any type of sudden appearance change caused by an injury or medical condition). It adds to the small literature which suggests that ACT for appearance concerns experienced in the longer-term in those with a visible difference is acceptable or helpful

(Hotton et al., 2022; Shepherd et al., 2020; Zucchelli et al., 2020; Zucchelli et al., 2021; Powell, Vasiliou, & Thompson, 2023). This study suggested that ProACTive was acceptable when this was offered during hospital admission or within one month of hospital discharge/one month of the burn injury, highlighting that ACT can be utilised soon after appearance changes caused by burn injuries and potentially other injuries or medical conditions or treatments. Acceptability was higher for those with appearance concerns compared to those who took part and did not have any significant concerns about how their burn injuries looked. Over two-thirds completed the entirety of the intervention. This is higher than completer rates reported by Powell et al. (2023) which had a 68% drop-out rate. Powell et al.'s (2023) study evaluated a self-help intervention that was digitally-delivered, which may explain the higher completer rates of the current research investigating ProACTive given that it was therapist-delivered.

Indeed, individuals valued the therapeutic relationship that the intervention created and early support was considered important, in line with the findings from the qualitative study and general importance that is placed on the therapeutic relationship in psychological therapies (Rogers, 1959; Wampold, 2015). It is also consistent with previous evaluations of digital/self-help interventions for appearance concerns in those with visible differences which has highlighted that digital interventions should not replace in-person interventions (Zucchelli et al., 2021), interventions delivered by therapists are important for at least some individuals (Powell et al., 2023), and that some people struggle to engage in self-help materials for appearance concerns without additional specialist psychological support (Pasterfield, Clarke, & Thompson, 2019). In a recent survey of 550 people with a variety of visible differences, Clement et al., (2025) also reported that people expressed a preference for in-person counselling compared to counselling delivered online or over the telephone which may reflect the desire for a therapeutic relationship, albeit a variety of delivery formats was also considered to be necessary to meet individual needs. The influence of stigma and difficulties with psychological flexibility and self-compassion on

seeking and accepting help for appearance concerns has already been discussed. It is possible that the therapeutic relationship may serve to buffer some of this stigma, allow individuals to feel safe in allowing their inner experiences and develop self-compassion, through the psychological therapist's unconditional positive regard and expressed compassion (Rogers, 1959; Wampold, 2015). Clement et al.'s (2025) recent survey findings also highlighted the importance of condition-specific interventions, tailored to their individual circumstances. It is possible that the acceptability of ProACTive found in the mixed-methods study reflects the fact that the intervention is specific to appearance concerns after burn injuries.

Individuals considered the intervention to be helpful, through providing a space to explore and reflect on appearance changes, developing psychological flexibility and self-compassion, and preparing individuals for being around other people. Positive affect significantly increased and negative affect significantly decreased. No statistical changes on standardised measures of appearance concerns, psychological flexibility or self-compassion were revealed. However, this is not surprising given the study was not powered to detect statistically significant changes. Furthermore, it is consistent with Powell et al.'s (2023) study which found no difference between the ACT digitalised self-help and wait-list control groups on social anxiety or psychological flexibility at the end of the study but that completers analyses suggested some improvement in social anxiety for those who had completed the ACT self-help intervention at the four-week assessment time point compared to those in the waitlist control condition. This highlights the importance of a longer-term follow-up. The study provides tentative evidence that ProACTive is effective, in that two-thirds of individuals had decreased appearance concerns after the intervention compared to before. This is broadly in line with Powell et al.'s (2023) study which found that 77% and 73% of individuals who completed the self-help digital ACT intervention rated it as useful and helpful, respectively, and provides a basis for driving larger-scale effectiveness studies of the ProACTive intervention.

7.2 Methodological Contributions

The research within this thesis was conducted soon after burn injuries had been sustained, which has been an under-researched time frame after burn injuries, particularly in the UK. There may be concern by some researchers that research at an early stage after burn injuries may be too emotionally demanding, or that individuals may not want to participate given the uncertainty around their injuries in terms of wound healing and future appearance and their physical needs and medical treatment demands. The research provides reassurance that both theoretical and interventional studies related to appearance concerns during hospital admission or in the early phase after burn injuries is acceptable to participants. When approached during hospital admission, most individuals were willing to read information about the studies and decide if they wanted to participate. The importance of a patient advisory group throughout the thesis research undoubtedly aided the acceptability of the research, in addition to stakeholder involvement of clinical psychologists working in burn care in the UK during the development of ProACTive. Flexibility in how people can participate if they wish is also likely to be important to acceptability.

The mixed-methods approaches utilised within this thesis research, between and within individual studies, seem to have enabled a richer and more nuanced understanding of how psychological flexibility and self-compassion play a role in appearance concerns after burn injuries, and how individuals perceive the early intervention that was developed and studied in terms of acceptability and effectiveness. This is a known advantage of mixed-methods approaches (Bryman, 2006; Doyle et al., 2016) and when developing novel healthcare interventions (Skivington et al., 2021).

The knowledge gained from the research in relation to the feasibility of studies after burn injuries is also worthy of discussion, particularly when considering psychological research with those admitted to hospital following burn injuries. Recruitment to the prospective cohort study

required more recruitment sites than anticipated and recruitment to the mixed-methods acceptability study was slower than anticipated. Indeed, the mixed-methods acceptability study required an amendment during the recruitment phase to include not only people who could start the ProACTIVE intervention during their admission to hospital but also those who had been discharged from hospital within the previous month and those who had only received outpatient care for a burn injury that occurred within the previous month. Reasons for this included the exclusion criteria within both studies and contextual healthcare system factors. Exclusion criteria (e.g., those with burn injuries due to self-harm/suicide attempts, individuals with cognitive impairment or severe mental health problems and people not fluent in the English language) excludes a significant proportion of people admitted to burns services, as the population is known to be over-represented in terms of these variables. A contextual healthcare system factor that was particularly striking was short hospital admissions, likely due to NHS hospital bed pressures, making it challenging to approach potential participants before they were discharged from hospital. Therefore, conservative timeframes for recruitment and a flexible approach to recruitment seem to be essential in this area of research.

It would be prudent to discuss the challenges in measuring psychological constructs at an early time point after burn injuries, which has been highlighted by the research within this thesis. During hospital admission and early outpatient care after burn injuries, uncertainty often exists around how long the wound will take to heal, whether surgery or other medical interventions will be needed, whether infections may create problems with wound healing and how much, or to what extent, the injuries will lead to long-term or permanent changes to their appearance. Two years is often the timeframe burn care professionals give in terms of when scarring will stabilise and will undergo no further change. This then often becomes clearer as time passes, with wounds changing and pigmentation changes or scar tissue developing, and this increase in clarity can occur within a matter of days for some but not for several months for others. Conducting research at this

timepoint inherently therefore involves variability in relation to what the burn injury objectively looks like, and what it may look like in the future. This has implications for repeatedly measuring constructs such as appearance concerns within a short space of time (e.g., pre- and post-interventions as in the mixed-methods acceptability study) because an individual's awareness of the severity of their burn injuries (and how their appearance will be impacted longer-term) can increase as time progresses, and similarly people can become reassured as time progresses (e.g., by seeing their wounds healing or receiving information of a better prognosis than anticipated in relation to longer-term appearance changes). Similarly, some people may still be exploring their thoughts and feelings about the appearance of their burn and making sense of and assimilating their experience (Piaget, 1971), leading to an increase in distress over time and thereby possibly masking positive intervention effects (Norman, Davids, & Smith, 1991; Norman & Parker, 1996). Measuring appearance concerns with a sample size and sufficient power to detect statistically significant changes will therefore be key. Measuring appearance concerns over a longer follow-up period is also likely to be needed in future effectiveness studies, to detect any differences between those who received the intervention and those who did not to investigate the protective potential of the intervention in worsening appearance concerns. Employing additional outcome measures that encompass self-efficacy (that is, to what extent people feel they can manage or cope with their appearance concerns) or resilience may also be useful, in addition to measuring appearance concerns themselves.

Similarly, the findings from the mixed-methods acceptability study may suggest challenges in measuring psychological flexibility and self-compassion pre- and post-intervention. Generic measures of these constructs may not be specific enough to detect changes in appearance-specific psychological flexibility or self-compassion. Indeed, it is recommended to use context-specific measures of psychological flexibility to detect changes over treatment (Ong et al., 2019).

However, versions of questionnaires that feel the most appropriate (i.e., those developed for eating

disorders, body dysmorphia or weight concerns) may not map onto people's experiences of appearance concerns caused by injuries or medical conditions and have not been used or validated in people with visible differences. These questionnaires therefore may need adapting for use in future effectiveness studies. Finally, it is possible that the intervention might lead to an enhanced awareness of difficulties employing psychological flexibility and self-compassion, thereby possibly masking positive intervention effects (Norman, Davids, & Smith, 1991; Norman & Parker, 1996). This would be important to consider in the design of future effectiveness studies where sufficient power would be needed to detect any statistically significant changes and a longer follow-up period would detect any protective value of the intervention.

Finally, the research within this thesis highlights the challenges of measuring psychological flexibility more broadly at the present time. In the past few years, there has been a growing criticism around the use of the most widely used measure of psychological flexibility, the Acceptance and Action Questionnaire-II (AAQ-II; Bond et al, 2011), due to concerns around discriminant validity and its overlap with measures of distress (e.g., Arch et al., 2023; Cherry et al., 2021; McLoughlin & Roche, 2023). The AAQ-II was used in the multi-centre prospective cohort study and continues to be defended by its developers and other researchers due to its robust psychometric properties (e.g., Knudson & Levin, 2025), contradictory supportive evidence for its discriminant validity (e.g., Ruiz et al., 2024) and its utility conceptually and clinically (Hayes, Hoffman, & Ciarrochi, 2023). However, newer measures have been developed and are increasingly used albeit are not without their own limitations (Ong et al., 2020), including the Comprehensive assessment of Acceptance and Commitment Therapy processes (CompACT; Francis, Dawson & Golijani-Moghaddam, 2016), which was employed in the mixed-methods acceptability study.

7.3 Clinical Implications and Impact on Clinical Practice

The research within this thesis suggests that routine psychological screening during hospitalisation or in burn care outpatient appointments could be improved by including questions or measures that measure psychological flexibility and, to a lesser extent, self-compassion. This would identify individuals who are at increased risk of appearance concerns over at least the subsequent six months. Enhanced screening could improve psychological care if those who are identified as at risk can be offered psychological intervention quickly.

The research also gives a theoretical rationale for using psychological interventions that enhance psychological flexibility and self-compassion soon after burn injuries. Respectively, these include ACT (Hayes et al., 1999) and compassion-focused therapies (Kirby, 2017). It is known that ACT can also enhance self-compassion and/or specifically target self-compassion (e.g., Anderson, McCracken, & Scott, 2024; Bernstein, 2025; Lear & Luoma, 2025; Luoma & Platt, 2015) and therefore could be argued to be a therapeutic modality of choice. Indeed, psychological flexibility and self-compassion should be considered therapeutic targets. Future interventions being developed for appearance concerns soon after burn injuries, and likely other populations where appearance has been suddenly changed, may benefit from targeting these.

The ProACTIVE intervention developed as part of this PhD is an acceptable intervention to those who have recently experienced burn injuries. There is tentative evidence for its effectiveness, but this requires further study. ProACTIVE can be used clinically by psychological therapists working in burns services to help individuals respond to their appearance concerns and promote psychological adjustment to their appearance changes. Further to the conclusion of the research, the ProACTIVE intervention has subsequently been amended based on the findings from the mixed-methods acceptability study so that it is focused only on helping those with some level of appearance concern. It has been copyrighted and distributed to psychological therapists working in NHS burns services in the UK and is starting to be used clinically within these services. Plans for

training psychological professionals in the ProACTIVE intervention within and outside the UK are also underway.

Given its brevity and introduction early after burn injuries, it is possible that ProACTIVE could be an economical way of utilising psychological resources and even produce cost-savings compared to standard psychological care, if future research were to show that it could reduce or prevent longer-term appearance concerns with fewer sessions. ProACTIVE may also be used by psychological therapists working with other populations where appearance is suddenly altered due to an injury or medical condition. Similarly, it is possible that variants of the intervention may be useful for child and parent populations after burns or other injuries or medical conditions. In either case, some adaptation and input from people with lived experience or experts by experience would be required, in addition to consideration of relevant research.

More broadly, and as discussed above, early interventions for appearance concerns were perceived as absent from routine burn care by participants in the qualitative study, and psychological therapists and researchers working in burn injuries should now focus on developing effective early interventions. Within clinical practice, flexibility in the delivery and spacing of intervention sessions is likely to be important for acceptability and reduce contextual barriers to engagement. Normalising interventions by offering them to all individuals after burn injuries will also likely aid acceptability by reducing stigma. Ensuring that clinicians provide information about what psychological interventions can and cannot achieve, and how appearance concerns can affect any individual regardless of burn size and severity, may also be helpful, in reducing psychological barriers to engagement. The findings from this research suggest that these early interventions should be therapist- rather than digitally-delivered or in self-help format given the importance of the therapeutic relationship that was reported. Indeed, the importance of the therapeutic relationship may be particularly important to buffer the layers of stigma attached to seeking help for a psychological or mental health difficulty (Clement et al., 2015) and being visibly different

due to a burn injury (e.g., Bergamasco et al., 2002; Dahl et al., 2012; Dunpath et al., 2015; Furr, 2014; Macleod et al., 2016; Martin et al., 2017; Mercado et al., 2022; Taal & Faber, 1998a, 1998b; Watson & Perrin, 2022). Similarly, the therapeutic relationship may be useful in helping people who have difficulties employing psychological flexibility and self-compassion in response to appearance concerns which may lead to individuals avoiding the internal discomfort involved in seeking or accepting help and experiencing critical self-judgments around this.

7.4 Limitations

All the research within this thesis was conducted with individuals who had experienced burn injuries and received burn care from specialised NHS services in the UK. It is therefore unknown if the findings are generalisable or transferrable to burn injury populations outside the UK. Similarly, the exclusion criteria employed across the studies means that the findings may not be generalisable or transferrable to a proportion of individuals who receive specialised burn care in the UK, including those with severe mental health problems and cognitive impairment. Those not fluent in the English language were also excluded from two of the three studies, and therefore the findings may hold less relevance for individuals where English is not spoken or is a second language. Finally, the unavoidable influence of the research team's shared assumptions, beliefs, and biases are acknowledged. Positionalities of the research team have been discussed in Chapter 2 and may be seen as both a strength and limitation of the research in relation to the lens through which the research was conducted.

7.5 Future Research Directions

More research is needed that investigates the predictive role of psychological variables on appearance concerns over time after burn injuries, and in other populations where appearance suddenly changes due to an injury, medical condition or treatment. Research within this thesis

highlights that trajectories of early appearance concerns differ between individuals after burn injuries and further research should equally seek to identify protective variables that enable individuals to adjust well, psychologically, to their appearance changes. Both will aid theoretical understanding about the development of appearance concerns and contribute to clinical advances in successfully identifying individuals at risk of appearance concerns and targets for early interventions focused on enhancing psychological adjustment and reducing distress.

Investigating the effectiveness of ProACTIVE after burn injuries is needed with appropriately powered studies. Pilot and feasibility studies would provide an insight into the pragmatism of a randomised controlled trial. Trials that can identify whether ProACTIVE is more effective for some individuals compared to others would also be important, as would identifying the active ingredients of the intervention (e.g., exploring the relative impact of the therapeutic relationship versus skills to build psychological flexibility). Related to this, additional studies investigating the acceptability and effectiveness of ProACTIVE in marginalised or excluded groups would also be useful. For example, those with significant mental health problems and those who do not speak the English language. Similarly, evaluating the acceptability and effectiveness of ProACTIVE in those receiving care for burn injuries in countries outside the UK and in other populations where appearance has suddenly changed due to an injury or medical condition would be useful. Likewise, investigating the acceptability and effectiveness of ProACTIVE in specific populations with burn injuries may be insightful (e.g., children, parents/carers of children, and military personnel). Considering real-world applicability, research investigating psychological therapists' experiences and views around delivering and implementing ProACTIVE within UK and international burns services would provide additional insight around its acceptability to both clinicians and patients and information related to practice-based evidence, in addition to any real-world barriers to embedding ProACTIVE into routine burn care that may exist.

Finally, future research should focus on the development and evaluation of additional early psychological interventions that are acceptable and effective to those with sudden appearance changes. These interventions should subsequently be compared in terms of their effectiveness using randomised controlled trial methodology to identify which are the most helpful for people with early appearance concerns, and which can reduce or prevent longer-term appearance concerns the most, so that clinical practice can be guided by the evidence base.

7.6 Overarching Conclusions

The research within this thesis revealed that psychological flexibility and self-compassion were both associated with appearance concerns in the early period after burn injuries. Furthermore, psychological flexibility during hospital admission was a significant predictor of longer-term appearance concerns. Appearance concerns started soon after burn injuries and early psychological interventions for appearance concerns were perceived as absent. Some individuals were ambivalent towards early psychological interventions, but many considered them to be acceptable within the context of a therapeutic relationship, although obstacles to engagement were voiced. An early psychological intervention (ProACTive) was developed and considered acceptable. Preliminary data suggested it may be effective in helping individuals adjust to appearance changes after burn injuries. Larger scale effectiveness studies to evaluate ProACTive are now needed. Additional early interventions for appearance concerns for individuals with a visible difference delivered by psychological therapists should be a focus for future research.

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8. Appendices

Appendix A: Summaries of Peer Reviews and Contribution to the Published Manuscripts

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Appendix AJ: Mixed-methods Acceptability Study: Distress Protocol

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Appendix AO: Mixed-methods Acceptability Study: Audit Checklist

Appendix A: Summaries of Peer Reviews and Contribution to the Published Manuscripts

Published Manuscript 1: A multi-centre prospective study investigating the roles of psychological flexibility and self-compassion in appearance concerns after burn injuries

The journal's peer reviewers considered the findings related to self-compassion to initially be over-stated. Additional information about the conceptual overlap between psychological flexibility and self-compassion, broader concepts related to compassion, a priori identification of covariates, recruiting burns services, direction of the correlational analyses based on the measures used, power, effect sizes, and context-specific measures of psychological flexibility was also requested. The manuscript was revised accordingly.

Published Manuscript 2: Early appearance concerns after burns: Exploring the roles of psychological flexibility and self-compassion

The journal's peer reviewers requested a more explicit explanation of how the study advances the literature in respect to appearance concerns in those with burn injuries. In addition, broader information within the introductory section around appearance concerns in those with visible differences and the psychological factors that have been found to influence appearance concerns, was requested. Further detail about why early research after burn injuries may have been relatively less researched, reflexivity, rigour/quality control, use of a priori themes, some themes, saturation clinical implications, and any patient and public involvement was also requested. Consistency in relation to the number and power of illustrative quotations for each theme was also requested, as was consideration of the theme names to capture the data more specifically, and positionality statements of all authors. The manuscript was revised accordingly.

Published Manuscript 3: The acceptability of early psychological interventions for adults with appearance concerns after burns

The journal's peer reviewers requested further information around the psychometric properties of the questionnaires, how cognitive impairment was defined and determined, and the qualifications of the first author to conduct semi-structured interviews and collect data. Clarification around who reviewed the audio recordings of interviews and their training, and the importance of researcher subjectivity in qualitative research was also requested. Additional information within the introductory section to include research on perceived stigmatisation and social skills training was also requested. Finally, acknowledgement of the potential usefulness of providing education and information to patients within the discussion section was also recommended. The manuscript was revised accordingly.

Appendix B: Multi-centre Prospective Cohort Study: Ethical Approval Documentation



Health Research Authority

London - Dulwich Research Ethics Committee

Health Research Authority
Skipton House 80 London Road
London SE1 6LH

Please note: This is the favourable opinion of the REC only and does not allow you to start your study at NHS sites in England until you receive HRA Approval

21 December 2020

Dr Laura Shepherd
Consultant Clinical Psychologist; HEE/NIHR ICA Clinical Doctoral Research Fellow Nottingham University Hospitals NHS Trust
c/o Burns Unit Nottingham
City Hospital
Hucknall Road, Nottingham NG5
1PB

Dear Dr Shepherd

Study title:	The roles of psychological flexibility and self-compassion in the development of appearance anxiety following burn injuries
REC reference:	20/PR/0838
IRAS project ID:	282011

The Research Ethics Committee reviewed the above application at the meeting held on 09 December 2020. Thank you for attending to discuss the application.

Ethical opinion

The members of the Committee present gave a favourable ethical opinion of the above research on the basis described in the application form, protocol and supporting documentation, subject to the conditions specified below. .

Conditions of the favourable opinion

The REC favourable opinion is subject to the following conditions being met prior to the start of the study.

Number	Condition	Response from the Applicant
1	The Committee requested the aim of the	
	study is revised as currently there is a subtle difference between the IRAS Form and Protocol as the IRAS Form states "The study aims to explore whether certain ways of managing emotions and thoughts during hospital admission predicts increased appearance anxiety following discharge from hospital in adult burns patients" but the Protocol states "To explore whether lower levels of psychological flexibility and self-compassion during hospital admission predict increased appearance anxiety following discharge from hospital in adult burns patients". The members noted that the latter appears to be more closely aligned to the hypothesis.	
2	The Committee requested the following changes are made to the Participant Information Sheet:	
A	The Committee requested the spelling and grammar is checked and corrected in the Participant Information Sheet.	
B	The Committee requested the Participant Information Sheet is reordered as section two 'Who has reviewed this study?' should be placed later on in the document. Please see the HRA standard template at http://www.hra-decisiontools.org.uk/consent/examples.html for more guidance.	

C	The Committee requested the beginning of the Participant Information Sheet is revised to state: "The aim of this study is to learn more about how patients feel as they recover from burn injuries. People's feelings vary a lot, and we would like to find out whether it is possible to better predict who may benefit from extra support. You do not have to feel upset or distressed about your appearance or body to take part- we would like to gather a range of people's experiences" as the information sheet will be given to individuals potentially soon after their injury and the current information sets out an expectation that people will have changes to their appearance and body after burns. However, this may not be something that has fully sunk in yet.	
D	The Committee requested the funder's name, the National Institute for Health Research, is correctly recited as the National Institute of Health Research in the Participant Information Sheet.	
E	The Committee requested that it is specified what data will be kept	

	(presumably anonymised questionnaire scores) after the sentence "If you withdraw, we will still keep your data as this is valuable to the study" on page one of the Participant Information Sheet.	
F	The Committee requested the sentence "There are contact numbers within this information sheet" (taken from page two of the Participant Information Sheet) is changed to "There are contact numbers at the beginning of this information sheet".	
G	The Committee requested the line "Your name will not be passed to anyone else outside the research team or the Sponsor, who is not involved in the study" (taken from page two of the Participant Information Sheet) is changed to "Your name will not be passed to anyone, outside the research team or the Sponsor, who is not involved in the study".	
H	The Committee requested the term "UK Regulatory Authority" is defined on page three of the Participant Information Sheet since there is no UK body with that title.	

I	The Committee requested the word “below” is changed to “above” in the following sentence taken from page three of the Participant Information Sheet “A copy of this summary can be requested by contacting the Chief Investigator using the details below” as the Chief Investigator’s contact details are at the beginning of the information sheet.	
J	The Committee requested the sentence beginning with “In the event that something does go wrong...” on page four of the Participant Information Sheet is changed to “In the unlikely event that something does go wrong...”	
K	The Committee requested that the Open Science Framework is described in the Participant Information Sheet before consent is sought in the Consent Form.	
3	The Committee requested the following changes are made to both the Verbal and Written Consent Forms:	
A	The Committee requested the hyphen is removed from “video-call” and “telephone-call” in the Consent Form.	
B	The Committee requested, as suggested in the Participant Information Sheet, the “UK Regulatory Authority” is defined in both Consent Forms.	
4	The Committee requested the following	
	changes are made to the questionnaire for time points two and three:	
A	The Committee requested the word “would” is removed from the sentence “At the end of the questionnaires you will find a list of support services, should these would be helpful” (taken from the first page of the T2/S Questionnaires).	
Number	Recommendation	Response from the Applicant
1	The Committee recommended that question A6-2 of the IRAS Form is reduced in length. The members noted that the areas to be examined under “issues” comprise the sections here on “Consent” and “Risks, burdens and benefits” and the rest is just background.	

You should notify the REC once all conditions have been met (except for site approvals from host organisations) and provide copies of any revised documentation with updated version numbers. Revised documents should be submitted to the REC electronically from IRAS. The REC will acknowledge receipt and provide a final list of the approved documentation for the study, which you can make available to host organisations to

facilitate their permission for the study. Failure to provide the final versions to the REC may cause delay in obtaining permissions.

Confirmation of Capacity and Capability (in England, Northern Ireland and Wales) or NHS management permission (in Scotland) should be sought from all NHS organisations involved in the study in accordance with NHS research governance arrangements. Each NHS organisation must confirm through the signing of agreements and/or other documents that it has given permission for the research to proceed (except where explicitly specified otherwise).

Guidance on applying for HRA and HCRW Approval (England and Wales)/ NHS permission for research is available in the Integrated Research Application System.

For non-NHS sites, site management permission should be obtained in accordance with the procedures of the relevant host organisation.

Sponsors are not required to notify the Committee of management permissions from host organisations.

Registration of Clinical Trials

It is a condition of the REC favourable opinion that **all clinical trials are registered** on a publicly accessible database. For this purpose, 'clinical trials' are defined as the first four project categories in IRAS project filter question 2. Registration is a legal requirement for clinical trials of investigational medicinal products (CTIMPs), except for phase I trials in healthy volunteers (these must still register as a condition of the REC favourable opinion).

Registration should take place as early as possible and within six weeks of recruiting the first research participant at the latest. Failure to register is a breach of these approval conditions, unless a deferral has been agreed by or on behalf of the Research Ethics Committee (see

here for more information on requesting a deferral: <https://www.hra.nhs.uk/planning-and-improving-research/research-planning/research-registration-research-project-identifiers/>

As set out in the UK Policy Framework, research sponsors are responsible for making information about research publicly available before it starts e.g. by registering the research project on a publicly accessible register. Further guidance on registration is available at: <https://www.hra.nhs.uk/planning-and-improving-research/research-planning/transparency-responsibilities/>

You should notify the REC of the registration details. We routinely audit applications for compliance with these conditions.

Publication of Your Research Summary

We will publish your research summary for the above study on the research summaries section of our website, together with your contact details, no earlier than three months from the date of this favourable opinion letter.

Should you wish to provide a substitute contact point, make a request to defer, or require further information, please visit: <https://www.hra.nhs.uk/planning-and-improving-research/application-summaries/research-summaries/>

N.B. If your study is related to COVID-19 we will aim to publish your research summary within 3 days rather than three months.

During this public health emergency, it is vital that everyone can promptly identify all relevant research related to COVID-19 that is taking place globally. If you haven't already done so, please register your study on a public registry as soon as possible and provide the HRA with the registration detail, which will be posted alongside other information relating to your project. We are also asking sponsors not to request deferral of publication of research summary for any projects relating to COVID-19. In addition, to facilitate finding and extracting studies related to COVID-19 from public databases, please enter the WHO official acronym for the coronavirus disease (COVID-19) in the full title of your study. Approved COVID-19 studies can be found at: <https://www.hra.nhs.uk/covid-19-research/approved-covid-19-research/>

It is the responsibility of the sponsor to ensure that all the conditions are complied with before the start of the study or its initiation at a particular site (as applicable).

After ethical review: Reporting requirements

The attached document "After ethical review – guidance for researchers" gives detailed guidance on reporting requirements for studies with a favourable opinion, including:

- Notifying substantial amendments
- Adding new sites and investigators
- Notification of serious breaches of the protocol
- Progress and safety reports
- Notifying the end of the study, including early termination of the study
- Final report

The latest guidance on these topics can be found at <https://www.hra.nhs.uk/approvals-amendments/managing-your-approval/>.

Ethical review of research sites

NHS/HSC Sites

The favourable opinion applies to all NHS/HSC sites taking part in the study taking part in the study, subject to confirmation of Capacity and Capability (in England, Northern Ireland and Wales) or NHS management permission (in Scotland) being obtained from the NHS/HSC R&D office prior to the start of the study (see “Conditions of the favourable opinion” below).

Non-NHS/HSC sites

I am pleased to confirm that the favourable opinion applies to any non NHS/HSC sites listed in the application, subject to site management permission being obtained prior to the start of the study at the site.

Approved documents

The documents reviewed and approved at the meeting were:

<i>Document</i>	<i>Version</i>	<i>Date</i>
Covering letter on headed paper [Voucher cover letter]		03 November 2020
IRAS Application Form [IRAS_Form_23112020]		23 November 2020
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Other [D Harcourt university indemnity 1]		01 August 2020
Other [D Harcourt university indemnity 2]		01 August 2020
Other [Data security and privacy information - University of Sheffield]		09 October 2018
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Other [CV - L Trippett, PI]		05 October 2020
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Participant consent form [Verbal consent form]	1.0	03 November 2020
Participant information sheet (PIS) [Participant Information Sheet]	1.0	03 November 2020
Referee's report or other scientific critique report [Peer review 2]		18 September 2020
Referee's report or other scientific critique report [Peer review 1]		15 September 2020
Research protocol or project proposal [Protocol]	1.0	03 November 2020
Summary CV for Chief Investigator (CI) [CV- CI]		25 September 2020
Summary CV for supervisor (student research) [CV - A Thompson]		

Summary CV for supervisor (student research) [CV - D Harcourt]		20 October 2020
Summary CV for supervisor (student research) [CV- F Sirois]		
Validated questionnaire [Questionnaire pack - time points 2 and 3]	1.0	03 November 2020
Validated questionnaire [Questionnaire pack - time point 1]	1.0	03 November 2020

Membership of the Committee

The members of the Ethics Committee who were present at the meeting are listed on the attached sheet.

There were no declarations of interest made.

The Committee is constituted in accordance with the Governance Arrangements for Research Ethics Committees and complies fully with the Standard Operating Procedures for Research Ethics Committees in the UK.

User Feedback

The Health Research Authority is continually striving to provide a high quality service to all applicants and sponsors. You are invited to give your view of the service you have received and the application procedure. If you wish to make your views known please use the feedback form available on the HRA website: <http://www.hra.nhs.uk/about-the-hra/governance/quality-assurance/>

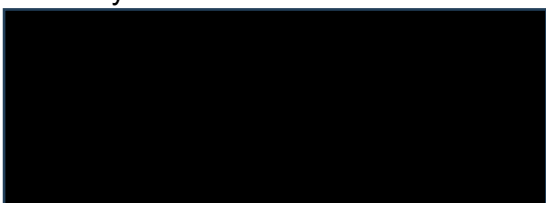
HRA Learning

We are pleased to welcome researchers and research staff to our HRA Learning Events and online learning opportunities– see details at: <https://www.hra.nhs.uk/planning-and-improving-research/learning/>

IRAS project ID: 282011	Please quote this number on all correspondence

With the Committee's best wishes for the success of this project. Yours

sincerely



Dr Thomas Kabir
Chair

E-mail: dulwich.rec@hra.nhs.uk

Enclosures: List of names and professions of members who were present at the

meeting and those who submitted written comments “After ethical review – guidance for researchers”

Copy to: Mrs Jennifer Boston, Nottingham University Hospitals NHS Trust

Lead Nation approvals@hra.nhs.uk

London - Dulwich Research Ethics Committee Attendance at Committee meeting on

09 December 2020

Committee Members:

<i>Name</i>	<i>Profession</i>	<i>Present</i>	<i>Notes</i>
Dr Jiafeng Feng	Research Manager	Yes	
Professor Diana Giannarelli	Biostatistician	Yes	
Mr Kenny Ip	Clinical Trials Specialist	Yes	
Dr Thomas Kabir	Public Involvement in Research Manager	Yes	
Dr Joanne Lawson	Civil Servant	Yes	
Mrs Esther Makanju	Team Leader Clinical Trials Pharmacist	Yes	
Miss Catherine McCombie	Research Assistant	Yes	
Mrs Ann-Marie Murtagh	R&I Director	Yes	
Ms Anna Ramberg	Research Governance & Integrity Manager	No	
Mr Colin Standfield	Charity Worker	Yes	
Ms Argyro Syngelaki	Midwife	Yes	
Ms Eirini Tsitsipa	Regulatory Compliance Officer (Sponsorship Team)	No	

Also in attendance:

<i>Name</i>	<i>Position (or reason for attending)</i>
Miss Georgia Copeland	Approvals Specialist
Miss Charlotte Ferris	Approvals Officer



Health Research Authority

London - Dulwich Research Ethics Committee

Health Research Authority
Skipton House
80 London Road
London
SE1 6LH

Telephone: 0207 104 8241

Please note: This is an
acknowledgement letter from
the REC only and does not allow
you to start your study at NHS
sites in England until you receive
HRA Approval

06 January 2021

Dr Laura Shepherd
c/o Burns Unit
Nottingham City Hospital
Hucknall Road, Nottingham
NG5 1PB

Dear Dr Shepherd

Study title: The roles of psychological flexibility and
self-compassion in the development of appearance
anxiety following burn injuries
REC reference: 20/PR/0838
IRAS project ID: 282011

Thank you for your letter of 05 January 2021. I can confirm the REC has received the documents listed below and that these comply with the approval conditions detailed in our letter dated 21 December 2020.

Documents Received

The documents received were as follows:

Document	Version	Date
IRAS Checklist XML [Checklist_05012021]		05 January 2021

Letters of invitation to participant [Revised Verbal consent form]	1.1	05 January 2021
Other [Response to REC opinion letter]		05 January 2021

Participant consent form [Revised Consent form]	1.1	05 January 2021
Participant information sheet (PIS) [Revised Participant Information Sheet]	1.1	05 January 2021
Validated questionnaire [Revised Questionnaire pack - time points 2 and 3]		

Approved Documents

The final list of approved documentation for the study is therefore as follows:

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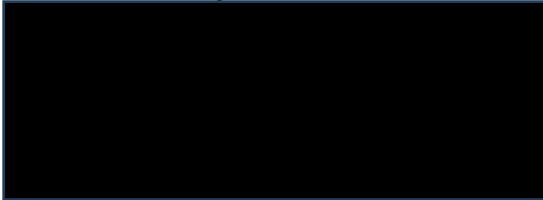
Summary CV for supervisor (student research) [CV- F Sirois]		
Validated questionnaire [Qestionnaire pack - time point 1]	1.0	03 November 2020
Validated questionnaire [Revised Qestionnaire pack - time points 2]		

and 3]		

You should ensure that the sponsor has a copy of the final documentation for the study. It is the sponsor's responsibility to ensure that the documentation is made available to R&D offices at all participating sites.

IRAS Project ID: 282011	Please quote this number on all correspondence

Yours sincerely



Approvals Officer

E-mail: dulwich.rec@hra.nhs.uk

Copy to: Dr Laura Shepherd



Health Research Authority

London - Dulwich Research Ethics Committee

Health Research Authority
Skipton House
80 London Road
London
SE1 6LH

Telephone: 0207 104 8241

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06 January 2021

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Validated questionnaire [Revised Questionnaire pack - time points 2 and 3]		

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Validated questionnaire [Revised Qestionnaire pack - time points 2		

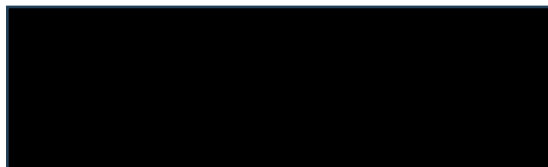
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IRAS Project ID: 282011

Please quote this number on all correspondence

Yours sincerely



Charlotte Ferris
Approvals Officer

E-mail: dulwich.rec@hra.nhs.uk

Copy to: Dr Laura Shepherd

Appendix C: Multi-centre Prospective Cohort Study: Participant Information Sheet

IRAS ID: 282011



ProActive Study 1

IRAS Reference: 282011

R&I Reference: 20CP003

Participant Information Sheet, Version 2.0, Dated 25-02-2021

Chief Investigator: Dr. Laura Shepherd

Contact details

Name: Dr Laura Shepherd,
Chief Investigator
Contact: 0115 969 1169 ext. 77985 (tel.)
Laura.Shepherd@nuh.nhs.uk (email)

Name: [details of PI at each site], Principal
Investigator
Contact: [details of PI at each site]

1. What is the purpose of the study?

The aim of this study is to learn more about how patients feel as they recover from burn injuries. People's feelings vary a lot, and we would like to find out whether it is possible to better predict who may benefit from extra support. You do not have to feel upset or distressed about your appearance or body to take part - we would like to gather a range of people's experiences. The study aims to recruit over 150 adults admitted to a number of hospitals after a burn injury. The study is a questionnaire study, tracking people's experiences over time.

2. Why have I been asked to take part?

Adults (18 years and over) admitted to hospital after a burn injury can take part. It is up to you to decide whether or not to take part. If you decide to take part you will be given this information sheet to keep and be asked to sign a consent form (or provide verbal consent if you are unable to hold a pen or write due to hand injuries, or if you participate remotely over a telephone- or video-call) to confirm that you understand what is involved when taking part in this study. If you decide to take part you are free to leave the study at any time and without giving a reason. If you withdraw, we will still keep your data as this is valuable to the study. This includes anonymised questionnaire scores and anonymous basic information about you and your burn injury, as detailed below. A decision to withdraw at any time, or a decision not to take part, will not in any way affect the quality of care you receive.

3. What do I have to do?

If you take part, you will be asked to complete some questionnaires whilst you are in hospital about how you feel emotionally and how you generally cope with upsetting thoughts/feelings. The questionnaires can take up to 30 minutes to complete. The questionnaires can be completed on paper or over a video- or telephone call with a researcher who works at your hospital. Basic information about you (your age, gender and ethnicity) and your burn injury (e.g. the size and cause of the injury) would then be gathered from your hospital records. If you are not a patient at Nottingham University Hospitals NHS Trust, your study data will then be sent securely to the Chief Investigator of the study, a Clinical Psychologist based at the main hospital site managing this research. You will then be contacted to complete similar questionnaires on two more occasions, in two months and six months' time. Again, these questionnaires may take



up to 30 minutes to complete, and you can choose whether to complete them by post, online, or over a video- or telephone- call with the Chief Investigator of the study. You will receive one prompt to complete the questionnaires at each time point. If you decide to take part in the study, please report any problems or concerns you have to the Chief Investigator or Principal Investigator. There are contact numbers at the beginning of this information sheet.

4. What are the possible benefits?

Care for future patients could be improved. Understanding what makes some people more upset than others after burn injuries is important, because it could help burn services identify future patients who may be at risk of developing upsetting feelings, and help develop talking therapies to help people feel better. In addition, you will be offered a £10 Amazon voucher every time you complete the questionnaires when invited to do so.

5. What are the disadvantages?

The subject area may be sensitive for some patients, and therefore has the potential to evoke emotional reactions in some patients. However, it is not expected that taking part would create any additional distress to that already being experienced, or that taking part will create distress that is significant or long-lasting in nature. If you feel you need some support with any emotional reaction or advice about the topic area being discussed, the research team will be able to discuss where you can access this.

6. What will happen to my data?

All the information about your participation in this study will be kept confidential. The only exception to this, where confidentiality would need to be broken, would be in the event of significant concerns about your safety or the safety of other people. In such situations, those involved in the study have a duty of care to act accordingly. We will keep all information about you safe and secure. The information will be held securely on paper and electronically at your treating hospital and the main hospital site managing this research under the provisions of the General Data Protection Regulation and the Data Protection Act. If you are not a patient at Nottingham University Hospitals NHS Trust, your data will be sent electronically using secure, encrypted NHS email to the Chief Investigator at the main hospital site managing this research. Your name will not be passed to anyone, outside the research team or the Sponsor, who is not involved in the study. You will be allocated a study ID number, which will be used as a code to identify you on all study forms. If you withdraw consent from the study, your data will remain on file and will be included in the final study analysis. In line with Good Clinical Practice guidelines, at the end of the study, your data will be securely archived for a minimum of five years. Arrangements for confidential destruction will then be made. The information collected about you may also be shown to authorised people from the Health Research Authority and the independent Research Ethics Committee to ensure that the study is carried out to the highest possible scientific standards. All will have a duty of confidentiality to you as a research participant.

We will need to use information from you and your medical records for this research project. This information will include: your initials and name on the consent form; your contact details which will be used to contact you after you have left hospital to continue participation; and your gender, age, ethnicity and details about your burn injury which will be kept separate to your identifying information held by site and the Sponsor for the research. People will use this information to do the research or to check your records to make sure that the research is being done properly. People who do not need to know who you are will not be able to see your name or contact details. Your data will have a code ID number instead. If you choose to complete any questionnaires electronically, your anonymised information will be stored in the system's server in Germany. They must follow our rules about keeping your information safe. With your consent, anonymous data will be uploaded onto the Open Science Framework (www.osf.io) following the completion of the study, in keeping with Open Science practices.

Once we have finished the study, we will keep some of the data so we can check the results. We will write our reports in a way that no-one can work out that you took part in the study. You can stop being part of the study at any time, without giving a reason, but we will keep information about you that we already have. We need to manage your records in specific ways for the research to be reliable. This means that we won't be able to let you see or change the data we hold about you.

You can find out more about how we use your information:

- at www.hra.nhs.uk/information-about-patients/
- our GDPR leaflet available on request from researchsponsor@nuh.nhs.uk; or by the following link www.nuh.nhs.uk/gdpr
- by asking one of the research team
- by emailing the Data Protection Officer for NUH at dpo@nuh.nhs.uk,
- by ringing the Data Protection Officer for NUH on 0115 924 9924 (extension 63975)
- by visiting www.nuh.nhs.uk/gdpr

7. What will happen if I don't want to carry on with the study?

You can stop being part of the study at any time, without giving a reason, but we will keep information about you that we already have.

8. What happens when the study is finished?

An anonymised summary of the study and its findings will be produced for key charities to use on their websites, social media platforms or newsletters. A copy of this summary can be requested by contacting the Chief Investigator using the details above. The findings may also be anonymously presented at conferences and published as an article in a medical journal. If you consent, you will also be informed about any future research studies for which you may be eligible to participate.

9. What if there is a problem?

If you have a concern about any aspect of this study, you should ask to speak with the researchers who will do their best to answer your question. If you remain unhappy and wish to complain formally, you can do this through the NHS Complaints Procedure. Details can be obtained from the hospital or you can contact the Patient Advice and Liaison Service (PALS) telephone 0800 183 0204. In the unlikely event that something does go wrong and you are harmed during the research study there are no special compensation arrangements. If you are harmed and this is due to someone's negligence then you may have grounds for a legal action for compensation but you may have to pay your legal costs. The normal NHS complaints mechanisms will still be available to you.

10. Who has reviewed this study?

Research in the NHS is usually looked at by an independent group called a Research Ethics Committee, to protect your safety, rights, well-being and dignity. The study has also been reviewed and approved by the Health Research Authority and the Research & Innovation department of Nottingham University Hospitals NHS Trust. Nottingham University Hospitals NHS Trust will act as the 'Sponsor' (i.e., the lead NHS hospital) for this research. Health Education England/National Institute for Health Research will fund this research.

11. Further Information

You are encouraged to ask any questions you wish before, during or after you take part. If you have any questions about the study please speak to the Chief Investigator or Principal Investigator who will be able to provide you with up to date information about the study. If you require any further information or have any concerns while taking part in the study please contact the Chief Investigator or Principal Investigator. If you wish to read the research on which this study is based, please ask the Chief Investigator or Principal Investigator. If you decide you would like to take part then please read and sign the consent form. You will be given a copy of this information sheet and the consent form to keep. A copy of the consent form will be filed in your medical notes, and one will be filed with the study records. You can have more time to think this over if you are at all unsure.

Thank you for taking the time to read this information sheet and to consider this study.



Appendix D: Multi-centre Prospective Cohort Study: Written Consent Form

Nottingham University Hospitals 

IRAS ID: 282011

Participant Consent Form
IRAS ID: 282011; R&I ID: 20CP003
ProActive Study 1 (Chief Investigator: Dr. Laura Shepherd)

Patient Study ID: Initials:

1. I confirm that I have read and understand the participant information sheet dated ____/____/____ version ____ for the above study and have had the opportunity to ask questions. ☐
2. I understand that my participation is voluntary and that I am free to withdraw at any time without my medical care or legal rights being affected. ☐
3. I understand that my medical records may be looked at by authorised individuals from the Sponsor for the study and the Health Research Authority in order to check that the study is being carried out correctly. ☐
4. I understand that if I withdraw from the above study, the anonymised data collected from me will be used in analysing the results of the research study. ☐
5. I consent to the storage, including electronic, of personal information for the purposes of this study. I understand that any information that could identify me will be kept strictly confidential and that no personal information will be included in the study report or other publication. ☐
6. I agree to be contacted using the following method(s) to continue participation (please tick all boxes that apply): ☐
 - ☐ Post
 - ☐ Email
 - ☐ Video call
 - ☐ Telephone call
7. I consent to being informed about future research studies in which I may be eligible to participate. I understand that my contact details will be stored securely for five years for this purpose.

Yes	No
☐	☐
8. I consent for my anonymised data to be made available in accordance with the Open Science Framework

☐	☐
9. I agree to take part in the study. ☐

Name of the patient (<i>Print</i>)	Date	Signature
_____	_____	_____
Name of person taking consent (<i>Print</i>)	Date	Signature
_____	_____	_____

Original to be retained and filed in the site file. 1 copy to patient, 1 copy to be filed in patient's notes

Appendix E: Multi-centre Prospective Cohort Study: Verbal Consent Form

Participant Verbal Remote Consent Form (Version 1.1; 05/01/2021)
(IRAS ID: 282011; R&I ID: 20CP003)
ProACTIVE Study 1
Chief Investigator: Dr Laura Shepherd

Verbal Consent Script

Participant ID:	Initials:
Date of Birth:	NHS/Hospital Number:
Principal Investigator:	
Date of verbal consent call: ____/____/____ (dd/mm/yyyy)	
Time of verbal consent call: ____/____ (00.00 hr)	
Format of verbal consent e.g. Skype, phone call:	

Telephone/contact the participant and confirm that you are speaking to the relevant person, and that it is a convenient time to call (if not, establish if the participant wishes to be contacted at an alternative time; or whether the participant no longer wishes to be contacted regarding the study). Then continue with the script below:

Hello, my name is [name of member of staff taking consent] and I am a [role of member of staff] working on a study that aims to help us learn more about the psychological processes that may help us predict who will develop upsetting feelings about their appearance/body in people who have been burnt.

I am calling today to invite you to take part in this questionnaire study. Can I confirm that you have received and read the Participant Information Sheet?

Record participant's response: Yes / No

If the Participant Information Sheet has not been received or read, do not proceed and advise the potential participant that a copy will be given to them/this needs to be read prior to proceeding.

The Ethics Committee, whose role it is to scrutinise research and protect patients, has agreed that we can obtain verbal consent from you over the phone, but please let me reassure you that whatever you decide, it will not change your treatment in anyway. Do you have any questions you would like to ask me at this stage?

Record participant's response: Yes / No

If yes, record any questions and responses given, below:

ProACTIVE Study 1
IRAS Number: 282011

Participant Verbal Remote Consent Form


Research & Innovation

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Just so that I can check that I have explained myself clearly to you, can you please confirm if you understand what I have told you?

Record participant's response: Yes / No

If you are happy with my responses, can you please let me know whether you agree or not, to take part in this study which aims to help us learn more about why some patients feel more upset than others about their appearance or body after burns?

Record participant's response: Yes / No

(If participant answered yes, continue overleaf; if no, then thank the participant for their time and say goodbye)

Finally, could I please ask you to confirm a few details to record your consent?

Version and date of information sheet received and read by participant: Version: ____ Dated: ____ / ____ / ____

Date the study information was received and read (dd/mm/yyyy)? ____ / ____ / ____

We would like to send you a copy of the consent form to keep for your information. Could you please confirm for me how you would like to receive this, via post or email? Please confirm your contact details for me:

Address:.....

.....

.....

Email:

PARTICIPANT VERBAL CONSENT CONFIRMATION FORM

IRAS Number: 282011

R&I reference number: 20CP003

Please initial (researcher)

	Yes	No
1. After explaining the study information to the participant, I can confirm that the participant understands and agrees to participate in the above research study.	☐	☐
2. The participant understands that the study is voluntary, and that they can withdraw at any time without their medical care or legal rights being affected; although data already collected will be retained for use in the study.	☐	☐
3. The participant understands that their medical records may be looked at by authorised individuals from the Sponsor for the study and the Health Research Authority in order to check that the study is being carried out correctly.	☐	☐

ProActive Study 1
IRAS Number: 282011

Research & Innovation



4. The participant consents to the storage, including electronic, of personal information for the purposes of this study. They understand that any information that could identify them will be kept strictly confidential and that no personal information will be included in the study report or other publication.
- Yes ☐ No ☐
5. The participant agrees to be contacted using the following method(s) to invite them to continue participation (please tick all boxes that apply):
- Yes ☐ No ☐
- ☐ Post
☐ Email
☐ Video call
☐ Telephone call
6. The participant consents to being informed about future research studies in which they may be eligible to participate, and understands that their contact details will be stored securely for five years for this purpose.
- Yes ☐ No ☐
7. The participant consents for their anonymised data to be made available in accordance with the Open Science Framework
- Yes ☐ No ☐

Participant

Full name (block capitals):

Date of Birth:

DD/MMM/YYYY
 / /

Date/time verbal consent provided by participant:

DD/MMM/YYYY Time (24 hr)
 / / :.....

Person taking consent

I have explained the study to the above named participant, read out each of the above statements and they have indicated their willingness to participate.

Full name (block capitals):

Signature:

Date:

DD/MMM/YYYY
 / /

Original to be retained and filed in the site file, one copy for the participant, and one copy to be filed in the participant's medical notes.

ProActive Study 1

IRAS Number: 282011

Participant Verbal Remote Consent Form

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Appendix F: Multi-centre Prospective Cohort Study: Participant Contact Sheet

IRAS ID: 282011

Nottingham University Hospitals 
NHS Trust

Participant Contact Sheet
IRAS ID: 282011; R&I ID: 20CP003
ProACTIVE Study 1 (Chief Investigator: Dr. Laura Shepherd)

To be completed by the researcher following informed consent from the participant
& transferred to the Chief Investigator

Study ID:

Name:

The participant has consented to be contacted using the following method(s) to continue participation, using the following contact details (please tick all boxes that apply and enter contact information):

- ☐ Post: _____

- ☐ Email: _____
- ☐ Video-call: _____
- ☐ Telephone call: _____

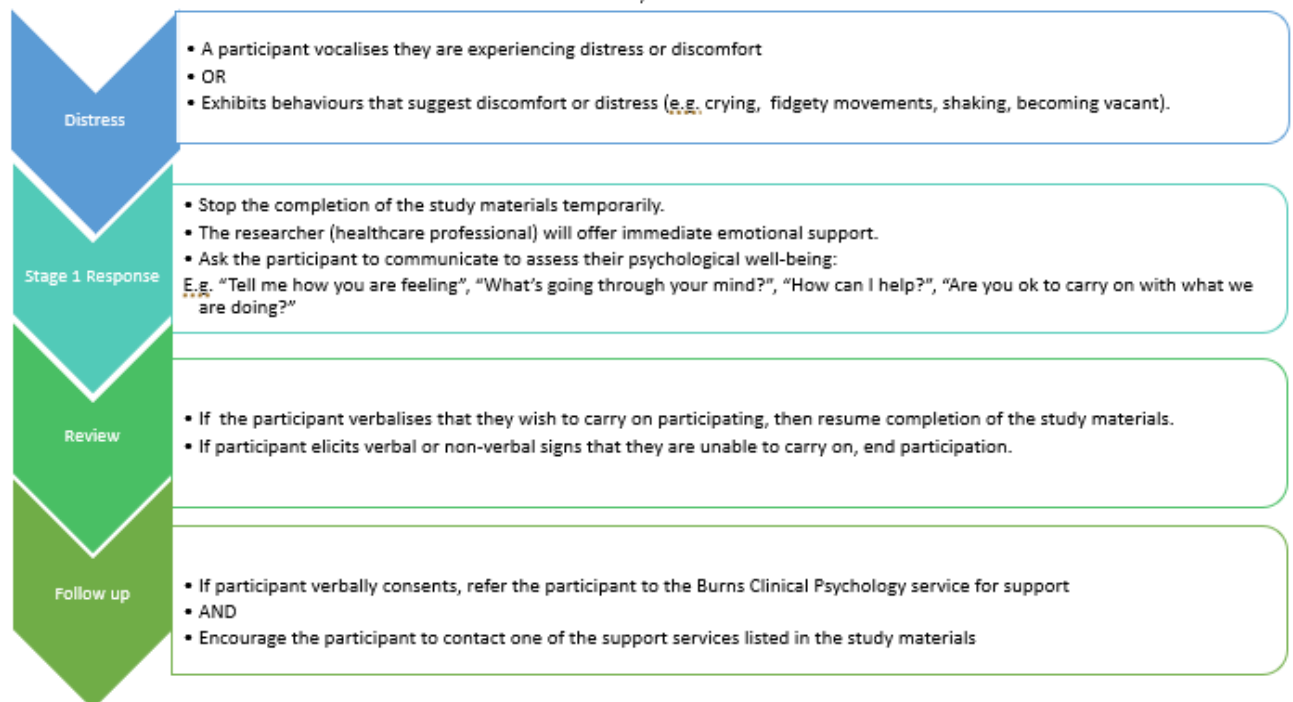
Completed by (name): _____

Job title: _____

Signature: _____ Date: ____ / ____ / ____

Appendix G: Multi-centre Prospective Cohort Study: Distress Protocol

Distress Protocol: The protocol for managing distress of a participant (version 1.0, 12/11/2020)
ProACTIVE Study 1
IRAS ID: 282011; R&I ref: 20CP003



Contact details for site Burns Clinical Psychology service: [insert telephone number for site]

Appendix H: Multi-centre Prospective Cohort Study: Number of Patients with Accidental

Burn Injuries Admitted to and Recruited from Each Recruitment Site

Recruitment site	Recruitment period at site	Total no. of admissions during recruitment period	No. of suicide/self harm attempt admissions during recruitment period	No. of accidental admissions during recruitment period	No. of participants recruited	% recruited from accidental admissions during recruitment period
Nottingham	22.01.2021-12.09.2022	376	33	343	87	25.4%
Buckinghamshire	07.06.2021-06.09.2022	202	6	196	35	17.9%
Wakefield	08.04.2021-19.08.2022	255	25	230	24	10.4%
Sheffield	04.05.2021-16.08.2022	124	5	119	12	10.1%
Newcastle	16.12.2021-17.08.2022	121	6	115	8	7%
Swansea	17.01.2022-15.09.2022	73	4	69	9	13%

Appendix I: Multi-centre Prospective Cohort Study: Measures

This page is to be completed by the researcher

Participant information

1. Gender (please circle one):
- a) Male
- b) Female
2. Age: _____ years
3. Ethnic group (please circle one):
- a) White British
- b) Asian – Other
- c) Bangladeshi or British Bangladeshi
- d) Black African or Black British African
- e) Black Caribbean or Black British Caribbean
- f) Chinese
- g) Indian or British Indian
- h) Mixed white and Asian
- i) Mixed white and Black African
- j) Mixed white and Black Caribbean
- k) Pakistani or British Pakistani
- l) White Irish
- m) Any other Black background
- n) Any other ethnic group
- o) Any other mixed background
- p) Any other white background
- q) Not stated

Injury information

4. Mechanism of burn injury (please circle one):
- a) Flame b) Flash c) Contact
- d) Scald e) Chemical f) Electrical
- g) Radiation h) Unknown
- i) Other: _____
5. Total body surface area (TBSA): _____ %
6. Depth (please circle):
- a) Superficial partial thickness b) Full-thickness
- c) Deep dermal d) Mixed thickness

7. Location(s) of burns (please circle all that apply):

a) Head/Face/Neck b) Chest/Abdomen

c) Arms d) Hands

e) Legs f) Feet

g) Back h) Buttocks

i) Genitals

8. Number of days from burn until study participation (please state): _____ days

Thank you for completing these questionnaires.

Please complete all questions in an honest manner and do not spend too much time on each question. Go with your initial impression.

The questionnaires usually take up to 30 minutes to complete.
Feel free to take a short break if this would be helpful.

In recognition of your time, you will be given a £10 Amazon gift voucher upon completion.

Today's date: _____ / _____ / _____

1. BESAA-A

Please read each statement and select the option that best fits how you feel about your appearance/body following your burn injury.

	Not at all	Rarely	Sometimes	Most of the time	Always
I worry about the way I look	4	3	2	1	0
I like what I see when I look in the mirror	0	1	2	3	4
I wish I looked like someone else	4	3	2	1	0
I'm pretty happy about the way I look	0	1	2	3	4
I wish I looked better	4	3	2	1	0
There are lots of things I'd change about my looks if I could	4	3	2	1	0
I like what I look like in pictures	0	1	2	3	4
I'm looking as nice as I'd like to	0	1	2	3	4
I feel ashamed of how I look	4	3	2	1	0
My looks upset me	4	3	2	1	0

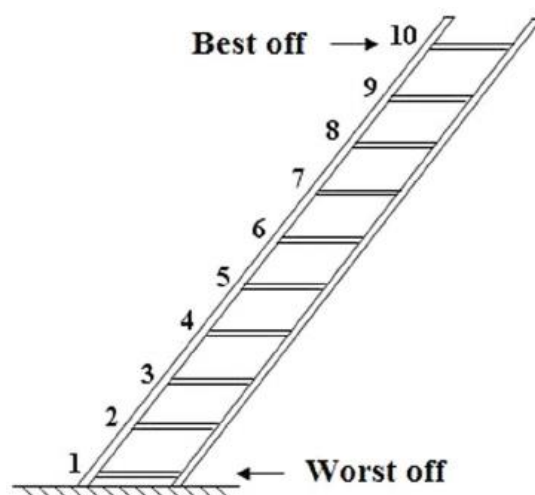
2. After leaving hospital, how noticeable do you think the changes to your appearance/body because of your burn injury will be to other people if fully clothed? Please rate this on the scale below by circling the most appropriate number for you.

Not at all
noticeable

Very
noticeable

0 1 2 3 4 5 6 7 8 9 10

3. Think of this ladder as representing where people stand in the UK. At the **top** of the ladder are the people who are the best off – those who have the most money, the most education and the most respected jobs. At the **bottom** are the people who are the worst off – who have the least money, least education, and the least respected jobs or no job. The higher up you are on this ladder, the closer you are to the people at the very top; the lower you are, the closer you are to people at the very bottom. Where would you place yourself on this ladder? Please **circle the number** on the rung where you think you stand at this time in your life, relative to other people in the UK.



4. AAQ-II

Below you will find a list of statements. Please rate how true each statement is for you by circling a number next to it. Use the scale below to make your choice.

1	2	3	4	5	6	7
never true	very seldom true	seldom true	sometimes true	frequently true	almost always true	always true
1. My painful experiences and memories make it difficult for me to live a life that I would value.	1	2	3	4	5	6 7
2. I'm afraid of my feelings.	1	2	3	4	5	6 7
3. I worry about not being able to control my worries and feelings.	1	2	3	4	5	6 7
4. My painful memories prevent me from having a fulfilling life.	1	2	3	4	5	6 7
5. Emotions cause problems in my life.	1	2	3	4	5	6 7
6. It seems like most people are handling their lives better than I am.	1	2	3	4	5	6 7
7. Worries get in the way of my success.	1	2	3	4	5	6 7

5. How I Typically Act Towards Myself In Difficult Times

Please read each statement carefully before answering. Indicate how often you behave in the stated manner, using the following scale:

	Almost never 1	2	3	4	Almost always 5
1. When I fail at something important to me I become consumed by feelings of inadequacy	1	2	3	4	5
2. I try to be understanding and patient towards those aspects of my personality I don't like	1	2	3	4	5
3. When something painful happens I try to take a balanced view of the situation	1	2	3	4	5
4. When I'm feeling down, I tend to feel like most other people are probably happier than I am	1	2	3	4	5
5. I try to see my failings as part of the human condition	1	2	3	4	5
6. When I'm going through a very hard time, I give myself the caring and tenderness I need	1	2	3	4	5
7. When something upsets me I try to keep my emotions in balance	1	2	3	4	5
8. When I fail at something that's important to me, I tend to feel alone in my failure	1	2	3	4	5

9. When I'm feeling down I tend to obsess and fixate on everything that's wrong	1	2	3	4	5
10. When I feel inadequate in some way, I try to remind myself that feelings of inadequacy are shared by most people	1	2	3	4	5
11. I'm disapproving and judgmental about my own flaws and inadequacies	1	2	3	4	5
12. I'm intolerant and impatient towards those aspects of my personality I don't like	1	2	3	4	5

6. Given the current situation, we would also like to know how distressed you currently feel about the coronavirus/Covid-19. Please rate this on the scale below by circling the most appropriate number for you.

Not at all distressed											Extremely distressed
0	1	2	3	4	5	6	7	8	9	10	

7. Impact of Event Scale – Revised

Instructions: The following is a list of difficulties people sometimes have after stressful life events. Please read each item, and then indicate how distressing each difficulty has been for you *during the past 7 days* with respect to the event that led to your burn injury. How much were you distressed or bothered by these difficulties?

	Not at all	A little bit	Moderately	Quite a bit	Extremely
1 Any reminder brought back feelings about it.	0	1	2	3	4
2 I had trouble staying asleep.	0	1	2	3	4
3 Other things kept making me think about it.	0	1	2	3	4
4 I felt irritable and angry.	0	1	2	3	4
5 I avoided letting myself get upset when I thought about it or was reminded of it.	0	1	2	3	4
6 I thought about it when I didn't mean to.	0	1	2	3	4
7 I felt as if it hadn't happened or wasn't real.	0	1	2	3	4
8 I stayed away from reminders about it.	0	1	2	3	4
9 Pictures about it popped into my mind.	0	1	2	3	4
1 I was jumpy and easily startled.	0	1	2	3	4
1 I tried not to think about it.	0	1	2	3	4

1	I was aware that I still had a lot of feelings about it, but I	0	1	2	3	4
2	didn't deal with them.					
1	My feelings about it were kind of numb.	0	1	2	3	4
3						
1	I found myself acting or feeling like I was back at that time.	0	1	2	3	4
4						
1	I had trouble falling asleep.	0	1	2	3	4
5						
1	I had waves of strong feelings about it.	0	1	2	3	4
6						
1	I tried to remove it from my memory.	0	1	2	3	4
7						
1	I had trouble concentrating.	0	1	2	3	4
8						
1	Reminders of it caused me to have physical reactions, such	0	1	2	3	4
9	as sweating, trouble breathing, nausea, or a pounding heart.					
2	I had dreams about it.	0	1	2	3	4
0						
2	I felt watchful and on guard.	0	1	2	3	4
1						
2	I tried not to talk about it.	0	1	2	3	4
2						

*This is the end of the questionnaires.
Thank you for participating.*

You may recall consenting to take part in this research study during your hospital admission.

Please complete these follow-up questionnaires in an honest manner
and do not spend too much time on each question.

It does not matter how you currently feel, as we would like to gather a range of responses.
At the end of the questionnaires you will find a list of support services,
should these be helpful.

The questionnaires usually take up to 30 minutes to complete.
Feel free to take a short break if this would be helpful.

In recognition of your time, you will be sent a £10 Amazon gift voucher.

1. BESAA-A

Please read each statement and select the option that best fits how you feel about your appearance/body following your burn injury.

	Not at all	Rarely	Sometimes	Most of the time	Always
I worry about the way I look	4	3	2	1	0
I like what I see when I look in the mirror	0	1	2	3	4
I wish I looked like someone else	4	3	2	1	0
I'm pretty happy about the way I look	0	1	2	3	4
I wish I looked better	4	3	2	1	0
There are lots of things I'd change about my looks if I could	4	3	2	1	0
I like what I look like in pictures	0	1	2	3	4
I'm looking as nice as I'd like to	0	1	2	3	4
I feel ashamed of how I look	4	3	2	1	0
My looks upset me	4	3	2	1	0

2. How noticeable are the changes to your appearance/body following your burn injury to other people if fully clothed? Please rate this on the scale below by circling the most appropriate number for you.

Not at all
noticeable

Very
noticeable

0 1 2 3 4 5 6 7 8 9 10

3. AAQ-II

Below you will find a list of statements. Please rate how true each statement is for you by circling a number next to it. Use the scale below to make your choice.

1	2	3	4	5	6	7
never true	very seldom true	seldom true	sometimes true	frequently true	almost always true	always true

8. My painful experiences and memories make it difficult for me to live a life that I would value. 1 2 3 4 5 6 7

9. I'm afraid of my feelings. 1 2 3 4 5 6 7

10. I worry about not being able to control my worries and feelings. 1 2 3 4 5 6 7

11. My painful memories prevent me from having a fulfilling life. 1 2 3 4 5 6 7

12. Emotions cause problems in my life. 1 2 3 4 5 6 7

13. It seems like most people are handling their lives better than I am. 1 2 3 4 5 6 7

14. Worries get in the way of my success. 1 2 3 4 5 6 7

4. How I Typically Act Towards Myself In Difficult Times

Please read each statement carefully before answering. Indicate how often you behave in the stated manner, using the following scale:

Almost never					Almost always
1	2	3	4	5	
1. When I fail at something important to me I become consumed by feelings of inadequacy	1	2	3	4	5
2. I try to be understanding and patient towards those aspects of my personality I don't like	1	2	3	4	5
3. When something painful happens I try to take a balanced view of the situation	1	2	3	4	5
4. When I'm feeling down, I tend to feel like most other people are probably happier than I am	1	2	3	4	5
5. I try to see my failings as part of the human condition	1	2	3	4	5
6. When I'm going through a very hard time, I give myself the caring and tenderness I need	1	2	3	4	5
7. When something upsets me I try to keep my emotions in balance	1	2	3	4	5
8. When I fail at something that's important to me, I tend to feel alone in my failure	1	2	3	4	5
9. When I'm feeling down I tend to obsess and fixate on everything that's wrong	1	2	3	4	5
10. When I feel inadequate in some way, I try to remind myself that feelings of inadequacy are shared by most people	1	2	3	4	5
11. I'm disapproving and judgmental about my own flaws and inadequacies	1	2	3	4	5
12. I'm intolerant and impatient towards those aspects of my personality I don't like	1	2	3	4	5

5. Given the current situation, we would also like to know how distressed you currently feel about the coronavirus/Covid-19. Please rate this on the scale below by circling the most appropriate number for you.

Not at all distressed											Extremely distressed
0	1	2	3	4	5	6	7	8	9	10	

6. Impact of Event Scale - Revised

Instructions: The following is a list of difficulties people sometimes have after stressful life events. Please read each item, and then indicate how distressing each difficulty has been for you *during the past 7 days* with respect to the event that led to your burn injury. How much were you distressed or bothered by these difficulties?

	Not at all 0	A little bit 1	Mod erate -ly 2	Quite a bit 3	Ex- treme -ly 4
1 Any reminder brought back feelings about it.	0	1	2	3	4
2 I had trouble staying asleep.	0	1	2	3	4
3 Other things kept making me think about it.	0	1	2	3	4
4 I felt irritable and angry.	0	1	2	3	4
5 I avoided letting myself get upset when I thought about it or was reminded of it.	0	1	2	3	4
6 I thought about it when I didn't mean to.	0	1	2	3	4
7 I felt as if it hadn't happened or wasn't real.	0	1	2	3	4
8 I stayed away from reminders about it.	0	1	2	3	4
9 Pictures about it popped into my mind.	0	1	2	3	4
10 I was jumpy and easily startled.	0	1	2	3	4
11 I tried not to think about it.	0	1	2	3	4
12 I was aware that I still had a lot of feelings about it, but I didn't deal with them.	0	1	2	3	4
13 My feelings about it were kind of numb.	0	1	2	3	4
14 I found myself acting or feeling like I was back at that time.	0	1	2	3	4
15 I had trouble falling asleep.	0	1	2	3	4
16 I had waves of strong feelings about it.	0	1	2	3	4
17 I tried to remove it from my memory.	0	1	2	3	4
18 I had trouble concentrating.	0	1	2	3	4
19 Reminders of it caused me to have physical reactions, such as sweating, trouble breathing, nausea, or a pounding heart.	0	1	2	3	4
20 I had dreams about it.	0	1	2	3	4
21 I felt watchful and on guard.	0	1	2	3	4
22 I tried not to talk about it.	0	1	2	3	4

7. WSAS

People's problems sometimes affect their ability to do certain day-to-day tasks in their lives. To rate your problems look at each section and determine on the scale provided how much your distress about your appearance/body impairs your ability to carry out the activity.

If you're retired or choose not to have a job for reasons unrelated to your problem, tick ☐ here

0	1	2	3	4	5	6	7	8
Not at all		Slightly	Definitely		Markedly		Very severely	

1. Because of my distress about my appearance my ability to work is impaired.

'0' means 'not at all impaired' and '8' means very severely impaired to the point I can't work.

☐

2. Because of my distress about my appearance my home management (cleaning, tidying, shopping, cooking, looking after home or children, paying bills) is impaired.

☐

3. Because of my distress about my appearance my social leisure activities (with other people e.g. parties, bars, clubs, outings, visits, dating, home entertaining) are impaired.

☐

4. Because of my distress about my appearance, my private leisure activities (done alone, such as reading, gardening, collecting, sewing, walking alone) are impaired.

☐

5. Because of my distress about my appearance, my ability to form and maintain close relationships with others, including those I live with, is impaired

☐

Thank you for participating in this research study.

If you complete and return these questionnaires, you will automatically be sent a £10 Amazon voucher. The voucher will be sent to the same method of delivery as the questionnaires, in the post or electronically to the email address or mobile number you previously supplied. Please tick the box below if you do not want to be sent a voucher.

☐ I **do not** want a voucher for participating

If the content of the questionnaires have created any uncomfortable or distressing feelings, please see below a list of sources for support:

- Your GP
- Your local burns service
- Katie Piper Foundation (<http://katiepiperfoundation.org.uk>)
- Dan's Fund for Burns (www.dansfundforburns.org)

In an urgent or emergency situation, please go to your local A&E department or contact Samaritans (www.samaritans.org) by telephoning 116 123

ProACTIVE Study 1

The roles of psychological flexibility and self-compassion in the development of appearance anxiety following burn injuries

Statistical Analysis Plan

Version 1

18 October 2022

Authors:

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Study identifiers:

Open Science Framework Registration DOI: [10.17605/OSF.IO/ZM6TY](https://doi.org/10.17605/OSF.IO/ZM6TY)

1 ADMINISTRATIVE INFORMATION

1.1 STUDY IDENTIFIERS

Instructions: include relevant study identifiers such as the details of the protocol version used as reference as well as registration details (e.g. ANZCTR registry, WHO UTN or ClinicalTrials.gov). Please also include the funding details (e.g. NHMRC application number). Please add/delete bullet points below as needed.

- Protocol: 2.3, 09/08/2022
- Open Science Framework Registration DOI: [10.17605/OSF.IO/ZM6TY](https://doi.org/10.17605/OSF.IO/ZM6TY)
- Funded by HEE/NIHR (ref. NIHR300282)

1.2 REVISION HISTORY

Version	Date	Changes made to document	Authors

1.3 CONTRIBUTORS TO THE STATISTICAL ANALYSIS PLAN

1.3.1 ROLES AND RESPONSIBILITIES

Names and ORCID	Affiliation	Role on study
Laura Shepherd (https://orcid.org/0000-0003-0205-6596)	Nottingham University Hospitals NHS Trust, University of Sheffield	Chief Investigator, PhD Student
Fuschia Sirois (https://orcid.org/0000-0002-0927-277X)	Durham University	PhD Supervisor
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Paul Norman (https://orcid.org/0000-0002-5892-0470)	University of Sheffield	PhD Supervisor

2 STUDY SYNOPSIS

The study is a multi-centre prospective cohort study. Participants are adults (over the age of 18 years) who have experienced a serious burn injury and been admitted to a NHS regional burns service for this injury. Participants complete a set of questionnaires at three time points: during hospital admission; two months later; and six months later. The study explores the role of two psychological variables, psychological flexibility and self-compassion, on appearance concerns following burn injuries.

2.1 STUDY OBJECTIVES

2.1.1 OBJECTIVES

The aim of the study is to explore whether lower levels of psychological flexibility and self-compassion when measured during hospital admission predicts increased appearance concerns following discharge from hospital.

There are two main research hypotheses:

- Lower levels of psychological flexibility during hospital admission, measured by scores on the Acceptance and Action Questionnaire – II (AAQ-II), will predict increased levels of appearance concerns, measured by Body Esteem Scale for Adults and Adolescents – Appearance (BESAA-A) subscale scores, two- and six-months later.
- Lower levels of self-compassion during hospital admission, measured by scores on the Self-Compassion Scale – Short Form (SCS-SF), will predict increased levels of appearance concerns, measured by Body Esteem Scale for Adults and Adolescents – Appearance (BESAA-A) subscale scores, two- and six-months later.

2.1.2 SECONDARY OBJECTIVES

The study also aims to explore whether lower levels of psychological flexibility and self-compassion when measured during hospital admission predicts increased impairment in work and social functioning due to appearance concerns following discharge from hospital.

There are two additional research hypotheses:

- Lower levels of psychological flexibility during hospital admission, measured by scores on the Acceptance and Action Questionnaire – II (AAQ-II), will predict increased impairment in work and social functioning due to appearance concerns, measured by scores on the Work and Social Functioning Scale (WSAS), two- and six-months later.
- Lower levels of self-compassion during hospital admission, measured by scores on the Self-Compassion Scale – Short Form (SCS-SF), will predict increased impairment in work and social functioning due to appearance concerns, measured by scores on the Work and Social Functioning Scale (WSAS), two- and six-months later.

2.2 PATIENT POPULATION

2.2.1 INCLUSION CRITERIA

- Patients admitted as inpatients to a burns service with acute burn injuries

2.2.2 EXCLUSION CRITERIA

- Patients under the age of 18 years
- Patients admitted as inpatients to the burns service for reconstructive surgery, not an acute burn injury
- Patients who are too physically unwell to participate
- Patients who sustained their burn injury due to a suicide attempt or self-harm
- Patients who are not able to read and understand the English language in order to participate
- Patients with no physical ability to participate by completing questionnaires at all time points (i.e. patients with no fixed abode, telephone number or email address)
- Patients with a known cognitive impairment, making participation difficult

2.3 OUTCOMES

2.3.1 PRIMARY DEPENDENT VARIABLE

- Appearance concerns: This will be measured by the Appearance Subscale of the Body Esteem for Adolescents and Adults (BESAA-A; Mendelson, Mendelson, & White, 2001), a 10-item self-report questionnaire that measures body evaluation, particularly focusing on appearance. This questionnaire will be measured at three time points (during hospital admission, two months later and six months later).

2.3.2 SECONDARY DEPENDENT VARIABLE

- Impairment in work and social functioning due to appearance concerns: This will be measured by the Work and Social Adjustment Scale (WSAS; Mundt et al., 2002). This is a five-item self-report questionnaire. This questionnaire will be measured at two time points (two months and six months follow-up).

2.3.3 INDEPENDENT VARIABLES

- Psychological flexibility – This will be measured by the Acceptance and Action Questionnaire (AAQ-II; Bond et al., 2011), a seven-item self-report questionnaire that measures acceptance/experiential avoidance, one facet of psychological flexibility. This questionnaire will be measured at three time points (during hospital admission, two months later and six months later).
- Self-compassion – This will be measured by the Self-Compassion Scale – Short Form (SCS-SF; Raes et al., 2011), a 12-item self-report questionnaire. This questionnaire will be measured at three time points (during hospital admission, two months later and six months later).

2.3.4 CONTROL/EXTRANEIOUS VARIABLES

There are seven covariates:

- Participant age, gender and ethnicity – These demographic variables will be measured during hospital admission. There is some research which suggests that appearance concerns after burns may vary according to age (e.g., Shepherd et al., 2019), gender (e.g., Ghriwati et al., 2017; Lawrence et al., 2006; Shepherd et al., 2019; Thombs et al., 2008) and ethnicity (e.g., Mata-Greve et al., in press). Ethnicity will be coded as 'white' or 'non-white.'

- Burn severity – The percentage of the total body surface area burnt (% TBSA) will be measured during hospital admission and is a measure of burn severity. A systematic review (Cleary et al., 2020) suggested that, although mixed, the evidence suggests that burn severity and poor body image can be associated.
- Post-traumatic stress disorder (PTSD) symptoms – This will be measured by the Impact of Event Scale - Revised (IES-R; Weiss, 2007), a 22-item self-report questionnaire. This questionnaire will be measured at three time points (during hospital admission, two months later and six months later). Previous research suggests that appearance concerns and PTSD symptoms after burn injuries may be related (e.g., Dahl et al., 2016; Macleod et al., 2016; Shepherd, 2015).
- Perceived noticeability – This will be measured by a single-item visual analogue scale that has been used in previous research (Zucchelli et al., 2020). It asks participants to rate how noticeable they perceive their burn injuries to be to other people when they are fully clothed on a scale of zero (not at all noticeable) to 10 (extremely noticeable). This measure will be completed at three time points (during hospital admission, two months later and six months later). Previous research has shown that individuals' perceptions of the noticeability of their visible difference to other people are related to appearance concerns (e.g., Clarke et al., 2014; Montgomery et al., 2016).
- Baseline appearance concerns as measured by the BESAA-A (Mendelson, Mendelson, & White, 2001) during hospital admission. Thombs et al. (2008) reported that appearance concerns after burn injuries remained stable over time (from hospital admission to six and 12 months later).

2.3.5 ADDITIONAL VARIABLES BEING MEASURED

- Socio-economic status – Participant self-reported socio-economic status, as measured by the McArthur Scale of Subjective Social Status – Adult Version (Adler et al., 2000), will be measured during hospital admission to provide additional contextual information about the sample of participants.
- Burn injury variables – The mechanism of the burn injury, area(s) of the body burnt, depth of the burn injury and the number of days since the burn injury at the time of recruitment to the study will be measured during hospital admission. These will all provide additional contextual information about the sample of participants.
- Covid-19 distress – This will be measured by a visual analogue scale ranging from zero (not at all distressed) to 10 (extremely distressed) to contextualise the sample given the Covid-19 pandemic.

2.4 SAMPLE SIZE

No previous research literature exists that uses all of the measures planned for the current study. Furthermore, previous studies that measure similar constructs or use some of the same measures are all cross-sectional in design. Cohort studies that have explored psychological variables with participants from a UK burn injury population are also lacking, making recruitment and attrition rates difficult to estimate.

Two a priori power analyses were conducted to take into account a range of scenarios in relation to possible difficulties recruiting and retaining participants at follow-up. An initial power analysis for correlational analysis was conducted and subsequently one for multiple linear regression analysis.

Correlational analysis: One cross-sectional study reported a statistically significant large sized

correlation ($r = 0.80$) between psychological flexibility and appearance concerns in a sample of burns patients (Shepherd et al., 2019). This study used the same measure of psychological flexibility as the current study. A further cross-sectional study with a population with a range of visible difference sample reported a statistically large sized significant correlation ($r = 0.52$) between psychological flexibility and appearance concerns (Zucchelli et al., 2020). This study used the same measure of appearance concerns as the current study. Furthermore, a cross-sectional study reported that body image and self-compassion had a statistically significantly medium sized correlation ($r = -0.47$) in a sample of women with breast cancer (Sherman, 2016). This study used the same measure of self-compassion as the current study.

A power analysis using G*Power indicated that data on 61 participants would provide 90% power to detect a medium sized correlation of 0.40 between psychological flexibility and appearance anxiety at any of the time-points, based on a two-sided test with a type-I error of 5%. Allowing for 60% attrition over time, which was reported in a previous cohort study with burns patients in the USA (Thombs et al., 2008), 153 participants would need to be recruited at the first data collection time point (during hospital admission).

Multiple linear regression analysis: A power analysis using the fixed model, r^2 deviation from zero test provided by G*Power indicated that data on 114 participants would be required to detect a statistically significant result at $p=0.05$ based on 80% power and a medium effect size of $f^2 = 0.15$ with nine predictor variables. These would include two independent variables, psychological flexibility and self-compassion, and the seven covariates: age; gender; ethnicity; burn severity (measured by % TBSA); PTSD symptoms; and perceived noticeability and baseline appearance concern (primary dependent variable, during hospital admission). A systematic review and meta-analysis reported that the mean retention rate in longitudinal cohort studies was 73.5% (Teague et al., 2018). Due to this, and taking a more conservative estimate of retaining 67% of those recruited at follow-up, this would suggest recruiting 170 participants. To account for incomplete data, the aim was to recruit 175 participants.

3 STATISTICAL ANALYSIS

3.1 GENERAL PRINCIPLES

The Statistical Package for the Social Sciences (SPSS) version 26 will be used to analyse the data. The p value required for statistical significance will be 0.05.

Data cleaning will be completed using SPSS. Firstly, the dataset will be scrutinised. Any irrelevant variables that will not be used in analysis will be removed (e.g., subscale scores that will not be entered into the analyses). Data formatting will be explored and any incorrectly formatted data will be rectified. The study ID code will be explored in terms of duplication using the ascending/descending function and any duplicated data will be removed. All variables will then be explored in terms of range using frequency analysis to identify any erroneous (out-of-range) values which will then be corrected.

Frequencies will be reported for nominal level data. Mean and standard deviation values will be reported for interval/ratio level data. Median and interquartile range values will be reported for ordinal level data.

Box plots will be used to inspect outliers in all variables to be analysed. Values for skewness and kurtosis will be inspected. Histograms and QQ plots will also be inspected to explore the normal distribution of all variables. Assumptions of multiple linear regression analysis will be explored:

linearity between predicted values and residuals; normality of residuals; homoscedasticity of residuals; and multicollinearity.

Internal reliability of the questionnaires used will be analysed using Cronbach's alpha scores. Acceptable values will be 0.70 or higher.

For standardised questionnaires that has guidance about missing items and computing total scores this guidance will be followed. If any questionnaire has 20% or more missing items the questionnaire total score will not be used.

Missing values analysis will be completed to see if the values are missing completely at random (MCAR) or if there is a pattern amongst missing data. Analyses will be run with and without missing data imputations. If the MCAR analysis is non-significant, missing items will be calculated using expectation maximisation. If the MCAR analysis is significant, imputations will be completed.

3.2 PARTICIPANT DISPOSITION

A flowchart will be produced to display the number of participants recruited, frequency (and %) retained at two months follow-up, and frequency (and %) retained at six month follow up across the sample. Retention rates will also be presented by key participant demographics and burn injury variables. Participation method (e.g. post, online, telephone) at two-month and six-month follow-ups will also be presented. The total number of admissions to the recruiting hospital sites for burn injuries that were not a consequence of self-harm/suicide attempts will be presented to contextualise the sample and indicate representativeness.

3.3 PARTICIPANT CHARACTERISTICS AND BASELINE COMPARISONS

Descriptive statistics will be used to analyse the sample in relation to demographic variables (gender, age, ethnicity, socioeconomic status), burn injury variables (mechanism of the burn injury, percentage of the total body surface area burnt (% TBSA), depth of the burn, area(s) on the body burnt, and the number of days since the burn injury at the time of recruitment) and Covid-19 distress.

Repeated measures ANOVAs will be conducted to compare the scores on the Appearance Subscale of the Body Esteem Scale for Adolescents and Adults (BESAA-A), Acceptance and Action Questionnaire (AAQ-II), Self-Compassion Scale – Short Form (SCS-SF), Impact of Event Scale – Revised (IES-R), perceived noticeability visual analogue scale and Covid-related distress visual analogue scale across the three data collection time points (hospital admission, two months later and six months later) to analyse whether scores on any of these measures changed over time. The Friedman test will be conducted if the data is non-parametric. A repeated measures t-test will also be conducted to compare the scores on the Work and Social Adjustment Scale (WSAS) across the two data collection time points (two months and six months after hospital admission) to examine whether scores on this measure changed over time. A Wilcoxon signed-rank test will be used if the data is non-parametric.

A correlation matrix will be produced to explore the relationships between scores on the primary and secondary dependent variables (appearance concerns and impact on work and social functioning), scores on the two independent variables (psychological flexibility and self-compassion) and pre-determined covariates (age, gender, ethnicity, % TBSA burnt, PTSD symptoms, perceived noticeability) at all three data collection time points (hospital admission, two months later and six months later). Pearson's correlational analyses will be used for parametric data. Non-parametric correlational analyses (Spearman's) will be used where assumptions of normality have been violated and when the relationships with gender and ethnicity are being explored.

3.4 ANALYSIS OF THE PRIMARY OUTCOME

3.4.1 MAIN ANALYSIS

Cross-lagged correlation analyses will be initially conducted to analyse the relationships between scores on the Appearance Subscale of the Body Esteem Scale for Adolescents and Adults (BESAA-A), Work and Social Adjustment Scale (WSAS), Acceptance and Action Questionnaire (AAQ-II) and Self-Compassion Scale – Short Form (SCS-SF) at each time point (hospital admission, two months later, six months later), controlling for pre-determined covariates measured at the same time point as the independent variables where applicable (i.e., PTSD symptoms and perceived noticeability). Pearson's correlational analyses will be used for parametric data. Non-parametric correlational analyses (Spearman's, point-biserial, and partial correlations using recoding) will be used where assumptions of normality have been violated and where relationships with gender and ethnicity are being explored.

Six linear multiple regression analyses will then be conducted both with and without entering covariates into the model, subject to an adequate sample size and retention rate.

The first linear multiple regression analysis will test whether scores on the two independent variables (AAQ-II and SCS-SF) during hospital admission predict scores on the BESAA-A (primary dependent variable) two months later. This will enable the model to analyse whether psychological flexibility and self-compassion can explain the variance in appearance concerns two months later, whilst controlling for covariates measured during hospital admission.

The second linear multiple regression analysis will repeat the first analysis but will also add in the baseline BESAA-A score (primary dependent variable) as an additional covariate. This will enable the model to analyse whether psychological flexibility and self-compassion can explain the variance in the changes in appearance concerns over time between baseline and two months later, whilst controlling for baseline appearance concerns and covariates measured during hospital admission.

The third linear multiple regression analysis will repeat the first analysis but using scores on the BESAA-A (primary dependent variable) six months later. This will enable the model to analyse whether psychological flexibility and self-compassion can explain the variance in appearance concerns six months later, whilst controlling for covariates measured during hospital admission.

The fourth linear multiple regression analysis will repeat the third analysis but will also add in the baseline primary dependent variable (BESAA-A score) as an additional covariate. This will enable the model to analyse whether psychological flexibility and self-compassion can explain the variance in the changes in appearance concerns over time between baseline and six months later, whilst controlling for baseline appearance concerns and covariates measured during hospital admission.

The fifth and sixth linear multiple regression analyses will repeat the first and third analyses but will use scores from the WSAS (secondary dependent variable) two and six months later instead of scores on the BESAA-A (primary dependent variable). These will enable the models to analyse whether psychological flexibility and self-compassion can explain the variance in work and social functioning due to appearance concerns two months and six months later, whilst controlling for covariates measured during hospital admission. Unlike the BESAA-A, WSAS is not being measured at baseline and so cannot be included as a covariate in further analyses.

Appendix K: Multi-centre Prospective Cohort Study : Full Correlation Matrix

Correlations																						
		T1_BESAA_to tal_mean	T2_BESAA_to tal_mean	T3_BESAA_to tal_mean	T2_WSAS_tot al	T3_WSAS_tot al	gender	age	ethnicity_whit e_nonwhite	TBSA_perce nt	T1_AAO_total	T1_SCS_total _mean	T1_IES_total	T1_perceived _noticeability	T2_AAO_total	T2_SCS_total _mean	T2_IES_total	T2_perceived _noticeability	T3_AAO_total	T3_SCS_total _mean	T3_IES_total	T3_perceived _noticeability
T1_BESAA_total_mean	Pearson Correlation	1	.621**	.669**	-.387**	-.344**	-.259**	.147	-.006	-.070	-.543**	.499**	-.472**	-.368**	-.517**	.534**	-.387**	-.156	.536**	.520**	-.407**	-.176
	Sig. (2-tailed)		<.001	<.001	<.001	<.001	<.001	.055	.936	.359	<.001	<.001	<.001	<.001	<.001	<.001	<.001	.087	<.001	<.001	<.001	.056
	N	172	123	119	122	118	172	172	169	172	172	171	172	169	123	123	123	121	118	119	118	119
T2_BESAA_total_mean	Pearson Correlation	.621**	1	.872**	-.678**	-.651**	-.269**	.201	.042	-.072	-.514**	.446**	-.414**	-.202*	-.732**	.677**	-.592**	-.324**	-.717**	.657**	-.628**	-.377**
	Sig. (2-tailed)	<.001		<.001	<.001	<.001	.002	.025	.648	.422	<.001	<.001	<.001	.025	<.001	<.001	<.001	<.001	<.001	<.001	<.001	<.001
	N	123	125	111	124	109	125	125	123	125	125	124	124	123	125	125	125	123	110	111	110	111
T3_BESAA_total_mean	Pearson Correlation	.669**	.872**	1	-.605**	-.631**	-.308**	.198*	.022	-.168	-.570**	.514**	-.468**	-.209*	-.710**	.692**	-.546**	-.236**	-.788**	.702**	-.612**	-.345**
	Sig. (2-tailed)	<.001	<.001		<.001	<.001	<.001	.029	.814	.065	<.001	<.001	<.001	.022	<.001	<.001	<.001	<.001	.013	<.001	<.001	<.001
	N	119	111	122	110	120	122	122	120	122	122	121	121	121	111	111	111	109	121	122	121	122
T2_WSAS_total	Pearson Correlation	-.387**	-.678**	-.605**	1	.729**	.085	-.186*	.060	.132	.366**	-.274**	.424**	.137	.663**	-.436**	.616**	.432**	.608**	-.389**	.673**	.462**
	Sig. (2-tailed)	<.001	<.001	<.001		<.001	.350	.038	.511	.145	<.001	.002	<.001	.133	<.001	<.001	<.001	<.001	<.001	<.001	<.001	<.001
	N	122	124	110	124	108	124	124	122	124	124	123	123	122	124	124	124	123	109	110	109	110
T3_WSAS_total	Pearson Correlation	-.344**	-.651**	-.631**	.729**	1	.114	-.205*	.014	.054	.353**	-.324**	.467**	.237**	.595**	-.413**	.608**	.435**	.641**	-.406**	.702**	.568**
	Sig. (2-tailed)	<.001	<.001	<.001	<.001		.213	.025	.884	.557	<.001	<.001	<.001	.009	<.001	<.001	<.001	<.001	<.001	<.001	<.001	<.001
	N	118	109	120	108	120	120	120	119	120	120	119	120	119	109	109	109	107	119	120	120	120
gender	Pearson Correlation	-.259**	-.269**	-.308**	.085	.114	1	-.038	.163*	.006	.142	-.088	.131	.047	.196*	-.173	.240**	.025	.213*	-.174	.164	.096
	Sig. (2-tailed)	<.001	.002	<.001	.350	.213		.616	.033	.940	.060	.250	.084	.538	.028	.053	.007	.787	.019	.055	.072	.293
	N	172	125	122	124	120	175	175	172	175	175	174	174	172	125	125	125	123	121	122	121	122
age	Pearson Correlation	.147	.201*	.198*	-.186*	-.205*	-.038	1	-.198**	-.045	-.182*	.254**	-.286**	-.164*	-.316*	.226*	-.325**	-.125	-.272**	.185*	-.314**	-.085
	Sig. (2-tailed)	.055	.025	.029	.038	.025	.616		.009	.550	.016	<.001	<.001	.031	<.001	.011	<.001	.168	.003	.041	<.001	.351
	N	172	125	122	124	120	175	175	172	175	175	174	174	172	125	125	125	123	121	122	121	122
ethnicity_white_nonwhite	Pearson Correlation	-.006	.042	.022	.060	.014	.163*	-.198**	1	-.066	.021	.026	.085	-.033	-.026	.034	.241**	.000	-.024	-.010	.143	.103
	Sig. (2-tailed)	.936	.648	.814	.511	.884	.033	.009		.393	.781	.739	.266	.675	.779	.713	.007	.996	.797	.915	.122	.264
	N	169	123	120	122	118	172	172	172	172	172	171	171	169	123	123	123	121	119	120	119	120
TBSA_percent	Pearson Correlation	-.070	-.072	-.168	.132	.054	.006	-.045	-.066	1	.107	-.117	.157*	.071	.210*	-.122	.102	.080	.129	-.170	.139	.034
	Sig. (2-tailed)	.359	.422	.065	.145	.557	.940	.550	.393		.158	.126	.039	.356	.019	.176	.258	.378	.160	.062	.128	.710
	N	172	125	122	124	120	175	175	172	175	175	174	174	172	125	125	125	123	121	122	121	122
T1_AAO_total	Pearson Correlation	-.543**	-.514**	-.570**	.366**	.353**	.142	-.182*	.021	.107	1	-.779**	.619**	.049	.647**	.172	.637**	.391**	.131	.575**	-.584**	.388**
	Sig. (2-tailed)	<.001	<.001	<.001	<.001	<.001	.060	.016	.781	.158		<.001	<.001	.522	<.001	<.001	<.001	.150	<.001	<.001	<.001	.379
	N	172	125	122	124	120	175	175	172	175	175	174	174	172	125	125	125	123	121	122	121	122
T1_SCS_total_mean	Pearson Correlation	.499**	.446**	.514**	-.274**	-.324**	-.088	.254**	.026	-.117	-.779**	1	-.537**	.002	-.536**	.688**	-.309**	-.048	-.566**	.642**	-.364**	-.044
	Sig. (2-tailed)	<.001	<.001	<.001	.002	<.001	.250	<.001	.739	.126	<.001		<.001	.976	<.001	<.001	<.001	.599	<.001	<.001	<.001	.633
	N	171	124	121	123	119	174	174	174	174	174	174	173	171	124	124	124	122	120	121	120	121
T1_IES_total	Pearson Correlation	-.472**	-.414**	-.468**	.424**	.467**	.131	-.286**	.085	.157*	.619**	-.537**	1	.215**	.471**	-.417**	.567**	.216*	.573**	-.357**	.611**	.258**
	Sig. (2-tailed)	<.001	<.001	<.001	<.001	<.001	.084	<.001	.266	.039	<.001	<.001		.005	<.001	<.001	<.001	.017	<.001	<.001	<.001	.004
	N	172	124	121	123	120	174	174	171	174	174	173	174	171	124	124	124	122	120	121	120	121
T1_perceived_noticeability	Pearson Correlation	-.368**	-.202*	-.209*	.137	.237**	.047	-.164*	-.033	.071	.049	.002	.215**	1	.149	-.104	.228*	.382**	.186*	-.063	.221*	.346**
	Sig. (2-tailed)	<.001	.025	.022	.133	.009	.538	.031	.675	.356	.522	.976	.005		.099	.250	.011	<.001	.042	.495	.015	<.001
	N	169	123	121	122	119	172	172	169	172	172	171	171	172	123	123	123	121	120	121	120	121
T2_AAO_total	Pearson Correlation	-.517**	-.732**	-.710**	.663**	.595**	.196*	-.316**	-.026	.210*	.647**	-.536**	.471**	.149	1	-.724**	.728**	.290**	.762**	-.616**	.652**	.279**
	Sig. (2-tailed)	<.001	<.001	<.001	<.001	<.001	.028	<.001	.779	.019	<.001	<.001	<.001	.099		<.001	<.001	.001	<.001	<.001	<.001	.003
	N	123	125	111	124	109	125	125	123	125	125	124	124	123	125	125	125	123	110	111	110	111
T2_SCS_total_mean	Pearson Correlation	.534**	.677**	.692**	-.436**	-.413**	-.173	.228*	.034	-.122	-.637**	.688**	-.417**	-.104	-.724**	1	-.486**	-.117	-.653**	.838**	-.442**	-.070
	Sig. (2-tailed)	<.001	<.001	<.001	<.001	<.001	.053	.011	.713	.176	<.001	<.001	<.001	.250	<.001		<.001	.198	<.001	<.001	<.001	.465
	N	123	125	111	124	109	125	125	123	125	125	124	124	123	125	125	125	123	110	111	110	111
T2_IES_total	Pearson Correlation	-.387**	-.592**	-.546**	.616**	.608**	.240**	-.325**	.241**	.102	.391**	-.309**	.567**	.228*	.728**	-.486**	1	.319**	.622**	-.394**	.839**	.390**
	Sig. (2-tailed)	<.001	<.001	<.001	<.001	<.001	.007	<.001	.007	.258	<.001	<.001	<.001	.011	<.001	<.001		<.001	<.001	<.001	<.001	<.001
	N	123	125	111	124	109	125	125	123	125	125	124	124	123	125	125	125	123	110	111	110	111
T2_perceived_noticeability	Pearson Correlation	-.156	-.324**	-.236*	.432**	.435**	.025	-.125	.000	.080	.131	-.048	.216*	.382*	.290**	-.117	.319**	1	.266**	-.160	.376**	.618**
	Sig. (2-tailed)	.087	<.001	.013	<.001	.007	.787	.168	.996	.378	.150	.599	.017	<.001	.001	.198	<.001		.005	.097	<.001	<.001
	N	121	123	109	123	107	123	123	121	123	123	122	122	121	123	123	123	123	108	109	108	109
T3_AAO_total	Pearson Correlation	-.536**	-.717**	-.788**	.608**	.641**	.213*	-.272**	-.024	.129*	.575**	-.566**	.573**	.186*	.762**	-.853**	.622**	.268**	1	-.701**	.683**	.308**
	Sig. (2-tailed)	<.001	<.001	<.001	<.001	<.001	.019	.003	.797	.160	<.001	<.001	<.001	.042	<.001	<.001	<.001	.005		<.001	<.001	<.001
	N	118	110	121	109	119	121	121	119	121	121											

Appendix L: Qualitative Study: Ethical Approval Documentation



Health Research Authority

London - Bromley Research Ethics Committee

2 Redman Place
Stratford E20 1JQ

Please note:

This is the favourable opinion of the REC only and does not allow you to start your study at NHS sites in England until you receive HRA Approval

05 June 2024

Dr Laura Shepherd Burns
Unit
Nottingham City Hospital Campus Hucknall
Road, Nottingham
NG5 1PB

Dear Dr Shepherd

Study title:	A mixed-methods acceptability study of ‘ProACTIVE,’ an early acceptance and commitment therapy intervention to help burns patients adjust to changes to appearance
REC reference:	24/LO/0402
Protocol number:	24CP001
IRAS project ID:	339105

Thank you for your submission responding to the Research Ethics Committee’s (REC) request for further information on the above research and submitting revised documentation. The further information has been considered on behalf of the Committee by the Chair Mrs Helen Wood.

Confirmation of ethical opinion

On behalf of the Committee, I am pleased to confirm a favourable ethical opinion for the above research on the basis described in the application form, protocol and supporting documentation as revised, subject to the conditions specified below.

Recommendations

The Committee noted the justification for not including a flow diagram in the Participant

Information Sheet however the Committee strongly suggest giving this further consideration as this will improve clarify and aid the participants understanding of what their involvement will be.

Good practice principles and responsibilities

The [UK Policy Framework for Health and Social Care Research](#) sets out principles of good practice in the management and conduct of health and social care research. It also outlines the responsibilities of individuals and organisations, including those related to the four elements of [research transparency](#):

1. [registering research studies](#)
2. [reporting results](#)
3. [informing participants](#)
4. [sharing study data and tissue](#)

Conditions of the favourable opinion

The REC favourable opinion is subject to the following conditions being met prior to the start of the study.

Confirmation of Capacity and Capability (in England, Northern Ireland and Wales) or NHS management permission (in Scotland) should be sought from all NHS organisations involved in the study in accordance with NHS research governance arrangements. Each NHS organisation must confirm through the signing of agreements and/or other documents that it has given permission for the research to proceed (except where explicitly specified otherwise).

Guidance on applying for HRA and HCRW Approval (England and Wales)/ NHS permission for research is available in the Integrated Research Application System.

For non-NHS sites, site management permission should be obtained in accordance with the procedures of the relevant host organisation.

Sponsors are not required to notify the Committee of management permissions from host organisations

Registration of Clinical Trials

All research should be registered in a publicly accessible database and we expect all researchers, research sponsors and others to meet this fundamental best practice standard.

It is a condition of the REC favourable opinion that **all clinical trials are registered** on a public registry before the first participant is recruited and no later than six weeks after. For this purpose, 'clinical trials' are defined as:

- clinical trial of an investigational medicinal product
- clinical investigation or other study of a medical device
- combined trial of an investigational medicinal product and an investigational medical device
- other clinical trial to study a novel intervention or randomised clinical trial to compare interventions in clinical practice.

A 'public registry' means any registry on the WHO list of primary registries or the ICMJE list of registries provided the registry facilitates public access to information about the UK trial.

Failure to register a clinical trial is a breach of these approval conditions, unless a deferral has been agreed by the HRA (for more information on registration and requesting a deferral see: [Research registration and research project identifiers](#)).

Where a deferral is agreed we expect the sponsor to publish a [minimal record](#) on a publicly accessible registry. When the deferral period ends, the sponsor should publish the full record on the same registry, to fulfil the condition of the REC favourable opinion.

If you have not already included registration details in your IRAS application form you should notify the REC of the registration details as soon as possible.

Where the study is registered on ClinicalTrials.gov, please inform deferrals@hra.nhs.uk and the Research Ethics Committee (REC) which issued the final ethical opinion so that our records can be updated.

Publication of Your Research Summary

We will publish your research summary for the above study on the research summaries section of our website, together with your contact details, no earlier than three months from the date of this favourable opinion letter. Where a deferral is agreed, [a minimum research summary](#) will still be published in [the research summaries database](#). At the end of the deferral period, we will publish the [full research summary](#).

Should you wish to provide a substitute contact point, make a request to defer, or require further information, please visit: [Research summaries - Health Research Authority \(hra.nhs.uk\)](#)

It is the responsibility of the sponsor to ensure that all the conditions are complied with before the start of the study or its initiation at a particular site (as applicable).

After ethical review: Reporting requirements

The attached document “After ethical review – guidance for researchers” gives detailed guidance on reporting requirements for studies with a favourable opinion, including:

- Notifying substantial amendments
- Adding new sites and investigators
- Notification of serious breaches of the protocol
- Progress and safety reports
- Notifying the end of the study, including early termination of the study
- Final report
- Reporting results

The latest guidance on these topics can be found at [Managing your approval - Health Research Authority \(hra.nhs.uk\)](#)

Ethical review of research sites

NHS/HSC sites

The favourable opinion applies to all NHS/HSC sites taking part in the study, subject to confirmation of Capacity and Capability (in England, Northern Ireland and Wales) or management permission (in Scotland) being obtained from the NHS/HSC R&D office prior to the

start of the study (see "Conditions of the favourable opinion" below).

Non-NHS/HSC sites

I am pleased to confirm that the favourable opinion applies to any non-NHS/HSC sites listed in the application, subject to site management permission being obtained prior to the start of the study at the site.

Approved documents

The final list of documents reviewed and approved by the Committee is as follows:

<i>Document</i>	<i>Version</i>	<i>Date</i>
Interview schedules or topic guides for participants [Interview Schedule]	1.0	17 April 2024
IRAS Application Form [IRAS_Form_25042024]		25 April 2024
Non-validated questionnaire [Questionnaire to record demographic and burn injury information]	1.0	17 April 2024
Non-validated questionnaire [Questionnaire to be given when ending the intervention]	1.0	17 April 2024
Non-validated questionnaire [Questionnaire for participants who are partially participating]	1.0	17 April 2024
Other [Distress protocol]	1.0	17 April 2024
Other [Participant Contact Sheet]	1.0	17 April 2024
Other [Voucher cover letter]	1.0	17 April 2024
Other [Fidelity checklist]	1.0	23 April 2024
Other [A priori themes]	N/A	17 April 2024
Other [Intervention record]	1.0	17 April 2024
Other [Intervention protocol]	1.0	15 April 2024
Other [GCP refresher certificate Laura Shepherd]	N/A	11 October 2022
Other [Indemnity insurance Fuschia Sirois 1]	N/A	01 August 2023
Other [Fuschia Sirois indemnity insurance 2]	N/A	01 August 2023
Other [Paul Norman indemnity insurance]	N/A	14 September 2023
Other [Diana Harcourt indemnity insurance]	N/A	01 August 2023
Other [Diana Harcourt indemnity insurance 2]	N/A	01 August 2023
Other [Diana Harcourt indemnity insurance 3]	N/A	01 August 2023
Other [Patient Intervention Resources]	1.0	15 April 2024
Other [A priori themes]	1.0	17 April 2024
Other [Response to provisional opinion]	N/A	24 May 2024
Participant consent form [Participant Consent Form]	1.1	24 May 2024
Participant consent form [Participant Consent Form (Verbal)]	1.1	24 May 2024
Participant information sheet (PIS) [Participant Information Sheet]	1.1	24 May 2024
Research protocol or project proposal [Protocol]	1.0	17 April 2024
Summary CV for Chief Investigator (CI) [CV Laura Shepherd]	N/A	15 April 2024
Summary CV for student [CV]	N/A	15 April 2024
Summary CV for supervisor (student research) [CV Andrew Thompson]	N/A	22 April 2024

Summary CV for supervisor (student research) [CV Fuschia Sirois]	N/A	23 April 2024
Summary CV for supervisor (student research) [CV Paul Norman]	N/A	10 January 2024
Summary CV for supervisor (student research) [CV Diana Harcourt]	N/A	01 September 2023
Validated questionnaire [Pre-intervention Questionnaires]	1.0	17 April 2024
Validated questionnaire [Post-intervention Questionnaires]	1.0	17 April 2024
Validated questionnaire [Helpful Aspects of Therapy Form]	1.0	17 April 2024

Statement of compliance

The Committee is constituted in accordance with the Governance Arrangements for Research Ethics Committees and complies fully with the Standard Operating Procedures for Research Ethics Committees in the UK.

User Feedback

The Health Research Authority is continually striving to provide a high quality service to all applicants and sponsors. You are invited to give your view of the service you have received and the application procedure. If you wish to make your views known please use the feedback form available on the HRA website: [Quality assurance - Health Research Authority \(hra.nhs.uk\)](https://www.hra.nhs.uk/quality-assurance)

HRA Learning

We are pleased to welcome researchers and research staff to our HRA Learning Events and online learning opportunities— see details at: [Learning - Health Research Authority \(hra.nhs.uk\)](https://www.hra.nhs.uk/learning)

IRAS project ID: 339105	Please quote this number on all correspondence

With the Committee's best wishes for the success of this project.

Yours sincerely



Mrs Helen Jane Wood
Chair

Email: bromley.rec@hra.nhs.uk

Enclosures: "After ethical review – guidance for researchers" [\[SL-AR2\]](#)

[Non CTIMP Standard Conditions of Approval](#)

Copy to: Mrs Alison Lloyd, Nottingham University Hospitals NHS Trust

West Midlands - South Birmingham Research Ethics Committee

The Old Chapel Royal Standard Place
Nottingham NG1 6FS

Please note: This is the
favourable opinion of the REC only
and does not allow you to start
your study at NHS sites in England
until you receive HRA Approval

15 July 2021

Dr Laura Shepherd c/o
Burns Unit
Nottingham City Hospital
Hucknall Road, Nottingham NG5
1PB

Dear Dr Shepherd

Study title:	An exploration of burns patients' early experiences of appearance anxiety and acceptability of early psychological interventions
REC reference:	21/WM/0144
Protocol number:	21BP002
IRAS project ID:	292292

Thank you for responding to the Research Ethics Committee's (REC) request for further information on the above research and submitting revised documentation.

The further information has been considered on behalf of the Committee by the Chair, together with the Vice-Chair.

Confirmation of ethical opinion

On behalf of the Committee, I am pleased to confirm a favourable ethical opinion for the above research on the basis described in the application form, protocol and supporting documentation as revised, subject to the conditions specified below.

Comments & Recommendations

The Committee were pleased to note that non-English speakers would now be included in the project and wanted to thank the applicants for this update.

The Committee noted that inclusion of direct quotes had been included in the information sheet and agreed to recommend that a clause that specifically related to use of direct quotes should be added to the consent form. The Committee agreed that it should be clear this clause was optional.

The Committee also encouraged the applicant to consider whether referral for support and/or to the local burns unit should be included under the 'Benefits of taking part' section of the information sheet as the Committee were unsure how this could be perceived as a benefit.

Good practice principles and responsibilities

The [UK Policy Framework for Health and Social Care Research](#) sets out principles of good practice in the management and conduct of health and social care research. It also outlines the responsibilities of individuals and organisations, including those related to the four elements of [research transparency](#):

1. [registering research studies](#)
2. [reporting results](#)
3. [informing participants](#)
4. [sharing study data and tissue](#)

Conditions of the favourable opinion

The REC favourable opinion is subject to the following conditions being met prior to the start of the study.

Confirmation of Capacity and Capability (in England, Northern Ireland and Wales) or NHS management permission (in Scotland) should be sought from all NHS organisations involved in the study in accordance with NHS research governance arrangements. Each NHS organisation must confirm through the signing of agreements and/or other documents that it has given permission for the research to proceed (except where explicitly specified otherwise).

Guidance on applying for HRA and HCRW Approval (England and Wales)/ NHS permission for research is available in the Integrated Research Application System.

For non-NHS sites, site management permission should be obtained in accordance with the procedures of the relevant host organisation.

Sponsors are not required to notify the Committee of management permissions from host organisations

Registration of Clinical Trials

All research should be registered in a publicly accessible database and we expect all researchers, research sponsors and others to meet this fundamental best practice standard.

It is a condition of the REC favourable opinion that **all clinical trials are registered** on a publicly accessible database within six weeks of recruiting the first research participant. For this purpose, 'clinical trials' are defined as the first four project categories in IRAS project filter question 2. Failure to register a clinical trial is a breach of these approval conditions, unless a deferral has been agreed by or on behalf of the Research Ethics Committee (see here for more information on requesting a deferral:

<https://www.hra.nhs.uk/planning-and-improving-research/research-planning/research-registration-research-project-identifiers/>

If you have not already included registration details in your IRAS application form, you should notify the REC of the registration details as soon as possible.

Further guidance on registration is available at:

<https://www.hra.nhs.uk/planning-and-improving-research/research-planning/transparency-responsibilities/>

Publication of Your Research Summary

We will publish your research summary for the above study on the research summaries section of our website, together with your contact details, no earlier than three months from the date of this favourable opinion letter.

Should you wish to provide a substitute contact point, make a request to defer, or require further information, please visit:

<https://www.hra.nhs.uk/planning-and-improving-research/application-summaries/research-summaries/>

N.B. If your study is related to COVID-19 we will aim to publish your research summary within 3 days rather than three months.

During this public health emergency, it is vital that everyone can promptly identify all relevant research related to COVID-19 that is taking place globally. If you haven't already done so, please register your study on a public registry as soon as possible and provide the REC with the registration detail, which will be posted alongside other information relating to your project. We are also asking sponsors not to request deferral of publication of research summary for any projects relating to COVID-19. In addition, to facilitate finding and extracting studies related to COVID-19 from public databases, please enter the WHO official acronym for the coronavirus disease (COVID-19) in the full title of your study. Approved COVID-19 studies can be found at:

<https://www.hra.nhs.uk/covid-19-research/approved-covid-19-research/>

It is the responsibility of the sponsor to ensure that all the conditions are complied with before the start of the study or its initiation at a particular site (as applicable).

After ethical review: Reporting requirements

The attached document "After ethical review – guidance for researchers" gives detailed guidance on reporting requirements for studies with a favourable opinion, including:

- Notifying substantial amendments
- Adding new sites and investigators
- Notification of serious breaches of the protocol
- Progress and safety reports
- Notifying the end of the study, including early termination of the study
- Final report
- Reporting results

The latest guidance on these topics can be found at
<https://www.hra.nhs.uk/approvals-amendments/managing-your-approval/>.

Ethical review of research sites

NHS/HSC sites

The favourable opinion applies to all NHS/HSC sites taking part in the study, subject to confirmation of Capacity and Capability (in England, Northern Ireland and Wales) or management permission (in Scotland) being obtained from the NHS/HSC R&D office prior to the start of the study (see "Conditions of the favourable opinion" below).

Non-NHS/HSC sites

I am pleased to confirm that the favourable opinion applies to any non-NHS/HSC sites listed in the application, subject to site management permission being obtained prior to the start of the study at the site.

Approved documents

The final list of documents reviewed and approved by the Committee is as follows:

<i>Document</i>	<i>Version</i>	<i>Date</i>
Copies of materials calling attention of potential participants to the research [flier]	1.1	22 June 2021
Copies of materials calling attention of potential participants to the research [flier with track changes]	1.1	22 June 2021
Covering letter on headed paper [voucher cover letter]		30 March 2021
Evidence of Sponsor insurance or indemnity (non NHS Sponsors only) [indemnity insurance]		28 September 2020
Interview schedules or topic guides for participants [interview schedule]	1.0	30 March 2021
IRAS Application Form [IRAS_Form_27052021]		27 May 2021
Letter from funder [letter of intent to fund]		09 January 2020
Letters of invitation to participant [PIC invite letter]	1.0	30 March 2021
Letters of invitation to participant [previous participant invite letter]	1.0	30 March 2021
Other [participant contact sheet]	1.0	30 March 2021
Other [GCP certificate for CI]	n/a	25 September 2020
Other [distress protocol]	1.0	30 March 2021
Other [indemnity insurance 1]	n/a	01 August 2020

Other [indemnity insurance 2]	n/a	01 August 2020
Other [indemnity insurance 3]	n/a	01 August 2020
Other [Response to REC Provisional Opinion]	n/a	22 June 2021
Participant consent form [written consent form]	1.1	22 June 2021
Participant consent form [written consent form with track changes]	1.1	22 June 2021
Participant consent form [verbal consent form]	1.1	22 June 2021
Participant consent form [verbal consent form with track changes]	1.1	22 June 2021
Participant information sheet (PIS) [Participant Information Sheet]	1.1	22 June 2021
Participant information sheet (PIS) [Participant Information Sheet with track changes]	1.1	22 June 2021
Referee's report or other scientific critique report [peer review 1]		23 February 2021
Referee's report or other scientific critique report [peer review 2]		02 March 2021
Research protocol or project proposal [protocol]	1.0	30 March 2021
Summary CV for student [CV - CI]		01 May 2021
Summary CV for supervisor (student research) [CV - Andrew Thompson]		15 October 2020
Summary CV for supervisor (student research) [CV - Fuschia Sirois]		03 November 2020
Summary CV for supervisor (student research) [CV - Diana Harcourt]		20 October 2020
Validated questionnaire [Questionnaires (non validated)]	1.1	22 June 2021
Validated questionnaire [Questionnaires (non validated) with track changes]	1.1	22 June 2021

Statement of compliance

The Committee is constituted in accordance with the Governance Arrangements for Research Ethics Committees and complies fully with the Standard Operating Procedures for Research Ethics Committees in the UK.

User Feedback

The Health Research Authority is continually striving to provide a high quality service to all applicants and sponsors. You are invited to give your view of the service you have received and the application procedure. If you wish to make your views known please use the feedback form available on the HRA website:

<http://www.hra.nhs.uk/about-the-hra/governance/quality-assurance/>

HRA Learning

We are pleased to welcome researchers and research staff to our HRA Learning Events and online learning opportunities– see details at:

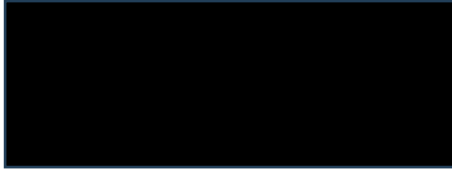
<https://www.hra.nhs.uk/planning-and-improving-research/learning/>

IRAS project ID: 292292

Please quote this number on all correspondence

With the Committee's best wishes for the success of this project.

Yours sincerely



Signed on behalf of the Chair, Professor Paula McGee

Email:southbirmingham.rec@hra.nhs.uk

Enclosures: "After ethical review – guidance for researchers" [SL-AR2]

Copy to: Mrs Jennifer Boston

Dr Laura Shepherd
c/o Burns Unit
Nottingham City Hospital
Hucknall Road, Nottingham
NG5 1PBN/A

Email: approvals@hra.nhs.uk
HCRW.approvals@wales.nhs.uk

20 July 2021

Dear Dr

Shepherd

**HRA and Health and Care
Research Wales (HCRW)
Approval Letter**

Study title: An exploration of burns patients' early experiences of appearance anxiety and acceptability of early psychological interventions

IRAS project ID: 292292

Protocol number: 21BP002

REC reference: 21/WM/0144

Sponsor Nottingham University Hospitals NHS Trust

I am pleased to confirm that [HRA and Health and Care Research Wales \(HCRW\) Approval](#) has been given for the above referenced study, on the basis described in the application form, protocol, supporting documentation and any clarifications received. You should not expect to receive anything further relating to this application.

Please now work with participating NHS organisations to confirm capacity and capability, in line with the instructions provided in the "Information to support study set up" section towards the end of this letter.

How should I work with participating NHS/HSC organisations in Northern Ireland and Scotland?

HRA and HCRW Approval does not apply to NHS/HSC organisations within Northern Ireland and Scotland.

If you indicated in your IRAS form that you do have participating organisations in either of these devolved administrations, the final document set and the study wide governance report (including this letter) have been sent to the coordinating centre of each participating nation. The relevant national coordinating function/s will contact you as appropriate.

Please see [IRAS Help](#) for information on working with NHS/HSC organisations in Northern Ireland and Scotland.

How should I work with participating non-NHS organisations?

HRA and HCRW Approval does not apply to non-NHS organisations. You should work with your non-NHS organisations to [obtain local agreement](#) in accordance with their procedures.

What are my notification responsibilities during the study?

The standard conditions document “[After Ethical Review – guidance for sponsors and investigators](#)”, issued with your REC favourable opinion, gives detailed guidance on reporting expectations for studies, including:

- Registration of research
- Notifying amendments
- Notifying the end of the study

The [HRA website](#) also provides guidance on these topics, and is updated in the light of changes in reporting expectations or procedures.

Who should I contact for further information?

Please do not hesitate to contact me for assistance with this application. My contact details are below.

Your IRAS project ID is **292292**. Please quote this on all correspondence.

Yours sincerely,



Harriet Wood

Approvals Specialist

Email: approvals@hra.nhs.uk

Copy to: Mrs Jennifer Boston

List of Documents

The final document set assessed and approved by HRA and HCRW Approval is listed below.

<i>Document</i>	<i>Version</i>	<i>Date</i>
Copies of materials calling attention of potential participants to the research [flier]	1.1	22 June 2021
Copies of materials calling attention of potential participants to the research [flier with track changes]	1.1	22 June 2021
Covering letter on headed paper [voucher cover letter]		30 March 2021
Evidence of Sponsor insurance or indemnity (non NHS Sponsors only) [indemnity insurance]		28 September 2020
Interview schedules or topic guides for participants [interview schedule]	1.0	30 March 2021
IRAS Application Form [IRAS_Form_27052021]		27 May 2021
Letter from funder [letter of intent to fund]		09 January 2020
Letters of invitation to participant [PIC invite letter]	1.0	30 March 2021
Letters of invitation to participant [previous participant invite letter]	1.0	30 March 2021
Other [participant contact sheet]	1.0	30 March 2021
Other [GCP certificate for CI]	n/a	25 September 2020
Other [distress protocol]	1.0	30 March 2021
Other [indemnity insurance 1]	n/a	01 August 2020
Other [indemnity insurance 2]	n/a	01 August 2020
Other [indemnity insurance 3]	n/a	01 August 2020
Other [Response to REC Provisional Opinion]	n/a	22 June 2021
Other [Response to favourable opinion]	n/a	16 July 2021
Participant consent form [written consent form with track changes]	1.2	16 July 2021
Participant consent form [written consent form]	1.2	16 July 2021
Participant consent form [verbal consent form with track changes]	1.2	16 July 2021
Participant consent form [verbal consent form]	1.2	16 July 2021
Participant information sheet (PIS) [participant information sheet with track changes]	1.2	16 July 2021
Participant information sheet (PIS) [participant information sheet]	1.2	16 July 2021
Referee's report or other scientific critique report [peer review 1]		23 February 2021
Referee's report or other scientific critique report [peer review 2]		02 March 2021
Research protocol or project proposal [protocol]	1.0	30 March 2021
Summary CV for student [CV - CI]		01 May 2021
Summary CV for supervisor (student research) [CV - Andrew Thompson]		15 October 2020
Summary CV for supervisor (student research) [CV - Fuschia Sirois]		03 November 2020
Summary CV for supervisor (student research) [CV - Diana Harcourt]		20 October 2020
Validated questionnaire [Questionnaires (non validated)]	1.1	22 June 2021
Validated questionnaire [Questionnaires (non validated) with track changes]	1.1	22 June 2021

IRAS project ID	292292

Information to support study set up

The below provides all parties with information to support the arranging and confirming of capacity and capability with participating NHS organisations in England and Wales. This is intended to be an accurate reflection of the study at the time of issue of this letter.

Types of participating NHS organisation	Expectations related to confirmation of capacity and capability	Agreement to be used	Funding arrangements	Oversight expectations	HR Good Practice Resource Pack expectations
This study involves one site type (Research Site) and Participant Identification Centres (PICs).	<u>Research site</u> - This is a single site study sponsored by the participating NHS organisation. You should work with your sponsor R&D office to make arrangements to set up the study. The sponsor R&D office will confirm to you when the study can start following issue of HRA and HCRW Approval. <u>PIC</u>- PIC activities should not commence until a PIC Agreement is in place. HRA and HCRW recommend use of the standard Participating NHS	<u>Research site</u> – As this is a single site study sponsored by the participating NHS organisation, no Organisation Information Document or Schedule of Events is required or expected. You should work with your sponsor R&D office to make arrangements to set up the study. The sponsor R&D office will confirm to you when the study can start following issue of HRA and HCRW Approval. <u>PIC</u>- NHS PICs should be set up through a sub-contracting arrangement with the participating NHS organisation	External study funding has been secured.	<u>Research Site- A</u> Principal Investigator should be appointed at study sites. <u>PIC</u> - Neither a Principal Investigator nor Local Collaborator are expected at PICs.	Where arrangements are not already in place, research staff not employed by the NHS host organisation undertaking any of the research activities listed in the research application would be expected to obtain a Letter of Access based on standard DBS checks and occupational health clearance.

	Organisation to PIC agreement available here.	that the PIC supports. HRA and HCRW recommend use of the standard Participating NHS Organisation to PIC agreement, available here.			

Other information to aid study set-up and delivery

This details any other information that may be helpful to sponsors and participating NHS organisations in England and Wales in study set-up.

The applicant has indicated that they intend to apply for inclusion on the NIHR CRN Portfolio.

ProACTIVE Study 2

IRAS Reference: 292292

R&I Reference: 21BP002

Participant Information Sheet; Version 1.2, Dated 16-07-2021

Chief Investigator: Dr. Laura Shepherd

Contact details

Dr Laura Shepherd
Consultant Clinical Psychologist / Chief Investigator)
Tel: 0115 969 1169 ext. 77985 / 07812 277974
Email: Laura.Shepherd@nuh.nhs.uk

1. What is the purpose of the study?

The aim of this study is to learn more about patients' feelings about their appearance or body after burns. The study also aims to find out what early emotional support patients may find helpful, to support those who may feel upset or self-conscious. The study is being done as part of the Chief Investigator's PhD qualification. The study has been planned with help from burns patients, and involves an interview with a Clinical Psychologist (the Chief Investigator) who has experience in supporting patients after burns.

2. Why have I been asked to take part?

You are invited to take part if you are an adult (18 years or over) and have experienced feelings about changes to your appearance or body following a burn injury within the last three months. It is up to you to decide whether or not to take part. If you decide to take part you will be asked to give your consent. This is to confirm that you understand what is involved when taking part in this study. You will be asked to sign a consent form if you are taking part face-to-face, or you will be asked to give verbal consent if you are taking part over a video or telephone call. You will be given or sent a copy of the consent form to keep. If you decide to take part you are free to leave the study at any time and without giving a reason. If you withdraw, we will still keep your data as this is valuable to the study. This includes interview transcripts and questionnaire data. A decision to withdraw at any time, or a decision not to take part, will not in any way affect the quality of care you receive.

3. What do I have to do?

Taking part involves an interview with a Clinical Psychologist (the Chief Investigator) who has experience in supporting patients after burns. The interview can be either face-to-face at your home or on Nottingham University Hospitals NHS Trust premises, or over a video or telephone call. You can choose how you would prefer to complete the interview and a convenient time for the interview will be arranged with you. If you take part over a video call this will be through 'DrDoctor' (a video-appointment system) and you will be sent a link to click on via text message or email. You can have your video switched off if you take part over a video call and this would make you feel more comfortable. The interview is likely to last around one hour and will be

recorded using a voice-recorder so that the interview can be analysed later. The interview will involve questions about how you feel about your appearance or body since being burnt, how this impacts upon you, and what emotional support you think would be helpful for you (or others) to cope with these experiences. Before the interview starts, you will also be asked some basic questions about you (age, gender, ethnicity, employment status, and socioeconomic status) and your burn injury, and invited to complete one questionnaire about how you feel about your appearance/body, which will take around 10 minutes. If taking part face-to-face, the questionnaire will be on paper. If taking part over a video or telephone call, the Chief Investigator will read out all the questions for you. If you need any emotional support whilst taking part this will be provided, and you may take a short break if this would be helpful for you. If you decide to take part in the study, please report any problems or concerns you have to the Chief Investigator. The contact details are at the beginning and end of this information sheet.

4. What are the possible benefits?

Care for future patients could be improved. Understanding what makes some people upset or self-conscious after burns, and what emotional support patients think would be helpful, is important. This is because it could help burn services identify future patients who may be at risk of developing upsetting feelings, and help develop talking therapies to help people feel better.

5. What are the disadvantages?

Taking part would involve talking about your feelings about your appearance or body following your burn injury. Taking part may therefore bring up these feelings. It is not expected that taking part would create any additional or long-lasting upsetting feelings to those that you are already experiencing. As detailed above, if you feel you need some support the Chief Investigator will be able to discuss where you can access this and refer you to your local burns psychology service if you wish.

6. What will happen if I don't want to carry on with the study?

You can stop taking part in the study at any time by ending the interview, without giving a reason. However, we will keep information about you that we already have.

7. What happens when the study is finished?

An anonymised summary of the study and its findings will be produced for key charities to use on their websites, social media platforms or newsletters. A copy of this summary can be requested by contacting the Chief Investigator using the details above and below. The findings may also be anonymously presented at conferences and published as an article in a journal. Direct quotes may be used in written publications of the findings. You will be asked if you would like to consent to parts of your recording being used for teaching purposes or for presenting at academic meetings or conferences. However, this is optional. If you give consent for parts of your recording to be used in this way, your voice would be audible to those attending the teaching session, meeting or conference.

8. What if there is a problem?

If you have a concern about any aspect of this study, you should ask to speak with the Chief Investigator who will do their best to answer your question. If you remain unhappy and wish to complain formally, you can do this through the NHS Complaints Procedure. Details can be obtained from the hospital or you can contact the Patient Advice and Liaison Service (PALS) telephone 0800 183 0204. In the unlikely event that something does go wrong and you are harmed and this is due to someone's negligence then you may have grounds for a legal action for compensation but you may have to pay your legal costs. The normal NHS complaints mechanisms will still be available to you.

9. Who has reviewed this study?

The study has been planned with the help of burns patients. Research in the NHS is usually looked at by an independent group called a Research Ethics Committee, to protect your safety, rights, well-being and dignity. The study has also been reviewed and approved by the Health Research Authority and the Research & Innovation department of Nottingham University Hospitals NHS Trust. Nottingham University Hospitals NHS Trust will act as the 'Sponsor' (i.e., the lead NHS hospital) for this research. Health Education England/National Institute for Health Research will fund this research.

10. What will happen to my data?

All the information about your participation in this study will be kept confidential. The only exception to this, where confidentiality would need to be broken, would be in the event of significant concerns about your safety or the safety of other people. In such situations, the Chief Investigator has a duty of care to act accordingly. In line with Good Clinical Practice guidelines, at the end of the study, your data will be securely archived for a minimum of five years. Arrangements for confidential destruction will then be made.

We will need to use information from you for this research project. This information will include: your initials and name on the consent form; your contact details to enable you to take part; basic information about you (age, gender, ethnicity, employment status, socioeconomic status) and details about your burn injury; and answers you provide on the questionnaire and during the interview which will be kept separate to your identifying information. People will use this information to do the research or to check your records to make sure that the research is being done properly. People who do not need to know who you are will not be able to see your name or contact details. Your data will have a code ID number instead. With your consent, anonymous data will be uploaded onto the Open Science Framework (www.osf.io) following the completion of the study. This is a website in keeping with Open Science practices, to allow other researchers to look at and re-analyse data so it can be evaluated and replicated. Once we have finished the study, we will keep the data so we can check the results. We will write our reports in a way that no-one can work out that you took part in the study. You will be given the additional

option of providing consent to parts of your recording being used for teaching purposes or for presenting at academic meetings or conferences. However, this is your choice. You can stop being part of the study at any time, without giving a reason, but we will keep information about you that we already have. We need to manage your records in specific ways for the research to be reliable. This means that we won't be able to let you see or change the data we hold about you.

You can find out more about how we use your information:

- at www.hra.nhs.uk/information-about-patients/
- our GDPR leaflet available on request from researchsponsor@nuh.nhs.uk; or by the following link www.nuh.nhs.uk/gdpr
- by asking one of the research team
- by emailing the Data Protection Officer for NUH at dpo@nuh.nhs.uk,
- by ringing the Data Protection Officer for NUH on 0115 924 9924 (extension 63975)
- by visiting www.nuh.nhs.uk/gdpr

11. Further information

You are encouraged to ask any questions you wish before, during or after you take part. If you have any questions about the study please speak to the Chief Investigator who will be able to provide you with up to date information about the study. If you require any further information or have any concerns while taking part in the study please contact the Chief Investigator.

12. How can I take part?

To find out further information, ask any questions, or to express interest in taking part in the study please get in touch using either of the contact details below:

Dr Laura Shepherd, Consultant Clinical Psychologist (Chief Investigator)
Tel: 0115 969 1169 ext. 77985 / Email: Laura.Shepherd@nuh.nhs.uk

Thank you for taking the time to read this information and to consider taking part in the study. If you decide to take part you will be offered a £10 Amazon voucher to thank you for your time.

Appendix N: Qualitative Study: Recruitment Flier

Nottingham University Hospitals **NHS**
NHS Trust

Can you help by sharing your experiences after a burn injury?



Have you experienced feelings about changes to your appearance or body because of a burn injury within the last three months?

Would you be willing to share how you feel about this?

If so, please get in touch to find out more about this research study!

We want to:

- ✓ Learn more about burns patients' feelings about their appearance or body
- ✓ Find out what early emotional support burns patients may find helpful so we can develop new interventions that can help future patients

To be eligible, you would:	Taking part involves:
• Be 18 years or over • Have experienced a burn injury within the last three months	• Being interviewed and completing some brief questions and a questionnaire with a Burns Clinical Psychologist, at a time convenient to you. You can take part face-to-face, or over a video or telephone call

The study has been planned with the help of burns patients, has received NHS ethics approval and you will be offered a £10  voucher as a thank you for taking part!

For more information and to discuss taking part, please contact:

Dr Laura Shepherd, Consultant Clinical Psychologist (Chief Investigator)
Tel: 0115 969 1169 ext. 77985 or 07812 277974
Email: Laura.Shepherd@nuh.nhs.uk





Flier
V2.0 19.08.2021
IRAS ID: 292292; R&I ref. 21BP002

Appendix O: Qualitative Study: Previous Participant Invitation Cover Letter

Department of Clinical Psychology and Neuropsychology
Surgical Division

Burns Clinical Psychology Service
Plastic Surgery Department
City Campus
Hucknall Road
Nottingham
NG5 1PB

Tel: 0115 969 1169 ext. 77985
www.nuh.nhs.uk

[Participant name]
[Participant address]

[Date]

Dear [Patient name],

RE: New research study

I am writing to inform you about a new research study that involves being interviewed about your experiences following your burn injury. You recently consented to be contacted about other research studies following burn injuries.

The study aims to learn more about why some patients feel upset or self-conscious about their appearance or body after burn injuries, and what early emotional support patients may find helpful.

Please find enclosed some information about the study. If you think you could be eligible and may be interested in taking part, please contact Dr. Laura Shepherd, Consultant Clinical Psychologist and Chief Investigator for the study, using the contact details provided in the enclosed information.

Many thanks for your time and for considering this study.

Yours Sincerely,



Dr. Laura Shepherd
Consultant Clinical Psychologist/Chief Investigator

Appendix P: Qualitative Study: Participant Identification Centre Invitation Cover Letter

[PIC Trust Logo]

[Burns Service/Clinical Team address and contact information]

[Patient Hospital Number and NHS Number]

[Patient Name]

[Patient Address]

[Date]

Dear [Patient name],

RE: Research Invitation

I am writing to inform you about a research study that the [name of NHS Trust] is involved in.

The study aims to learn more about why some patients feel upset or self-conscious about their appearance or body after burn injuries, and what early emotional support patients may find helpful.

Please find enclosed some information about the study. If you think you could be eligible and may be interested in taking part, please contact Dr. Laura Shepherd, Consultant Clinical Psychologist and Chief Investigator for the study, using the contact details provided in the enclosed information.

Many thanks for your time and for considering this study.

Yours Sincerely,

[Signature of clinical care team member]



[Name of clinical care team member]

[Designation of clinical care team member]
Investigator

Dr. Laura Shepherd
Consultant Clinical Psychologist/Chief

Appendix Q: Qualitative Study: Written Consent Form

Participant Consent Form
IRAS ID: 292292; R&I ID: 21BP002
ProACTIVE Study 2
Chief Investigator: Dr. Laura Shepherd

Patient Study ID: Initials:

Initials

1. I confirm that I have read and understand the participant information sheet dated ___/___/___ version _____ for the above study and have had the opportunity to ask questions.

☐

2. I understand that my participation is voluntary and that I am free to withdraw at any time without my medical care or legal rights being affected.

☐

3. I understand that if I withdraw from the above study, the pseudonymised data collected from me will be used in analysing the results of the research study.

☐

4. I consent to the storage, including electronic, of personal information for the purposes of this study, including the recording of the research interview. I understand that any information that could identify me will be kept strictly confidential and that no personal information will be included in the study report or other publication.

☐

5. I consent for my direct quotes to be used in written publications of the findings.

Yes

No

☐☐

6. I consent for my pseudonymised data to be made available in accordance with the Open Science Framework.

Yes

No

☐☐

7. I consent to parts of my original interview recording being used for teaching purposes or presenting at academic meetings or conferences.

Yes

No

☐☐

8. I agree to take part in the study.

☐

Name of the patient (*Print*)

Date

Signature

Name of person taking consent (*Print*)

Date

Signature

**Original to be retained and filed in the site file &
one copy to be given to the participant**

Appendix R: Qualitative Study: Verbal Consent Form

Participant Verbal Remote Consent Form (Version 1.2; 16/07/2021)
(IRAS ID: 292292; R&I ID: 21BP002)
ProACTIVE Study 2
Chief Investigator: Dr Laura Shepherd

Verbal Consent Script

Participant ID:	Initials:
Date of verbal consent call: __/__/__ (dd/mm/yyyy)	
Time of verbal consent call: __/__ (00.00 hr)	
Format of verbal consent e.g. Skype, phone call:	

Telephone/video call the participant and confirm that you are speaking to the relevant person, and that it is a convenient time to call (if not, establish if the participant wishes to be contacted at an alternative time; or whether the participant no longer wishes to be contacted regarding the study). Then continue with the script below:

Hello, my name is Laura Shepherd and I am the Clinical Psychologist and researcher working on the study that aims to help us learn more about the early psychological experiences associated with feeling upset about appearance changes following a burn injury and views about early psychological interventions.

I am calling today as we had previously arranged so you can take part in this study which involves me completing some questionnaires with you and then an interview. Can I confirm that you have received and read the Participant Information Sheet?

Record participant's response: Yes / No

If the Participant Information Sheet has not been received or read, do not proceed and advise the potential participant that a copy will be sent to them/this needs to be read prior to proceeding.

The Ethics Committee, whose role it is to scrutinise research and protect patients, has agreed that we can obtain verbal consent from you over the phone, but please let me reassure you that whatever you decide, it will not change your treatment in anyway. Do you have any questions you would like to ask me at this stage?

Record participant's response: Yes / No

If yes, record any questions and responses given, below:

Just so that I can check that I have explained myself clearly to you, can you please confirm if you understand what I have told you?

Record participant's response: Yes / No

If you are happy with my responses, can you please let me know whether you agree or not, to take part in this study which aims to help us learn more about the early psychological experiences associated with feeling upset about appearance changes following a burn injury and views about early psychological interventions?

Record participant's response: Yes / No

(If participant answered yes, continue; if no, then thank the participant for their time and say goodbye)

Finally, could I please ask you to confirm a few details to record your consent?

Version and date of information sheet received and read by participant: Version: ____ Dated: ____ / ____ / ____

Date the study information was received and read (dd/mm/yyyy)? ____ / ____ / ____

We would like to send you a copy of the consent form to keep for your information. Could you please confirm for me how you would like to receive this, via post or email? Please confirm your contact details for me:

Address:

.....

.....

Email:

Please initial (researcher)

	Yes	No
1. After explaining the study information to the participant, I can confirm that the participant understands and agrees to participate in the above research study.	☐	☐
2. The participant understands that the study is voluntary, and that they can withdraw at any time without their medical care or legal rights being affected; although pseudonymised data already collected will be retained for use in the study.	☐	☐
3. The participant consents to the storage, including electronic, of personal information for the purposes of this study, including the recording of the research interview. They understand that any information that could identify them will be kept strictly confidential and that no personal information will be included in the study report or other publication.	☐	☐
4. The participant consents to their direct quotes being used in written publications of the findings.	☐	☐
5. The participant consents for their pseudonymised data to be made available in accordance with the Open Science Framework.	☐	☐

6. The participant consents to parts of their original interview recording being used for teaching purposes or presenting at academic meetings or conferences.

Yes

No

☐☐

Participant information

Full name (*block capitals*):

Date/time verbal consent provided by participant:

DD/MMM/YYYY			Time (24 hr)
.....	/		:.....

Person taking consent

I have explained the study to the above named participant, read out each of the above statements and they have indicated their willingness to participate.

Full name (*block capitals*):

Signature:

Date:

DD/MMM/YYYY		
.....	/	

Original to be retained and filed in the site file & one copy to be sent to the participant

Appendix S: Qualitative Study: Participant Contact Sheet

Participant Contact Sheet
IRAS ID: 292292; R&I ID: 21BP002
ProACTive Study 2 (Chief Investigator: Dr. Laura Shepherd)

To be completed by the researcher in order to arrange study participation

Name:

Preferred interview participation method:

☐ Face to face (specify details below):

☐ Home address: _____

☐ Nottingham University Hospitals NHS Trust (meeting point):

☐ Video call (tel. number/email address to use): _____

☐ Telephone call (tel. number to use): _____

Arranged date and time to participate:

Date: ____ / ____ / ____

Time: _____ AM / PM

If participating remotely, the participant would like to be sent the £10 Amazon voucher using the following method upon participating:

☐ Post: _____

☐ Email: _____

☐ SMS: _____

If participating remotely, the participant would like to be sent their copy of the consent form using the following method upon participation:

- ☐ Post: _____

- ☐ Email: _____

Completed by (name): _____

Job title: _____

Signature: _____ Date: ____ / ____ / ____

Appendix T: Qualitative Study: Measures

Today's date: _____ / _____ / _____

Part A: To be completed by the researcher

Information about you

1. How would you describe your gender?

- a) Male
- b) Female
- c) Transwoman
- d) Transman
- e) Non-binary/gender fluid
- f) Other (participant's own words): _____
- g) Prefer not to say

2. What is your age?

_____ years

3. How would you describe your ethnicity?

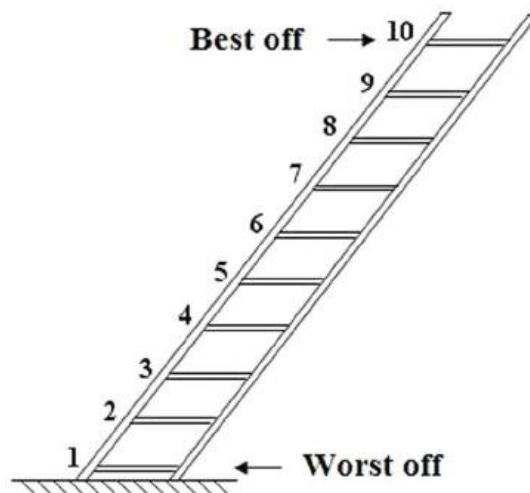
4. What is your employment status?

- a) Employed and working full-time
- b) Employed and working part-time
- c) Employed but currently off work (e.g., on sick leave)
- d) Unemployed
- e) Student
- f) Retired
- g) Other: _____

5. How would you describe your relationship status?

- a) Married/In a civil partnership
- b) Co-habiting
- c) Separated/Divorced
- d) In a relationship but not co-habiting
- e) Single
- f) Widowed
- g) Other: _____

6. If you were to think of a ladder as representing where people stand in the UK. At the top of the ladder are the people who are the best off – those who have the most money, the most education and the most respected jobs. At the bottom, at zero, are the people who are the worst off – who have the least money, least education, and the least respected jobs or no job. The higher up you are on this ladder, the closer you are to the people at the very top, at 10; the lower you are, the closer you are to people at the very bottom, at zero. Where would you place yourself on this ladder? Please tell me the rung of the ladder, from zero to 10, where you think you stand at this time in your life, relative to other people in the UK.



Information about your burn injury

7. What caused your burn injury?

- a) Flame b) Flash c) Contact
- d) Scald e) Chemical f) Electrical
- g) Radiation h) Unknown
- i) Other (participant's description):

8. Do you know the total body surface area (TBSA) of your body that was burnt? If you do not know, we will go to the next question.

_____ % Participant does not know ☐

9. Do you know the depth of your burn? If you do not know, we will go to the next question.

- a) Superficial partial thickness b) Full-thickness c) Deep dermal
d) Mixed thickness e) Participant does not know ☐

10. Where were you burnt on your body?

- a) Head/Face/Neck b) Chest/Abdomen c) Arms
d) Hands e) Legs f) Feet
g) Back h) Buttocks i) Genitals

11. How long ago did your burn injury happen?

_____ Months _____ Weeks _____ Days

**Part B: To be completed by the participant if taking part face-to-face
or by the researcher if taking part remotely**

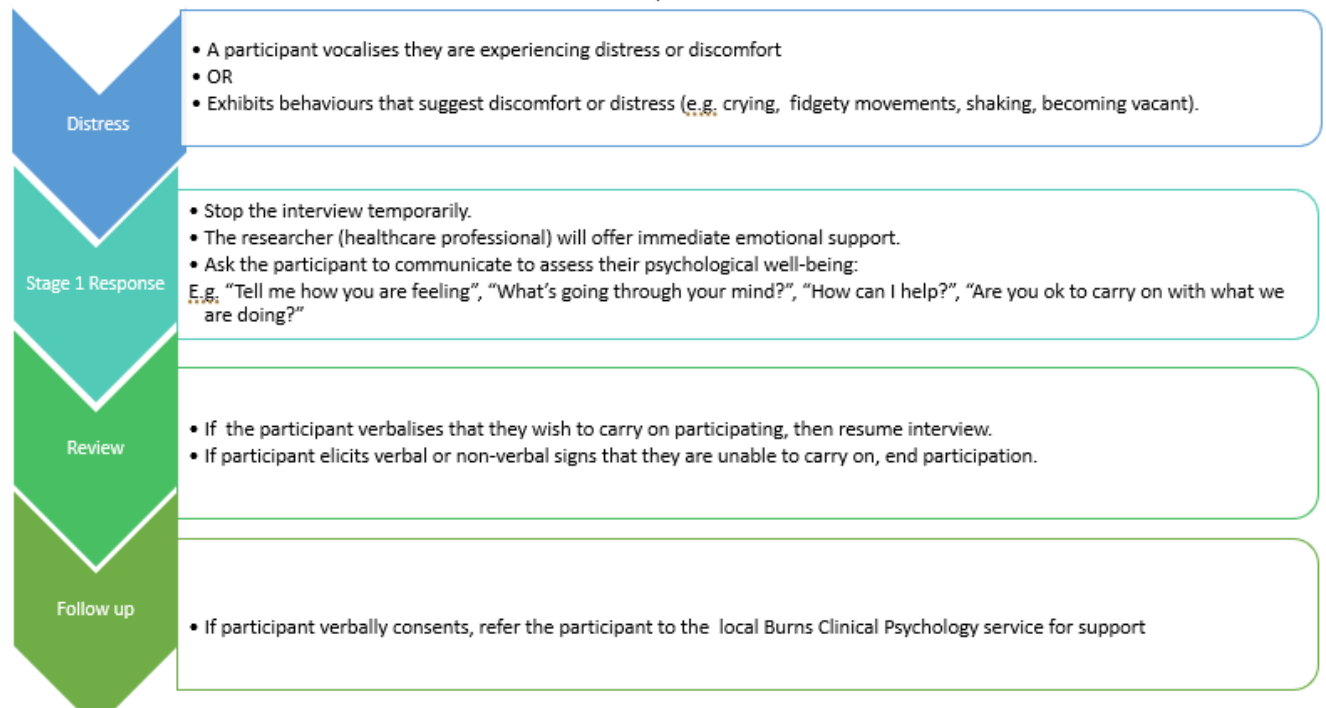
How you feel about your appearance or body

After each statement please tell me the option that best fits how you feel about your appearance or body following your burn injury.

	Not at all	Rarely	Sometimes	Most of the time	Always
I worry about the way I look	4	3	2	1	0
I like what I see when I look in the mirror	0	1	2	3	4
I wish I looked like someone else	4	3	2	1	0
I'm pretty happy about the way I look	0	1	2	3	4
I wish I looked better	4	3	2	1	0
There are lots of things I'd change about my looks if I could	4	3	2	1	0
I like what I look like in pictures	0	1	2	3	4
I'm looking as nice as I'd like to	0	1	2	3	4
I feel ashamed of how I look	4	3	2	1	0
My looks upset me	4	3	2	1	0

Appendix U: Qualitative Study: Distress Protocol

Distress Protocol: The protocol for managing distress of a participant (version 1.0, date 30.03.2021)
ProACTIVE Study 2
IRAS ID: 292292; R&I ref: 21BP002



Appendix V: Qualitative Study: Initial Template

Template v.1

Part A: Burns patients' early psychological experiences related to appearance

1. Behavioural impact or impact on life
 - 1.1 Current behavioural impact or impact on life
 - 1.1.1 Avoiding swimming and other activities
 - 1.1.2 Clothing choices and other ways of concealing
 - 1.1.3 Not showing others or hiding away from others
 - 1.1.4 Relationships with others or sex life
 - 1.2 Future impact on behaviour or life
 - 1.2.1 Anticipated continuation of wearing dressings
 - 1.2.2 Anticipated future impact on clothing choices
 - 1.2.3 Anticipated future impact on relationships or sex life
 - 1.3 No current impact on life
2. Burn injuries as a significant trauma
 - 2.1 Distressing hospital experiences
 - 2.2 Trauma of the pain
 - 2.3 Traumatic stress experiences
 - 2.3.1 Trauma and acute stress reactions
 - 2.3.2 Vulnerability of wound
3. Changes in experiences over time
4. Cognitive processes
 - 4.1 Catastrophising
 - 4.2 Negative attentional focus
 - 4.3 Negative thinking
 - 4.4 Over-thinking
 - 4.5 Predicting the future
 - 4.6 Worry
5. Content of thoughts associated with the appearance of the burn injury
 - 5.1 'Normal' or comparing to others or pre-burn injury appearance
 - 5.2 Plans to conceal the wound or scar
 - 5.3 Positive thoughts
 - 5.4 Self-blame
 - 5.5 Similes
 - 5.6 Thoughts about future appearance and impact
 - 5.7 Thoughts about not coping
 - 5.8 Thoughts about others' thoughts or reactions
 - 5.9 Thoughts related to the appearance of the acute wound or scar

- 6. Coping strategies
 - 6.1 Acceptance of the situation
 - 6.2 Adhering to treatment recommendations
 - 6.3 Avoidance
 - 6.3.1 Attempts to avoid feelings and thoughts
 - 6.3.2 Use of alcohol
 - 6.3.3 Avoidance of caring for the wound or scar
 - 6.3.4 Avoidance of looking at wound or scar
 - 6.3.5 Avoidance of touching wound or scar
 - 6.3.6 Concealing the wound or scar to prevent others seeing
 - 6.4 Checking the wound or scar
 - 6.5 Denial
 - 6.6 Disembodiment
 - 6.7 Distraction
 - 6.8 Expert patient
 - 6.9 Finding strength
 - 6.10 Focusing on the positives
 - 6.11 Gradual exposure to public situations or others seeing wounds or scars
 - 6.12 Humour
 - 6.13 Learning new coping strategies
 - 6.14 Making comparisons with others
 - 6.14.1 Downward comparisons
 - 6.14.2 Upward comparisons
 - 6.15 Planning managing others' reactions
 - 6.15.1 Disclosure
 - 6.15.2 Planning or preparing for the reactions of others
 - 6.16 Psychological techniques
 - 6.17 Reassurance-seeking
 - 6.18 Self-criticism
 - 6.19 Taking a time perspective
 - 6.20 Third person self-referencing
 - 6.21 Workability of coping strategies
- 7. Emotions related to the appearance of wounds or scars
 - 7.1 Anger and frustration
 - 7.2 Blame
 - 7.2.1 Blame from others
 - 7.2.2 Self-blame
 - 7.3 Disgust
 - 7.4 Overwhelmed
 - 7.5 Powerlessness
 - 7.6 Relief
 - 7.7 Sad, tearful, low or hopeless
 - 7.8 Scared, anxious, self-conscious or worried
- 8. Masculinity
- 9. Need for more and honest information

- 9.1 Communication breakdowns within the burns service
- 9.2 Importance of honest communication rather than reassurance
- 9.3 Need for information about burn injuries and surgery
- 9.4 Need for information about first aid
- 10. Need for understanding and compassion
- 11. Onset of experiences
 - 11.1 The first shower in hospital
 - 11.2 When discharged home
 - 11.3 When dressings came down (after a skin graft)
 - 11.4 When recuperating
 - 11.5 When the pain subsides
- 12. Others' reactions
 - 12.1 Conflicted feelings around others' reactions
 - 12.2 Neutral feelings about responding to others
 - 12.3 Others as not understanding
 - 12.4 Others' reactions to seeing the wounds or scars
 - 12.5 Valuing what others think
 - 12.6 Worry about upsetting others
- 13. Practical barriers to looking at wounds or seeing progress
- 14. Pre-existing issues
- 15. Psychological flexibility
 - 15.1 Acceptance vs experiential avoidance
 - 1.15.1 Acceptance
 - 1.15.2 Experiential avoidance
 - 15.2 Cognitive defusion vs. fusion
 - 15.2.1 Cognitive defusion
 - 15.2.2 Fusion
 - 15.3 Committed action vs. inaction, impulsivity or avoidant persistence
 - 15.3.1 Committed action
 - 15.3.2 Inaction, impulsivity or avoidant persistence
 - 15.4 Contact with the present moment vs. dominance of the conceptualised past and feared future, weak self knowledge
 - 15.4.1 Contact with the present moment
 - 15.4.2 Dominance of the conceptualised past and feared future or weak self-knowledge
 - 15.5 Self as context vs. attachment to the conceptualised self
 - 15.5.1 Attachment to the conceptualised self
 - 15.5.2 Self as context
 - 15.6 Values vs. lack of values clarity
 - 15.6.1 Lack of values clarity
 - 15.6.2 Values
- 16. Self-compassion

- 16.1 Common humanity vs. isolation
 - 16.1.1 High common humanity
 - 16.1.2 High isolation
 - 16.1.3 Low common humanity
 - 16.1.4 Low isolation
- 16.2 Mindfulness vs. over-identification
 - 16.2.1 High mindfulness
 - 16.2.2 High over-identification
 - 16.2.3 Low mindfulness
 - 16.2.4 Low over-identification
- 16.3 Self-kindness vs. self-judgement
 - 16.3.1 High self-judgement
 - 16.3.2 High self-kindness
 - 16.3.3 Low self-judgement
 - 16.3.4 Low self-kindness

17. Sources of support

- Family support
- Nurse support
- Peer support

18. Uncertainty

19. Unexpected seriousness

Part B: Burns patients' views about the acceptability of early psychological interventions for appearance concerns

20. Availability of early psychological interventions

- 20.1 Absence of early psychological interventions
- 20.2 Early psychological interventions received
 - 20.2.1 Developing ways to manage other people's reactions
 - 20.2.2 Graded exposure to social or public situations
 - 20.2.3 Grounding techniques
 - 20.2.4 Mindfulness
 - 20.2.5 Reducing emotional suppression

21. Views on early psychological interventions for appearance concerns

- 21.1 Ambivalence about early psychological interventions
- 21.2 Challenges in engagement in early interventions
 - 21.3.1 Comparisons with others and feeling undeserved
 - 21.3.2 Denial about the need for support
 - 21.3.3 Embedding it into the normal care pathway
 - 21.3.4 Feeling guilty about seeking or accepting support
 - 21.3.5 It can't change the wound or scar
 - 21.3.6 Not expecting to need support or as sufficiently distressed
 - 21.3.7 Stigma

21.3.8 The need for psychological interventions to be proactively offered

21.3.9 Time

22. Early psychological interventions as acceptable and helpful

23. Then but not now

24. Timing of early psychological interventions

24.1 Soon after discharge from hospital

24.2 Whilst still in hospital

25. What early psychological intervention should(n't) include or look like

25.1 Acceptance through talking

25.2 Leaflets to provide information and set expectations

25.3 Non-judgement, understanding and objectivity

25.4 Opportunity to reflect on emotions

Appendix W: Qualitative Study: Final Version of Template Prior to Interpretation

Final template

Part A: Burns patients' early psychological experiences related to appearance

(Contextual factors: Pre-existing factors relevant to psychological well-being or feelings about appearance; Burn injuries as a significant trauma; Living in a social world)

1. Living in a social world

- 1.1 Others' reactions
 - 1.1.1 Others' reactions to wounds or scars
 - 1.1.2 Value of others' reactions
 - 1.1.3 Others as not understanding
- 1.2 Femininity, attractiveness and sexual desirability
- 1.3 Masculinity
- 1.4 Disclosure and planning managing others' reactions
 - 1.4.1 Disclosure
 - 1.4.2 Planning or preparing for the reactions of others
- 1.5 Need for compassion and understanding
- 1.6 Social identity

2. The nature of burns: Factors impacting on psychological experiences

- 2.1 Uncertainty
- 2.2 Unexpected or becoming aware of the seriousness
- 2.3 Practical barriers to looking at wounds or seeing progress
- 2.4 Long journey

3. Early psychological experiences

- 3.1 Early onset of experiences
- 3.2 Emotional impact of appearance changes
 - 3.2.1 Upset and sadness
 - 3.2.2 Anxiety and self-consciousness
 - 3.2.3 Anger and frustration
 - 3.2.4 Disgust and shame
 - 3.2.4.1 Feeling physically sick
 - 3.2.5 Relief or neutral feelings
 - 3.2.6 Powerlessness
 - 3.2.7 Guilt
 - 3.2.8 Proud to be different
- 3.3 Content of thoughts associated with appearance
 - 3.3.1 Thoughts about others' thoughts or reactions
 - 3.3.2 Thoughts related to the appearance of the acute wound or scar
 - 3.3.3 Thought about future appearance and impact
 - 3.3.4 'Normal' or comparing to others or pre-burn injury appearance

- 3.3.5 Similes and images
- 3.3.6 Blame
- 3.3.7 Positive thoughts
- 3.3.8 Thoughts about not coping or how they will cope or feel
- 3.3.9 Thoughts about loss or changes to identity
- 3.4 Changes in experiences over time
- 3.5 Making sense of experiences associated with appearance
- 4. Getting through the experience
 - 4.1 Coping strategies
 - 4.1.1 Distraction
 - 4.1.2 Positivity
 - 4.1.3 Making comparisons with others
 - 4.1.3.1 Downward comparisons
 - 4.1.3.2 Upward comparisons
 - 4.1.4 Self-care and psychological and self-soothing techniques
 - 4.1.5 Humour
 - 4.1.6 Distancing
 - 4.1.7 Acceptance
 - 4.1.8 Taking a time perspective
 - 4.1.9 Adhering to wound or scar management and care recommendations
 - 4.1.10 Resilience
 - 4.1.11 Seeking information
 - 4.1.12 Checking the wound or scar
 - 4.1.13 Expert patient
 - 4.1.14 Reassurance-seeking
 - 4.2 Sources of support
 - 4.2.1 Friends, family and pets
 - 4.2.2 Healthcare professionals
 - 4.2.3 Other burn survivors
 - 4.2.4 Challenges associated with support
- 5. Psychological flexibility
 - 5.1 Workability of coping strategies
 - 5.2 Acceptance vs. experiential avoidance
 - 5.2.1 Experiential avoidance
 - 5.2.2 Acceptance
 - 5.3 Cognitive defusion vs. fusion
 - 5.3.1 Fusion
 - 5.3.2 Cognitive defusion
 - 5.4 Contact with the present moment vs. dominance of the conceptualised past and feared future/weak self-knowledge
 - 5.4.1 Dominance of the conceptualised past and feared future/weak self-knowledge
 - 5.4.2 Contact with the present moment
 - 5.5 Self as context vs. attachment to the conceptualised self
 - 5.5.1 Attachment to the conceptualised self
 - 5.5.2 Self as context

- 5.6 Committed action vs. inaction, impulsivity or avoidant persistence
 - 5.6.1 Inaction, impulsivity or avoidant persistence
 - 5.6.2 Committed action
- 5.7 Values
- 6. Self-compassion
 - 6.1 Self-kindness vs. self-judgment
 - 6.1.1 High self-judgment
 - 6.1.2 Low self-kindness
 - 6.1.3 High self-kindness
 - 6.2 Mindfulness vs. over-identification
 - 6.2.1 High over-identification
 - 6.2.2 Low mindfulness
 - 6.2.3 Low over-identification
 - 6.2.4 High mindfulness
 - 6.3 Common humanity vs. isolation
 - 6.3.1 High common humanity
 - 6.3.2 Low common humanity
 - 6.3.3 High isolation
 - 6.3.4 Low isolation
- 7. Behavioural impact/Impact on life
 - 7.1 Current or previous behavioural impact or impact on life
 - 7.1.1 Concealment
 - 7.1.2 Relationships, engagement and avoidance of other people
 - 7.1.3 Avoidance of activities
 - 7.2 Anticipated future impact on behaviour or on life
 - 7.2.1 Anticipated concealment
 - 7.2.2 Anticipated future impact on relationships or sex life
 - 7.2.3 Anticipated avoidance of activities
 - 7.3 Life goes on
 - 7.4 Still recovering so no opportunity for experiences to impact yet
- 8. Importance of information and communication from the burns service

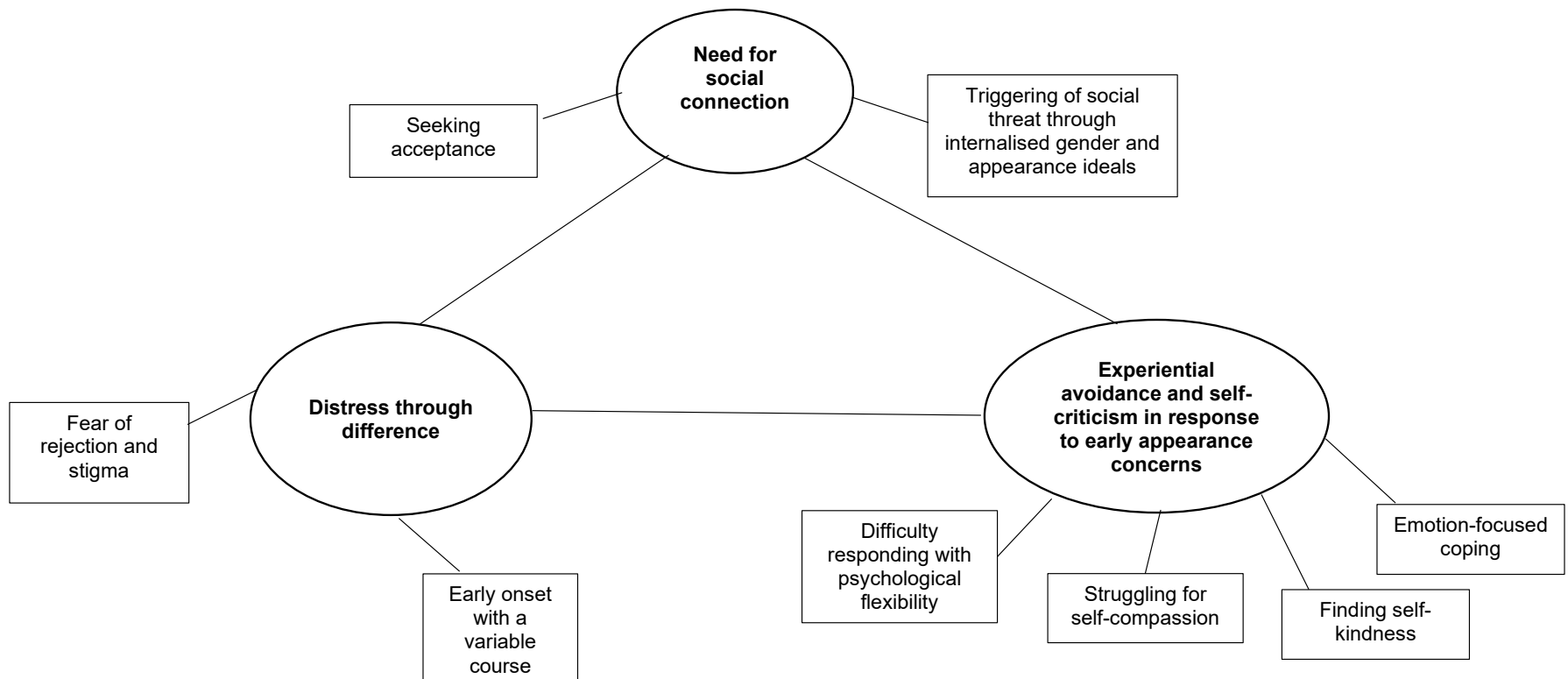
Part B: Burns patients' views about the acceptability of early psychological interventions for appearance concerns

- 9. Availability of early psychological interventions
 - 9.1 Absence of early psychological interventions
 - 9.2 Early psychological interventions received
- 10. Acceptability of early psychological interventions
 - 10.1 Early psychological interventions as acceptable and helpful
 - 10.2 Ambivalence about early psychological interventions
 - 10.3 Unacceptability of early psychological interventions

11. Challenges in engagement in early psychological interventions
 - 11.1 It's not bad enough
 - 11.2 Psychological care not embedded or proactive enough
 - 11.3 Stigma and concerns about psychological interventions
 - 11.4 Modality and practical issues
 - 11.5 It won't help
 - 11.6 Lack of self-compassion
 - 11.7 Guilt
 - 11.8 Self-blame
 - 11.9 Lack of readiness
 - 11.10 Desire to cope alone
12. Timing of early psychological interventions
 - 12.1 During hospital admission or when seeing wounds for the first time
 - 12.2 Importance of information and communication from the burns service
 - 12.3 A few weeks post-injury
13. What early psychological interventions should(n't) include or look like
 - 13.1 Help with emotions and thoughts
 - 13.2 Therapeutic relationship
 - 13.3 Psychologists with experience in burn injuries
 - 13.4 Developing realistic expectations
 - 13.5 Leaflets to provide information and set expectations
 - 13.6 Preparing for others' reactions
 - 13.7 Self-compassion
 - 13.8 Support
 - 13.9 Living life
 - 13.10 Individual rather than group level interventions

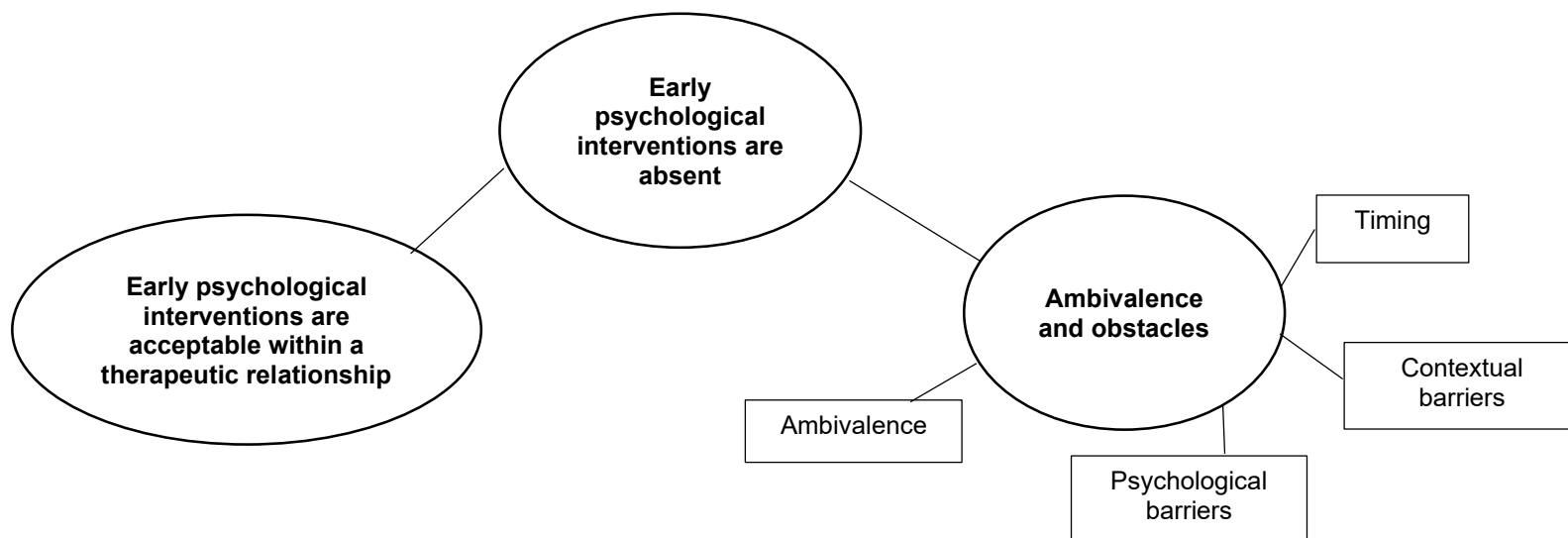
Appendix X: Qualitative Study: Thematic Map 1

Early appearance concerns after burns: Investigating the roles of psychological flexibility and self-compassion



Appendix Y: Qualitative Study: Thematic Map 2

The acceptability of early psychological interventions for adults with appearance concerns after burns



Appendix Z: Qualitative Study: Excerpt from Reflective Diary

Feb 2023 – I have had an ongoing awareness about my lenses of psychological flexibility and self-compassion when continuing the analysis this month, and trying to explicitly look/conceptualise beyond existing themes in template – aware of possibility of narrowed focus given template development and data mainly fitting within this. Also been more explicitly thinking of the relationship between psychological flexibility and self-compassion and conceptual overlaps. E.g. mindfulness overlap. Also, between experiential avoidance and over-identification – experiential avoidance part of over-identification but over-identification also allows for emotions to be overwhelming and consuming whereas experiential avoidance does not.

Mar 2023 – used supervision to partly consider the theme of masculinity and consider whether femininity is also implicit within some of the codes. Reflected with supervisors on internalised gender identities/femininity. Re-visited the data and new theme developed incorporating ‘femininity, attractiveness and sexual desirability’ to capture female participants’ experiences. Aware that I am looking at the data through my own lens as a woman, my views about what constitutes femininity especially around clothes and body parts, and as a mum to a daughter and my experiences of her sense of femininity.

Appendix AA: Qualitative Study: Audit Checklist

Audit Form

Data collection

1. Is there evidence that raw data was collected and is appropriate for the research aims?

Yes - (E.g. as evidenced by anonymised transcripts/data)

2. Has relevant demographic and background information been collected to contextualise the sample (E.g. gender, age, burn injury information, interview type/location/time)?

Yes

3. Are there reflections/notes/summaries made during the data collection process?

Yes

Research/analysis process

4. Has the researcher engaged appropriately in supervision as part of the research process?

Yes

5. Has the data been sufficiently coded? (e.g. is all the relevant data coded?)

Yes

6. Has the data been systematically coded?

Yes

7. Is it clear that the researcher has engaged in a process of refining and redefining the template and are these processes justified? (E.g. evidenced by looking at different

versions of templates, NVivo documents and notes, changes to coding/themes should be justified).

Yes

Cross-checks

8. Crosschecking randomly selected excerpts from the interview transcripts against the corresponding coding and themes recorded on NVivo.

Are these consistent?

Yes

9. Vice-versa crosschecking randomly selected themes from NVivo against the corresponding data.

Are these consistent?

Yes

Study write-up/results

10. Are quotes sufficient to provide evidence of the template/themes?

Yes

11. Does the results/write-up sufficiently address the aims of the study?

Yes

Signature of researcher

Signature of auditor





Health Research Authority

London - Bromley Research Ethics Committee

2 Redman Place
Stratford E20 1JQ

Please note:

This is the favourable opinion of the REC only and does not allow you to start your study at NHS sites in England until you receive HRA Approval

05 June 2024

Dr Laura Shepherd Burns
Unit
Nottingham City Hospital Campus Hucknall
Road, Nottingham
NG5 1PB

Dear Dr Shepherd

Study title:	A mixed-methods acceptability study of 'ProACTIVE,' an early acceptance and commitment therapy intervention to help burns patients adjust to changes to appearance
REC reference:	24/LO/0402
Protocol number:	24CP001
IRAS project ID:	339105

Thank you for your submission responding to the Research Ethics Committee's (REC) request for further information on the above research and submitting revised documentation.

The further information has been considered on behalf of the Committee by the Chair Mrs Helen Wood.

Confirmation of ethical opinion

On behalf of the Committee, I am pleased to confirm a favourable ethical opinion for the above research on the basis described in the application form, protocol and supporting documentation as revised, subject to the conditions specified below.

Recommendations

The Committee noted the justification for not including a flow diagram in the Participant

Information Sheet however the Committee strongly suggest giving this further consideration as this will improve clarify and aid the participants understanding of what their involvement will be.

Good practice principles and responsibilities

The [UK Policy Framework for Health and Social Care Research](#) sets out principles of good practice in the management and conduct of health and social care research. It also outlines the responsibilities of individuals and organisations, including those related to the four elements of [research transparency](#):

5. [registering research studies](#)
6. [reporting results](#)
7. [informing participants](#)
8. [sharing study data and tissue](#)

Conditions of the favourable opinion

The REC favourable opinion is subject to the following conditions being met prior to the start of the study.

Confirmation of Capacity and Capability (in England, Northern Ireland and Wales) or NHS management permission (in Scotland) should be sought from all NHS organisations involved in the study in accordance with NHS research governance arrangements. Each NHS organisation must confirm through the signing of agreements and/or other documents that it has given permission for the research to proceed (except where explicitly specified otherwise).

Guidance on applying for HRA and HCRW Approval (England and Wales)/ NHS permission for research is available in the Integrated Research Application System.

For non-NHS sites, site management permission should be obtained in accordance with the procedures of the relevant host organisation.

Sponsors are not required to notify the Committee of management permissions from host organisations

Registration of Clinical Trials

All research should be registered in a publicly accessible database and we expect all researchers, research sponsors and others to meet this fundamental best practice standard.

It is a condition of the REC favourable opinion that **all clinical trials are registered** on a public registry before the first participant is recruited and no later than six weeks after. For this purpose, 'clinical trials' are defined as:

- clinical trial of an investigational medicinal product
- clinical investigation or other study of a medical device
- combined trial of an investigational medicinal product and an investigational medical device
- other clinical trial to study a novel intervention or randomised clinical trial to compare interventions in clinical practice.

A 'public registry' means any registry on the WHO list of primary registries or the ICMJE list of registries provided the registry facilitates public access to information about the UK trial.

Failure to register a clinical trial is a breach of these approval conditions, unless a deferral has been agreed by the HRA (for more information on registration and requesting a deferral see: [Research registration and research project identifiers](#)).

Where a deferral is agreed we expect the sponsor to publish a [minimal record](#) on a publicly accessible registry. When the deferral period ends, the sponsor should publish the full record on the same registry, to fulfil the condition of the REC favourable opinion.

If you have not already included registration details in your IRAS application form you should notify the REC of the registration details as soon as possible.

Where the study is registered on ClinicalTrials.gov, please inform deferrals@hra.nhs.uk and the Research Ethics Committee (REC) which issued the final ethical opinion so that our records can be updated.

Publication of Your Research Summary

We will publish your research summary for the above study on the research summaries section of our website, together with your contact details, no earlier than three months from the date of this favourable opinion letter. Where a deferral is agreed, [a minimum research summary](#) will still be published in [the research summaries database](#). At the end of the deferral period, we will publish the [full research summary](#).

Should you wish to provide a substitute contact point, make a request to defer, or require further information, please visit: [Research summaries - Health Research Authority \(hra.nhs.uk\)](#)

It is the responsibility of the sponsor to ensure that all the conditions are complied with before the start of the study or its initiation at a particular site (as applicable).

After ethical review: Reporting requirements

The attached document “After ethical review – guidance for researchers” gives detailed guidance on reporting requirements for studies with a favourable opinion, including:

- Notifying substantial amendments
- Adding new sites and investigators
- Notification of serious breaches of the protocol
- Progress and safety reports
- Notifying the end of the study, including early termination of the study
- Final report
- Reporting results

The latest guidance on these topics can be found at [Managing your approval - Health Research Authority \(hra.nhs.uk\)](#)

Ethical review of research sites

NHS/HSC sites

The favourable opinion applies to all NHS/HSC sites taking part in the study, subject to confirmation of Capacity and Capability (in England, Northern Ireland and Wales) or management permission (in Scotland) being obtained from the NHS/HSC R&D office prior to the

start of the study (see "Conditions of the favourable opinion" below).

Non-NHS/HSC sites

I am pleased to confirm that the favourable opinion applies to any non-NHS/HSC sites listed in the application, subject to site management permission being obtained prior to the start of the study at the site.

Approved documents

The final list of documents reviewed and approved by the Committee is as follows:

<i>Document</i>	<i>Version</i>	<i>Date</i>
Interview schedules or topic guides for participants [Interview Schedule]	1.0	17 April 2024
IRAS Application Form [IRAS_Form_25042024]		25 April 2024
Non-validated questionnaire [Questionnaire to record demographic and burn injury information]	1.0	17 April 2024
Non-validated questionnaire [Questionnaire to be given when ending the intervention]	1.0	17 April 2024
Non-validated questionnaire [Questionnaire for participants who are partially participating]	1.0	17 April 2024
Other [Distress protocol]	1.0	17 April 2024
Other [Participant Contact Sheet]	1.0	17 April 2024
Other [Voucher cover letter]	1.0	17 April 2024
Other [Fidelity checklist]	1.0	23 April 2024
Other [A priori themes]	N/A	17 April 2024
Other [Intervention record]	1.0	17 April 2024
Other [Intervention protocol]	1.0	15 April 2024
Other [GCP refresher certificate Laura Shepherd]	N/A	11 October 2022
Other [Indemnity insurance Fuschia Sirois 1]	N/A	01 August 2023
Other [Fuschia Sirois indemnity insurance 2]	N/A	01 August 2023
Other [Paul Norman indemnity insurance]	N/A	14 September 2023
Other [Diana Harcourt indemnity insurance]	N/A	01 August 2023
Other [Diana Harcourt indemnity insurance 2]	N/A	01 August 2023
Other [Diana Harcourt indemnity insurance 3]	N/A	01 August 2023
Other [Patient Intervention Resources]	1.0	15 April 2024
Other [A priori themes]	1.0	17 April 2024
Other [Response to provisional opinion]	N/A	24 May 2024
Participant consent form [Participant Consent Form]	1.1	24 May 2024
Participant consent form [Participant Consent Form (Verbal)]	1.1	24 May 2024
Participant information sheet (PIS) [Participant Information Sheet]	1.1	24 May 2024
Research protocol or project proposal [Protocol]	1.0	17 April 2024
Summary CV for Chief Investigator (CI) [CV Laura Shepherd]	N/A	15 April 2024
Summary CV for student [CV]	N/A	15 April 2024
Summary CV for supervisor (student research) [CV Andrew Thompson]	N/A	22 April 2024

Summary CV for supervisor (student research) [CV Fuschia Sirois]	N/A	23 April 2024
Summary CV for supervisor (student research) [CV Paul Norman]	N/A	10 January 2024
Summary CV for supervisor (student research) [CV Diana Harcourt]	N/A	01 September 2023
Validated questionnaire [Pre-intervention Questionnaires]	1.0	17 April 2024
Validated questionnaire [Post-intervention Questionnaires]	1.0	17 April 2024
Validated questionnaire [Helpful Aspects of Therapy Form]	1.0	17 April 2024

Statement of compliance

The Committee is constituted in accordance with the Governance Arrangements for Research Ethics Committees and complies fully with the Standard Operating Procedures for Research Ethics Committees in the UK.

User Feedback

The Health Research Authority is continually striving to provide a high quality service to all applicants and sponsors. You are invited to give your view of the service you have received and the application procedure. If you wish to make your views known please use the feedback form available on the HRA website: [Quality assurance - Health Research Authority \(hra.nhs.uk\)](https://www.hra.nhs.uk/quality-assurance)

HRA Learning

We are pleased to welcome researchers and research staff to our HRA Learning Events and online learning opportunities– see details at: [Learning - Health Research Authority \(hra.nhs.uk\)](https://www.hra.nhs.uk/learning)

IRAS project ID: 339105	Please quote this number on all correspondence

With the Committee's best wishes for the success of this project.

Yours sincerely

pp.



**Mrs Helen Jane
Wood Chair**

Email: bromley.rec@hra.nhs.uk

Enclosures: "After ethical review – guidance for researchers" [\[SL-AR2\]](#)

[Non CTIMP Standard Conditions of Approval](#)

Copy to: Mrs Alison Lloyd, Nottingham University Hospitals NHS Trust

Dr Laura Shepherd
Burns Unit
Nottingham City Hospital Campus
Hucknall Road, Nottingham
NG5 1PB

Email: approvals@hra.nhs.uk

05 June 2024

Dear Dr

**HRA and Health and Care
Research Wales (HCRW)
Approval Letter**

Shepherd,

Study title:	A mixed-methods acceptability study of ‘ProACTIVE,’ an early acceptance and commitment therapy intervention to help burns patients adjust to changes to appearance
IRAS project ID:	339105
Protocol number:	24CP001
REC reference:	24/LO/0402
Sponsor	Nottingham University Hospitals NHS Trust

I am pleased to confirm that [HRA and Health and Care Research Wales \(HCRW\) Approval](#) has been given for the above referenced study, on the basis described in the application form, protocol, supporting documentation and any clarifications received. You should not expect to receive anything further relating to this application.

Please now work with participating NHS organisations to confirm capacity and capability, in line with the instructions provided in the “Information to support study set up” section towards the end of this letter.

How should I work with participating NHS/HSC organisations in Northern Ireland and Scotland?

HRA and HCRW Approval does not apply to NHS/HSC organisations within Northern Ireland and Scotland.

If you indicated in your IRAS form that you do have participating organisations in either of these devolved administrations, the final document set and the study wide governance report (including this letter) have been sent to the coordinating centre of each participating nation. The relevant national coordinating function/s will contact you as appropriate.

Please see [IRAS Help](#) for information on working with NHS/HSC organisations in Northern Ireland and Scotland.

How should I work with participating non-NHS organisations?

HRA and HCRW Approval does not apply to non-NHS organisations. You should work with your non-NHS organisations to [obtain local agreement](#) in accordance with their procedures.

What are my notification responsibilities during the study?

The standard conditions document “[After Ethical Review – guidance for sponsors and investigators](#)”, issued with your REC favourable opinion, gives detailed guidance on reporting expectations for studies, including:

- Registration of research
- Notifying amendments
- Notifying the end of the study

The [HRA website](#) also provides guidance on these topics, and is updated in the light of changes in reporting expectations or procedures.

Who should I contact for further information?

Please do not hesitate to contact me for assistance with this application. My contact details are below.

Your IRAS project ID is **339105**. Please quote this on all correspondence.

Yours sincerely,
Chris King

Approvals

Specialist

Email: approvals@hra.nhs.uk

Copy to: Mrs Alison Lloyd, Nottingham University Hospitals NHS Trust, Sponsor's Representative

List of Documents

The final document set assessed and approved by HRA and HCRW Approval is listed below.

<i>Document</i>	<i>Version</i>	<i>Date</i>
Interview schedules or topic guides for participants [Interview Schedule]	1.0	17 April 2024
IRAS Application Form [IRAS_Form_25042024]		25 April 2024
Letter from funder [Funding letter]	N/A	09 January 2020
Non-validated questionnaire [Questionnaire to record demographic and burn injury information]	1.0	17 April 2024
Non-validated questionnaire [Questionnaire to be given when ending the intervention]	1.0	17 April 2024
Non-validated questionnaire [Questionnaire for participants who are partially participating]	1.0	17 April 2024
Other [Distress protocol]	1.0	17 April 2024
Other [Participant Contact Sheet]	1.0	17 April 2024
Other [Voucher cover letter]	1.0	17 April 2024
Other [Fidelity checklist]	1.0	23 April 2024
Other [A priori themes]	N/A	17 April 2024
Other [Intervention record]	1.0	17 April 2024
Other [Intervention protocol]	1.0	15 April 2024
Other [GCP refresher certificate Laura Shepherd]	N/A	11 October 2022
Other [Indemnity insurance Fuschia Sirois 1]	N/A	01 August 2023
Other [Fuschia Sirois indemnity insurance 2]	N/A	01 August 2023
Other [Paul Norman indemnity insurance]	N/A	14 September 2023
Other [Diana Harcourt indemnity insurance]	N/A	01 August 2023
Other [Diana Harcourt indemnity insurance 2]	N/A	01 August 2023
Other [Diana Harcourt indemnity insurance 3]	N/A	01 August 2023
Other [Patient Intervention Resources]	1.0	15 April 2024
Other [A priori themes]	1.0	17 April 2024
Other [Response to provisional opinion]	N/A	24 May 2024
Participant consent form [Participant Consent Form]	1.1	24 May 2024
Participant consent form [Participant Consent Form (Verbal)]	1.1	24 May 2024
Participant information sheet (PIS) [Participant Information Sheet]	1.1	24 May 2024
Research protocol or project proposal [Protocol]	1.0	17 April 2024
Schedule of Events or SoECAT [SoECAT]	N/A	25 September 2020
Summary CV for Chief Investigator (CI) [CV Laura Shepherd]	N/A	15 April 2024
Summary CV for student [CV]	N/A	15 April 2024
Summary CV for supervisor (student research) [CV Andrew Thompson]	N/A	22 April 2024
Summary CV for supervisor (student research) [CV Fuschia Sirois]	N/A	23 April 2024
Summary CV for supervisor (student research) [CV Paul Norman]	N/A	10 January 2024
Summary CV for supervisor (student research) [CV Diana Harcourt]	N/A	01 September 2023
Validated questionnaire [Pre-intervention Questionnaires]	1.0	17 April 2024
Validated questionnaire [Post-intervention Questionnaires]	1.0	17 April 2024
Validated questionnaire [Helpful Aspects of Therapy Form]	1.0	17 April 2024

IRAS project ID	339105

Information to support study set up

The below provides all parties with information to support the arranging and confirming of capacity and capability with participating NHS organisations in England and Wales. This is intended to be an accurate reflection of the study at the time of issue of this letter.

Types of participating NHS organisation	Expectations related to confirmation of capacity and capability	Agreement to be used	Funding arrangements	Oversight expectations	HR Good Practice Resource Pack expectations
This is a single site study sponsored by the participating NHS organisation therefore there is only one site type.	The single participating NHS organisation of this type is also sponsoring the research. You should work with your sponsor R&D office to make arrangements to set up the study. The sponsor R&D office will confirm to you when the study can start following issue of HRA and HCRW Approval.	This is a single site study sponsored by the participating NHS organisation therefore no agreements are expected.	Studyfunding arrangements are detailed in A65 of the IRAS form.	A Principal Investigator should be appointed at participating NHS organisations.	Where an external individual will be conducting any of the research activities that will be undertaken at this site type then they would be expected to hold a Letter of Access. This should be issued be on the basis of a Research Passport (if university employed) or an NHS to NHS confirmation of pre-engagement checks letter (if NHS employed). These should confirm Occupational Health Clearance. These should confirm standard DBS checks.

Other information to aid study set-up and delivery

This details any other information that may be helpful to sponsors and participating NHS organisations in England and Wales in study set-up.

The applicant has indicated that they intend to apply for inclusion on the NIHR CRN Portfolio.

Appendix AC: Mixed-methods Acceptability Study: Participant Information Sheet

A mixed-methods acceptability study of 'ProACTIVE,' an early acceptance and commitment therapy intervention to help burns patients cope with changes to appearance

IRAS reference: 339015; R&I reference: 24CP001

Patient Information Sheet; version 1.3, dated 17.10.2024



Contact Details

Chief Investigator

Name: Dr Laura Shepherd, Consultant Clinical Psychologist

Contact: 0115 969 1169 ext. 77985 (tel.) / L.shepherd6@nhs.net (email)

1. What is the purpose of the study?

The study aims to find out if a new early support package (intervention) following burn injuries is acceptable and helpful to patients. The new intervention is called 'ProACTIVE.' Whilst the intervention cannot change the physical appearance of a burn, it aims to support patients with changes to their appearance or how their body looks. Patients vary in terms of how they feel about changes to their appearance or body after burns. Some patients are not concerned, others feel mild concern, and others report more distress. Patients also vary in how much of their body is burnt, what area(s) of the body is affected, and what wounds, scars or skin changes occur. This intervention is for all patients. No other interventions to support patients with this issue early on after a burn currently exist. This intervention is based on a well-established talking therapy called Acceptance and Commitment Therapy (ACT). ACT has proven to be effective for many emotional difficulties and helping patients adjust to a number of physical health issues.

All patients can complete ProACTIVE, whether or not how your burns look or how the changes to your appearance or body are currently concerning you. ProACTIVE aims to teach you ways of coping with upsetting feelings or thoughts/worries about how your burns look and your changed appearance or body, should these be helpful to you now or in the future. In the study, ProACTIVE will be delivered to 15 patients receiving care from the Burns Service at Nottingham City Hospital, by a Consultant Clinical Psychologist who works in the service. If you are admitted to hospital, the intervention can begin in hospital and can continue after you are discharged, or it can begin after you are discharged (within one month of your hospital discharge). If you are receiving outpatient care only, it can begin at any time up to one month after your burn injury occurred. It is flexible, involving

up to five 30-minute sessions depending on how many you wish to complete. Some patients find the thought of receiving emotional support more difficult than others. However, if you decide to take part you will be guided by a Consultant Clinical Psychologist who is experienced in supporting patients who find this more difficult.

If you do not wish to complete the ProACTIVE intervention but are willing to provide us with demographic data and tell us your reason for declining the intervention, you can still contribute by taking part in the study in this way. This is entirely your choice. This information will be equally useful for our understanding of how acceptable ProACTIVE is to patients that it is offered to. If you do take part in this way, your data will be pseudonymised.

This study is being completed as part of a PhD qualification by Dr Laura Shepherd (Consultant Clinical Psychologist and Chief Investigator). If you choose not to take part in the study at all, you can still access routine support from the burns clinical psychology team for any concern related to your burn injury.

2. Who has reviewed this study?

The study has been planned with a Patient Advisory Group of patients who have experienced burns. Research in the NHS is usually looked at by an independent group called a Research Ethics Committee, to protect your safety, rights, well-being and dignity. This study has been reviewed and given a favourable opinion by the NHS, Bromley Research Ethics Committee. The study has also been reviewed and approved by the Health Research Authority and the Research & Innovation department of Nottingham University Hospitals NHS Trust. The Nottingham University Hospitals NHS Trust will act as the 'Sponsor' (i.e., the lead NHS hospital) for this research. Health Education England/National Institute for Health and Care Research will fund this research.

3. Why have I been asked to take part?

Because you are receiving care from the Burns Service due to a recent burn injury. The study, and the intervention involved, is for all patients. Whether you are concerned/upset or not about how your appearance has changed, and no matter what size your injuries may be and where they are on your body, you are welcome to take part. It is up to you to decide whether or not to take part. If you decide to take part, you will be given this information sheet to keep and be asked to sign a consent form to confirm that you understand what is involved when taking part in this study. You can provide verbal consent if you are unable to give written consent for any reason. If you decide to take part, you are free to leave the study at any time. You will be asked for a reason why you are withdrawing from the intervention but you do not have to give one. If you provide consent to take part in the study and later withdraw, we will still keep all your data and information we have collected (e.g., about what parts of the intervention you have completed), as this is valuable to the study. A decision to withdraw at any time, or a decision not to take part, will not affect the quality of care you receive.

4. What do I have to do?

If you decide to take part in the study by completing the ProACTIVE intervention, this will start during your hospital admission or within one month of being discharged (if you are admitted to hospital) or within one month of your burn injury happening if you are receiving outpatient care only. A Consultant Clinical Psychologist will complete the intervention with you. It involves up to five 30-minute sessions. You can choose how many sessions you complete, which sessions you complete, and when you would like to complete sessions. They will all be focused on helping you cope with how your burns look or changes to your appearance/body. You will not be asked to talk about the event leading to your hospital admission. All intervention sessions will be recorded using a voice recorder. A selection of these audio-recordings will be checked by a clinical psychologist working in the hospital and independent of the research team, to check the intervention has been delivered to you correctly, following which they will be destroyed. After every session, you will be offered some resources to remind you of the content of the session and to help you practice what you learnt. You will be asked for your preference about how you want to receive these. If you have not completed all sessions before you are discharged from hospital (if relevant for you), you can choose whether to end the intervention or continue the intervention after you have gone home, either by coming back to the hospital for face-to-face appointments or by using Dr Doctor, the hospital's video-appointment system. You will be asked your preferences about how you would want to be contacted (by post, email, or telephone) to continue the study. Information about you (age, gender and ethnicity) and your burn (e.g., size and cause of your injury) will also be gathered from your medical records by the Consultant Clinical Psychologist. Before and after the intervention, you will be invited to complete four questionnaires that usually take 15 minutes to complete. At the end of every 30-minute session, you will also be invited to provide feedback about it by completing a questionnaire that takes around five minutes. If you do not complete all five sessions of the intervention, you will also be invited to complete one multiple-choice question that asks why you have withdrawn that will take around one minute so we can learn why. However, you do not have to give a reason if you do not wish to. Questionnaires will be completed when you are in hospital (if relevant for you) or during any outpatient appointments you choose to make to complete the intervention. Finally, when you end the intervention, you will be invited to an interview lasting around 30 minutes so you can give more detailed feedback about the intervention and how you think it could be improved. The interview can be done at the hospital or over a video-appointment or telephone call. The interview will be done by a different psychologist who works in the burns service, to promote honest feedback. The interview will be recorded using a voice-recorder so that the interview can be analysed later and checked by the research team. Some of your pseudonymised data (including audio-recordings of the interview) will be shared with researchers involved in the study who are based at the University of Sheffield, to check the interviews have been delivered correctly and the results of the study have been analysed correctly. The audio-recordings of interviews will also be sent to Clayton Research Support, an NUH approved vendor, as they will be transcribing the interviews.

If you do not want to complete any of the intervention but would like to take part in the study by providing a reason why you do not want to complete it, you will be invited to complete a single multiple-choice question that will take around one minute. Information about you (age, gender and ethnicity) and your burn (e.g. size and cause of your injury) will

also be gathered from your medical records by a psychologist who works in the service. You will not be asked to do anything else.

Once you consent to taking part in this study, we will still keep all the data and information we have collected if you decide to withdraw at any point.

As previously mentioned, you also have the option to decline any involvement in the study, and do not have to give a reason why.

5. What are the possible benefits?

Care for future patients may be improved. If the ProACTIVE intervention is found to be acceptable and helpful, or we find out how to improve it, it can be studied further and may become part of routine care for patients. If you complete part or all of the intervention and complete the interview after ending this, you will be offered a £20 Amazon voucher to thank you for your time.

6. What are the disadvantages?

As well as the time you spend taking part, the subject area may be sensitive for some patients and therefore has the potential to evoke emotional reactions in some patients. However, it is not expected that taking part will create any additional distress to that already being experienced, or that taking part will create distress that is significant or long-lasting in nature. In contrast, the aim of the intervention is to aid coping and reduce distress. However, it has not yet been tested and so it is uncertain whether you will directly benefit from it. The researchers will be able to help you access further emotional support for any aspect of your burn injury if you need it after the intervention ends, from the burns clinical psychology service or charities. During the intervention, if you decide to take part, you can still receive support from the burns clinical psychology team for any other concern related to your burn injury. However, the team will be advised not to do any interventions related to any appearance concerns until after the intervention being studied has ended. You will be reimbursed for any travel costs you incur by completing the interview after ending the intervention. However, we cannot reimburse you for any travel costs you incur for returning to the hospital for appointments to complete the intervention, unless you meet the usual requirements for travel reimbursement for attending clinical appointments.

7. What will happen to my data?

All the information about your participation in this study will be kept confidential. We will keep all information about you safe and secure. If you consent to take part in this study, the records obtained while you are in this study as well as related health records will remain strictly confidential at all times. The information will be held securely on paper, and electronically at your treating hospital under the provisions of the General Data Protection Regulation and the Data Protection Act. Your name will not be passed to anyone else outside the research team or the Sponsor, who is not involved in the study. You will be allocated a study number, which will be used as a code to identify you on all study forms.

If you consent to taking part in the study and later withdraw, all data and information collected will remain on file and will be included in the final study analysis.

In line with Good Clinical Practice guidelines, at the end of the study, your data will be securely archived for a minimum of five years on NHS secure servers/in locked filing cabinets at the hospital. This includes the audio recordings/digital recorder used to record intervention sessions and interviews. All data will be kept on site until the publication of the study and then archived for five years until it is destroyed, apart from the intervention session recordings which will be deleted as soon as they have been checked. Interviews will be deleted from the digital recorder as soon as it has been safely transferred to the NHS server for storage. Arrangements for confidential destruction will then be made. All researchers involved in the study will have a duty of confidentiality to you as a research participant. However, if you disclose any risk to yourself or someone else, confidentiality will need to be broken.

We will need to use information from you and your medical records for this research project. This information will include:

- Name, initials, NHS number, gender, age, date of birth, and ethnicity
- Burn mechanism, TSBA% of burn, depth, and location
- Contact details i.e. email address, telephone number, home address

People will use this information to do the research or to check your records to make sure that the research is being done properly. People who do not need to know who you are will not be able to see your name or contact details. Your data will have a code number instead. Other members of the burns clinical psychology team will be notified that you are taking part in this study if they are also involved in your care at the same time. Some of your information will be shared with researchers involved in the study who are based at the University of Sheffield, to check the interviews have been delivered correctly and the results of the study have been analysed correctly. No data will leave the hospital's computer servers. A data sharing agreement will be in place. Some of your session recordings will be listened to by a clinical psychologist working in the hospital, and independent of the research, to check the intervention was delivered to you correctly. The recordings will then be destroyed. They must follow our rules about keeping your information safe. Once we have finished the study, we will keep some of the data so we can check the results. We will write our reports in a way that no one can work out that you took part in the study. You can stop being part of the study at any time, without giving a reason, but we will keep information about you that we already have.

There is a data transfer agreement in place with Clayton Research Support, who will transcribe the interviews, and this includes a confidentiality agreement.

The data controller for the study is Nottingham University Hospitals NHS Trust. The data custodian is Dr Laura Shepherd.

We need to manage your records in specific ways for the research to be reliable. This means that we won't be able to let you see or change the data we hold about you. You can find out more about how we use your information:

- at www.hra.nhs.uk/information-about-patients/
- our GDPR leaflet available on request from researchsponsor@nuh.nhs.uk; or by the following link www.nuh.nhs.uk/gdpr
- by emailing the Data Protection Officer for NUH at dpo@nuh.nhs.uk,
- by ringing the Data Protection Officer for NUH on 0115 924 9924 (extension 63975)
- by visiting www.nuh.nhs.uk/gdpr

8. What will happen if I don't want to carry on with the study?

You can stop taking part in the study at any time. If you have started the intervention, we will ask you a multiple-choice question that asks why you have withdrawn so we can learn why. However, you do not have to give a reason if you do not wish to. You can withdraw at any stage of the study. However, once you provide consent we will keep information about you that we already have.

9. What happens when the study is finished?

The researchers will be able to help you access further emotional support for any aspect of your burn injury if you need it after the intervention ends. A summary of the study and its findings will be produced for key charities to use on their websites, social media platforms or newsletters. A copy of this summary will also be sent to you, if you consent to this. The findings will also be presented at conferences and published in a scientific journal. Quotes from your interviews will be included within these but you will not be identifiable from them.

10. What if there is a problem?

If you have a concern about any aspect of this study, you should ask to speak with the researchers who will do their best to answer your question. If you remain unhappy and wish to complain formally, you can do this through the NHS Complaints Procedure. Details can be obtained from the hospital or you can contact the Patient Advice and Liaison Service (PALS) telephone 0800 183 0204. In the event that something does go wrong and you are harmed during the research study there are no special compensation arrangements. If you are harmed and this is due to someone's negligence then you may have grounds for a legal action for compensation but you may have to pay your legal costs. The normal NHS complaints mechanisms will still be available to you.

11. Further Information

You are encouraged to ask any questions you wish before, during or after the study. If you have any questions about the study please speak to the researchers who will be able to provide you with up to date information about the study. If you require any further information or have any concerns while taking part in the study please contact the Chief Investigator using the details at the top of this sheet. If you decide you would like to take part then please read and sign the consent form. If you have trouble holding a pen or writing due to your injuries, or take part remotely, you can give verbal consent. You will be

given or sent a copy of this information sheet and the consent form to keep. A copy of the consent form will be filed in your medical notes and one will be filed with the study records.

12. Patient and Public Involvement

All research participants should be offered the opportunity to feedback on their experiences of taking part in clinical research at NUH through the Participant in Research Excellence Survey (PRES). PRES is a requirement for all NIHR-adopted studies (although participants are free to choose if they want to participate or not). The web link is: www.nuh.nhs.uk/ri-feedback
You can have more time to think this over if you are at all unsure. Thank you for taking the time to read this information sheet and to consider this study.

You can have more time to think this over if you are at all unsure.

Thank you for taking the time to read this information sheet and to consider this study.

Appendix AD: Mixed-methods Acceptability Study: Written Consent Form

Participant Consent Form

Version: 1.2 Date: 17/10/2024

A mixed-methods acceptability study of 'ProACTive,' an early acceptance and commitment therapy intervention to help burns patients cope with changes to appearance

Principal Investigator: Dr Laura Shepherd

Patient Study ID:

Initials:

**Patient initial each
box**

1. I confirm that I have read and understand the information sheet dated _____
(version _____) for the above study. I have had the opportunity to ask questions and
have these answered satisfactorily.
2. I understand that my participation is voluntary and that I am free to withdraw at any time
without my medical care or legal rights being affected.
3. I understand that my medical records may be looked at by authorised individuals from the
Sponsor for the study to check that the study is being carried out correctly. I give
permission for these individuals to have access to my records.
4. I understand that even if I withdraw from the above study, the data collected from me will
be used in analysing the results of the study.
5. I understand that my personal information will be stored, including electronically, for the
purpose of this study. I understand that any information that could identify me will be
kept strictly confidential and that no personal information will be included in the study
report or other publication.
6. I understand that audio-recordings will be taken during my intervention sessions and
interview. I understand that a selection of intervention recordings will be sent to a clinical
psychologist working in the hospital to check the intervention has been carried out
properly. I understand that the interview recordings will be sent to Clayton Research
Support for transcription. I understand that the interview recordings and transcriptions
will be sent to and checked by the Chief Investigator's supervisors.
7. I understand that confidentiality will be broken if a risk to self or others is disclosed
8. I agree to take part in the study by (please initial one box only):
 - a) Completing the intervention and study procedures outlined
in the Participant Information Sheet

☐☐☐☐☐☐☐☐

OR

b) Providing a reason for declining the intervention and for my demographic and burn injury information from my medical records to be used

☐

9. I consent to receiving a summary of the study's findings upon completion of the study using the postal/email address below (*optional*):-

Yes

☐

No

☐

Postal/email address: _____

PARTS 10-13 ONLY APPLICABLE TO PARTICIPANTS WHO ARE COMPLETING THE INTERVENTION AND STUDY PROCEDURES OUTLINED IN THE PARTICIPANT INFORMATION SHEET:

10. I consent to be contacted using the following method(s) to arrange continued participation (please tick all boxes that apply):

☐

Post ☐
Email ☐
Video-call ☐
Telephone call ☐

11. I consent for my direct quotes to be used in written publications of the findings

☐

12. I consent to members of the burns clinical psychology team being informed of my participation, in case they are involved in my care

☐

13. I understand that the interview is optional

☐

Name of the patient (*Print*)

date

Patient's signature

Name of person receiving consent (*Print*)

date

Signature

Original to be retained and filed in the site file. 1 copy to patient, 1 copy to be filed in patient's notes

Appendix AE: Mixed-methods Acceptability Study: Verbal Consent Form

A mixed-methods acceptability study of 'ProACTIVE,' an early acceptance and commitment therapy intervention to help burns patients cope with changes to appearance

PARTICIPANT VERBAL CONSENT CONFIRMATION FORM

IRAS Number: 339105

R&I reference number: 24CP001 v1.2 17/10/2024

This verbal consent form is to be used when the participant wishes to participate but either cannot physically write/hold a pen to provide written consent due to hand injuries or they are participating remotely.

Participant ID:	Initials:
Date of Birth:	NHS/Hospital Number:
Principal Investigator:	
Date of verbal consent: __/__/__ (dd/mmm/yyyy)	
Time of verbal consent: __/__ (00.00 hr)	
Format of verbal consent e.g. Skype, phone call:	

The Ethics Committee, whose role it is to scrutinise research and protect patients, has agreed that we can obtain verbal consent from you over the phone, but please let me reassure you that whatever you decide, it will not change your treatment in anyway. Do you have any questions you would like to ask me at this stage?

Can you please confirm whether you agree or not, after reading the Participant Information Sheet, but either being unable to complete the written consent form due to your hand injuries or due to taking part remotely, you are happy for me to accept your verbal consent to participate?

Record participant's response: Yes / No

(If participant answered yes, continue)

Version and date of information sheet received and read by participant: Version: ____ Dated: ____
/ ____ / ____

Date the study information was received and read (dd/mmm/yyyy)? ____ / ____ / ____

Read out the below clauses one at a time and confirm the participant agrees with each of them

Please initial (researcher)

1. After explaining the study information to the participant, they have confirmed that they understand and agree to participate in the above research study.	Yes	No	
	☐	☐	
2. The participant understands that the study is voluntary, and that they can withdraw at any time without their medical care or legal rights being affected; although data already collected will be retained for use in the study.	Yes	No	
	☐	☐	
3. The participant understands that their medical records may be looked at by authorised individuals from the Sponsor to check that the study is being carried out correctly. They give permission for these individuals to have access to their records.	Yes	No	
	☐	☐	
4. The participant understands that their personal data will be collected and stored electronically for the purposes of this study. They understand that any information that could identify them will be kept strictly confidential and that no personal information will be included in the study report or other publication.	Yes	No	
	☐	☐	
5. The participant understands that audio-recordings will be taken during their intervention sessions and interview. They understand that a selection of intervention recordings will be sent to a clinical psychologist working in the hospital to check the intervention has been carried out properly. The participant understands that the interview recordings will be sent to Clayton Research Support for transcription. They understand that the interview recordings and transcriptions will be sent to and checked by the Chief Investigator's supervisors.	Yes	No	
	☐	☐	
6. The participant understands that confidentiality will be broken if a risk to self or others is disclosed	Yes	No	
	☐	☐	
7. The participant agrees to take part in the study by (initial 'Yes' in <u>one box only</u>):			
a) Completing the intervention and study procedures outlined in the Participant Information Sheet	Yes	No	
	☐	☐	

OR

b) Providing a reason for declining the intervention and for my demographic and burn injury information from my medical records to be used	Yes	No	
	☐	☐	
8. The participant consents to receiving a summary of the study's findings upon completion of the study using the postal/email address below (<i>optional</i>):-	Yes	No	
	☐	☐	

Postal/email address: _____

9. The participant consents to being contacted using the following method(s) to arrange continued participation (tick all boxes that apply):

Post	☐		Yes	No
			☐	☐

Email ☐

Video-call ☐

Telephone call ☐

10. The participant consents for their direct quotes to be used in written publications of the findings

11. The participant consents to informing members of the burns clinical psychology team of their participation, in case they are involved in their care

12. The participant understands that the interview is optional

Yes	No
☐	☐
Yes	No
☐	☐

Participant

Full name (*block capitals*):

Date of Birth:

DD/MMM/YYYY

..... / /

Date/time verbal consent provided by participant:

<i>DD/MMM/YYYY</i>	<i>Time (24 hr)</i>
..... / /	:.....

Person taking consent

I have explained the study to the above named participant and they have indicated their willingness to participate.

Full name (*block capitals*):

Signature:

Date:

DD/MMM/YYYY

..... / /

Original to be retained and filed in the site file, one copy for the participant, and one copy to be filed in the participant's medical notes.

Appendix AF: Mixed-methods Acceptability Study: Participant Contact Sheet

Participant Contact Sheet
Chief Investigator: Dr. Laura Shepherd

To be completed by the researcher following informed consent from the participant

Study ID:

Name:

The participant has consented to be contacted using the following method(s) to continue participation, using the following contact details (please tick all boxes that apply and enter contact information):

- ☐ Post:

- ☐ Email:

- ☐ Video-call: _____
- ☐ Telephone call: _____

The participant has consented to be sent the intervention resources, using the following contact details (please enter contact information):

- ☐ N/A (the participant has stated a preference to be given the resources in person on paper only)
- ☐ Post:

☐ Email:

Upon completion of the interview, the participant has consented to be sent the £20 Amazon voucher by (please enter contact information):

☐ Post:

☐ Email:

☐ SMS: _____

Completed by (name): _____

Job title: _____

Signature: _____ Date: ____ / ____ / ____

Appendix AG: Intervention Guide for Therapists

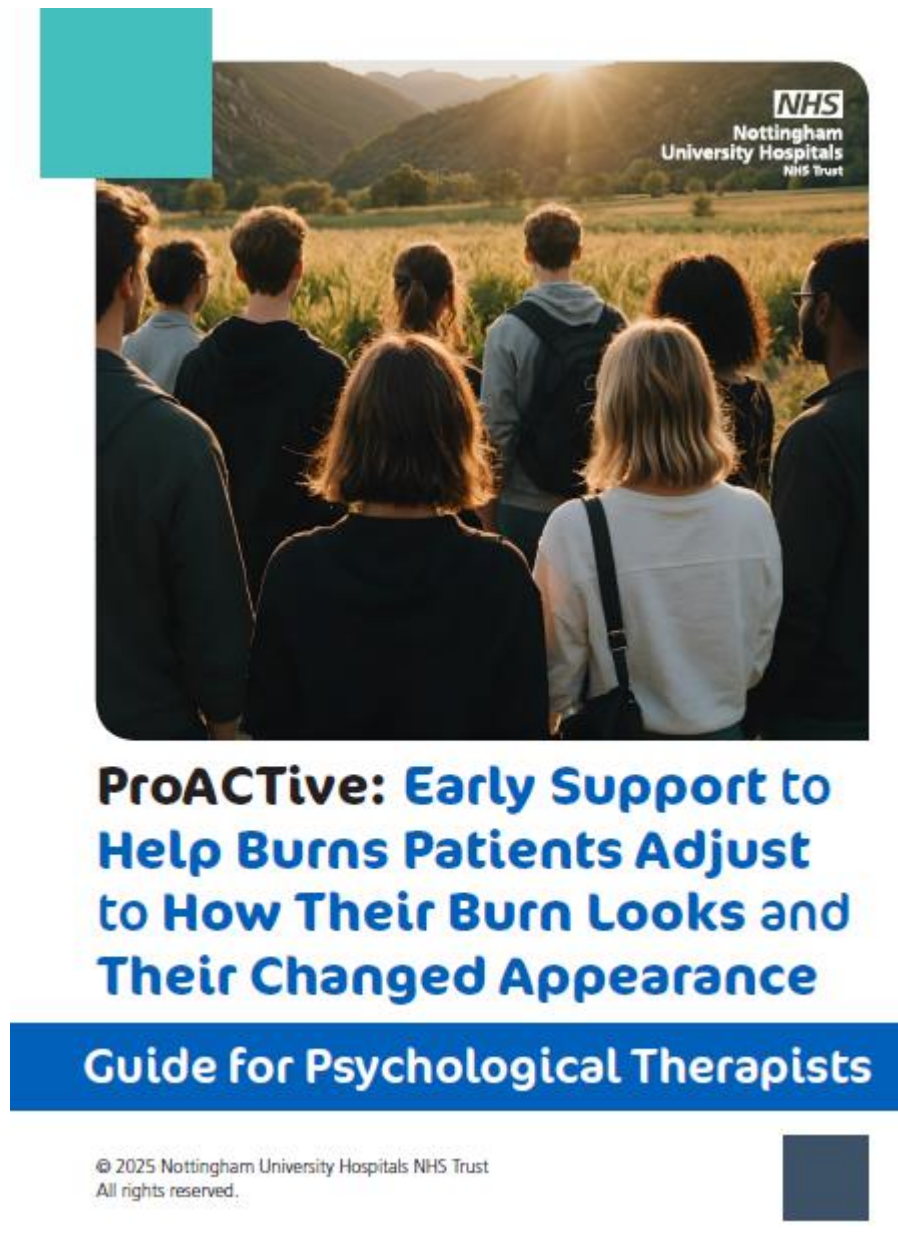




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ProACTIVE: Early Support to Help Burns Patients Adjust to How Their Burn Looks and Their Changed Appearance

Aim of the Intervention

Research has found that difficulties with psychological flexibility and self-compassion are associated with appearance concerns after burn injuries. Research has also shown that burns patients believe that early psychological support for appearance concerns can be lacking from routine burn care. The aim of this brief intervention is to help burns patients develop or enhance their psychological flexibility and self-compassion in response to their experiences associated with how their burn looks or their changed appearance. It utilises evidence-based Acceptance and Commitment Therapy (ACT) techniques. It is aimed to be a brief proactive intervention that can prevent (increased) appearance concerns and give patients ways of responding to distressing experiences.

Who the Intervention is For

The intervention can be offered to burns patients whilst they are admitted to hospital or when they are receiving early outpatient care. It has been developed for adults over the age of 18 years. Research suggests that burns patients believe that early psychological support for appearance concerns should be routinely embedded within the burn care pathway in order to normalise it. Furthermore, it is known that some patients may not experience appearance concerns until after they have left hospital (e.g., because they are focusing on their physical health or rehabilitation) or when the reality or certainty around appearance changes set in or become clearer.

Therefore, the intervention has been designed so that it can be offered to all patients suitable for a psychological intervention (see below), rather than only those who are currently experiencing appearance concerns. It is intended to support patients in their adjustment to how their burn looks or a changed appearance, which includes those who are already experiencing distress about how their burn looks or appearance concerns as well as those where their changed appearance may not be currently causing them distress but may do in the future.

Delivery of the Intervention

The intervention has been designed to be delivered by psychological therapists working in burns services. Anyone delivering the intervention should have appropriate training in ACT and clinical supervision in place. The intervention can be delivered face-to-face or online. It is assumed that the intervention should only be started after an assessment/screening of suitability for a psychological intervention (e.g., considering suicidal risk, acute mental health needs, cognitive ability and physical wellbeing) and clinical judgment should be exercised about this. As this is a brief intervention, it should also be acknowledged that some patients will likely require additional psychological support for their appearance concerns following this intervention and patients should be given information about what support is available should this be the case, from within the burns service or other relevant NHS providers or charities.

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Format of the Intervention

The intervention includes up to five 30-minute modules. The intervention begins with an introductory module that should be completed by all patients. The other four modules are standalone modules. These can be chosen by the patient and/or driven by patient need as judged by the patient themselves or the psychological therapist. The standalone modules offer flexibility in how many of the modules, and what modules, are completed and how these are spaced. Therefore, there is no pre-determined number of modules required to 'complete' the intervention. Again, this offers flexibility in terms of patient need/preference or pragmatism (e.g., impending or uncertain hospital discharge, or time restraints during hospital admission and after discharge). When the patient completes additional modules after the introductory module is also flexible, again depending on patient choice/preference, the psychological therapist's clinical judgment and availability, or environmental/external factors (e.g., working around dressing changes or surgery).

Content of the Intervention

The intervention utilises ACT techniques, aiming to enhance psychological flexibility and self-compassion. The five modules are:

- Introduction
- Responding to our feelings and thoughts
- Getting distance from our thoughts
- Doing what is important to us
- Being around other people

The modules and exercises within them are typically focused on helping patients respond to current distressing experiences related to how their burn looks or their changed appearance, or allow patients to practice how they could respond to distressing experiences they may have related to their appearance in the future. In line with ACT being a process-based approach, exercises within most of the modules can be used with whatever content the patient brings up around how their burn looks or their appearance. This may include a range of emotions, thoughts, uncertainties, urges, images, physical reactions, etc. In the event that some exercises may evoke physical discomfort (e.g., the mindful breathing exercise or writing), alternative exercises are provided and help should be offered.

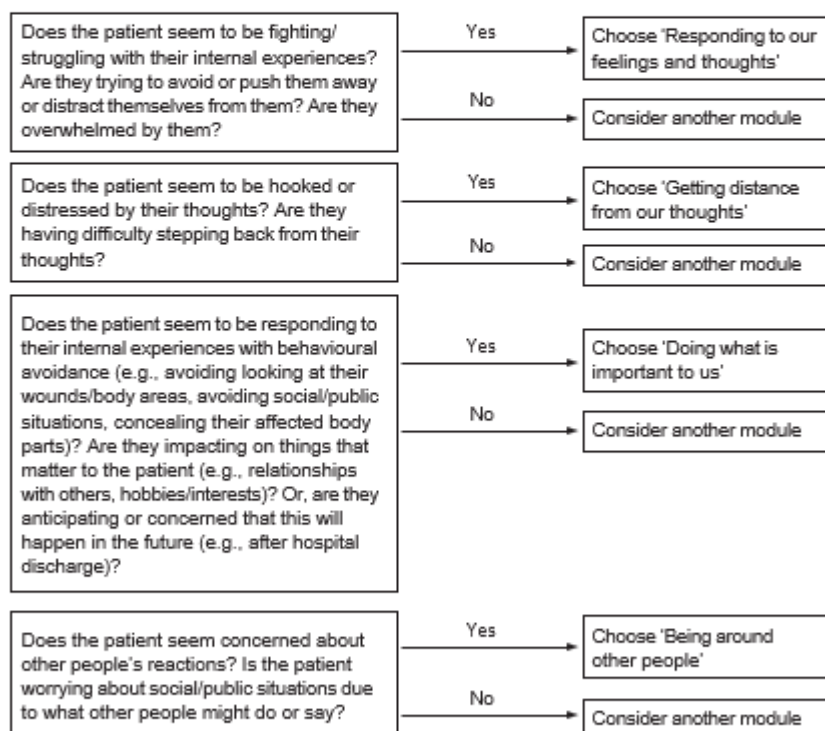
As detailed above, all patients should initially complete the introductory module. Following this, patients should be given the relevant patient materials for this module to keep. Any additional modules should begin with a check about whether any replacement materials are needed (e.g., if any have been misplaced). Every module should end with providing patients with the patient materials based on the module they have completed. These are for the patient to keep, serving as a reminder of the module but also providing scripts and website links and QR codes linked to audio files of the exercises so that these can be practiced independently. Patients should be gently encouraged to practice the exercises in their own time. However, it should be acknowledged that this might feel difficult due to other demands when in hospital/receiving burn care and patients should be reassured that this is their choice.

Introductory Module

This enables an introduction to the intervention and provides an opportunity to start building therapeutic rapport and gain a sense of the patient's experiences.

Choosing the Modules

Patients should choose which modules to complete, in any order they choose, following the introductory module. The following decision tree can be used to guide the delivery of the intervention in terms of the possible additional four modules to complete. It can be used to guide conversations with patients to support them in deciding what modules to choose, or as a decision-making tool for psychological therapists to aid clinical judgment about how to choose or prioritise modules if patients are unsure:



As a general rule, if choosing feels difficult for the psychological therapist or the patient, complete the modules in order and let the patient choose how many modules they wish to complete.

Delivering the Modules

The table below outlines each of the five 30-minute modules with the aims, content and rough timings of each. In the following pages, there is further guidance and example scripts and resources for the exercises.

Module	Aims	Content	Timings
Introduction	Providing an introduction to the intervention; building therapeutic rapport and gaining a sense of the patient's experiences; validating and normalising the patient's experiences; self-compassion; developing creative hopelessness; introducing acceptance and contact with the present moment	Introduce the aim of the intervention, acknowledging that it may be useful now, in the future or both	5 minutes
		Invite the patient to briefly describe their experiences related to how their burn looks and their appearance change(s) and how they are responding to these, incorporating self-compassionate perspective-taking	10 minutes
		Reflecting on the workability of the patient's strategies	5 minutes
		Unwanted party guest metaphor – introducing the idea of reducing the control agenda (acceptance)	5 minutes
		Mindful breathing exercise (or five senses exercise if breathing creates discomfort)	5 minutes
Responding to our feelings and thoughts	Promoting acceptance; continuing being present moment focused; self-as-context; self-compassion	Reminding the patient about the unwanted party guest metaphor and reducing the control agenda	5 minutes
		Passengers on the bus exercise	10 minutes
		Experiential acceptance exercise (breathing into/making room for/allowing internal experiences)	5 minutes
		'Who is noticing?' reflection, and self-compassionate perspective-taking	5 minutes
		Mindful breathing exercise (or five senses exercise if breathing creates discomfort)	5 minutes

Getting distance from our thoughts	Developing cognitive defusion; continuing being present moment focused; self-as-context; self-compassion	Reminding the patient about the unwanted party guest metaphor and reducing the control agenda	5 minutes
		Experiential cognitive defusion exercise (noticing the thought, naming the story, thanking your mind)	10 minutes
		Leaves on a stream exercise	5 minutes
		'Who is noticing?' reflection, and self-compassionate perspective-taking	5 minutes
		Mindful breathing exercise (or five senses exercise if breathing creates discomfort)	5 minutes
Doing what is important to us	Increasing committed action; acceptance; continuing being present moment focused; self-compassion	Reminding the patient about the unwanted party guest metaphor and reducing the control agenda	5 minutes
		Values reflection	5 minutes
		Doing what Matters exercise	10 minutes
		'Two sides of a coin' metaphor	5 minutes
		Mindful breathing exercise (or five senses exercise if breathing creates discomfort)	5 minutes
Being around other people	Developing self-efficacy and skills in being around other people and other people's reactions, utilising acceptance and self-compassion	Allow-Assert-Act with Kindness exercise	20 minutes
		Taking control when around other people	5 minutes
		Mindful breathing exercise (or five senses exercise if breathing creates discomfort)	5 minutes

Guidance, Scripts and Resources for the Modules

The following pages present example scripts and resources with additional guidance about delivering the modules. However, psychological therapists should use wording that they feel comfortable using, and scripts on the following pages are simply suggested examples.

In addition to the example scripts and resources within the following pages in this guide, there are also patient-facing materials that contain summaries of key concepts, scripts and websites and QR codes that link to audio files for some of the exercises. Please remember to give the related patient materials to patients after each module.

Please turn overleaf for example scripts and resources for each module.

Introduction

The aims of this introductory module is to introduce the intervention, start to build therapeutic rapport (including validating and normalising the patient's experiences) and gain a sense of the patient's experiences related to how their burn looks or their appearance changes. In addition, it aims to develop creative hopelessness and self-compassion, and introduce the concepts of acceptance and being in the present moment.

1 Introducing the aim of the intervention should take no more than five minutes. It should give the patient enough understanding to proceed but does not need to be lengthy due to the experiential nature of ACT; patients will learn as they complete the intervention. The introduction should also briefly acknowledge that the intervention may be useful now, in the future or both and that patients can use the skills and techniques they learn whenever they wish. The introduction should acknowledge that a patient may consider that they already have workable ways of responding to difficult upsetting (internal) experiences, in which case the intervention might build on these. Finally, it provides an opportunity to acknowledge that some patients find it more difficult to accept, engage in and/or receive psychological support (e.g., due to experiential avoidance, difficulties in self-compassion, previous experiences of psychological or mental health services, or stigma). The following is an example script:

'The aim of this intervention is to provide you with some early support with how your burn looks or your changed appearance. People experience changes to appearance differently – some people are less concerned than others about how their burn looks now or may look in the future. Also, concerns can arise early on after a burn injury, or after more time has passed. This means that the intervention may be helpful to you now or in the future. If you have any concerns about how your burn looks or your changed appearance, this is understandable. It is human nature to want to feel connected to other people and included, and for some people this creates concerns because of how their burn looks or how their appearance has changed. This intervention is a talking therapy called Acceptance and Commitment Therapy (or ACT, for short). It, of course, cannot change the physical appearance of your burn. However, it will involve practicing some techniques and skills together to help you respond to any upsetting experiences, such as feelings and thoughts, about how your burn looks or your changed appearance. You can use these skills whenever you like by yourself, to help you do what you want to do in your life even with upsetting feelings and thoughts that may show up. You may already have ways of responding to upsetting thoughts or feelings that you feel are helpful. I wonder if there are things you want to do right now that you are not doing because of upsetting feelings or thoughts about your appearance. In either case, the intervention may be about learning some additional skills because we all have space for learning. It is also important to note that some people find it more difficult to accept emotional support than others. Some people also find it difficult to 'open up' and talk about feelings and concerns, whereas for other people it comes more naturally. I will be able to support you, if you are finding anything difficult.'

2 Inviting the patient to briefly describe their experiences related to how their burn looks or their appearance changes, and how they are responding to these, should take no more than **10 minutes**. Ask the patient to try and get in touch with their most kind and non-judgmental part of themselves and tell you what is coming up for them about how their burn looks or their changed appearance. It should give the patient enough chance to describe their emotions, thoughts or behaviours that they have noticed in themselves related to how their burn looks or their appearance changes. Generic therapeutic skills can be used to foster a therapeutic rapport. Patient's experiences should be validated, and you should reinforce the patient noticing their distress as an important step to fostering self-compassion (e.g., 'It's an important step that you are noticing your distress, which is common after burns, and it will be useful to keep doing this through a caring and kind lens'). Exploring with the patient about how they are responding to (or what they are doing to cope) with these experiences should also be a focus here.

If the patient does not express any current distress or concerns related to how the burn looks or their changed appearance, you can invite them to think about possible situations in the future that may feel more difficult than before, or create self-consciousness, anxiety or worry because of their changed appearance. Additional support and encouragement may be needed for patients who struggle to accept, engage in and/or receive psychological support. Again, asking the patient to try and get in touch with their most kind and non-judgmental part of themselves may be helpful.

Towards the end of the 10 minutes, ask the patient to come up with a sentence from their most kind and non-judgmental part of themselves (or the part of themselves they would use to show kindness and non-judgment to others) to acknowledge and respond to their upsetting experiences (or what might show up in the future if no current distress is apparent). They can write this down on their resource.

3 Discussing the workability of the strategies the patient is using in response to their internal experiences (now or possibly in the future) related to how the burn looks or their changed appearance should take around **five minutes**. You are aiming to help the patient reflect on continuing to do what works for them and trying something different if their strategies are not helping (or are limited in how much they help) or might not work/be limited in their workability longer-term.

Patients may have workable ways of responding to feelings and thoughts about how their burn looks or their changed appearance, in which case these can be encouraged and the intervention might be framed as learning additional skills to help them with these alongside their current/ usual skills. Alternatively, patients may reflect that their current or usual ways of responding to distress might be unworkable due to the consequences they might lead to, either now or in the future, or only useful in certain situations. In this case, you can help the patient reflect that they can stop or reduce using these ways of coping with their feelings and thoughts about how their burn looks and their changed appearance and try alternatives, which they will learn during the intervention. Naming any relevant ways of responding to distress as **efforts to control or reduce distressing experiences** (the control agenda) and developing creative hopelessness around these is important. You can also present the idea that the patient has a choice: to focus on controlling their feelings and thoughts, or focus on controlling what they do in their life.

Asking Questions to Prompt Patient Reflections may include:

How much has that been helpful to you so far? If so, how?

What happens when you do that?

Are there any downsides to that?

Does/could that stop you from doing the things you want to do in your life?

How much will that work longer-term?

Are there any situations where that is/may become difficult?

4 Introducing the 'unwanted party guest' metaphor should take around five minutes. In introducing this metaphor, it is important to align the metaphor with your previous reflections about efforts to control or reduce distressing experiences (the control agenda) about how their bum looks or their changed appearance. You are now introducing the concept of reducing this struggle to control or reduce these experiences and instead choosing to let them be there, even if they are unwanted, so the patient can focus on doing what they want to do in their life. The following script that can be used:

'Do you ever feel like you are spending too much time or effort trying to control or avoid feelings or thoughts? See if what I am about to say seems to fit with your experiences. Imagine you are holding a party and you invite the people you want to be there. But, an unwanted guest arrives as they have also found out about the party. The guest is upsetting but cannot harm you and you would prefer them not to be there. You have the option of trying to get the unwanted guest to go away and leave the party – but this would be an effort, they might not leave, or it might cause difficulties or ruin the party. It might even stop you from enjoying or engaging in the party. Alternatively, you can be willing to let them join the party even if you would prefer that they were not there. Can you see how upsetting feelings and thoughts, including those about how your bum looks or your changed appearance, might be like an unwanted guest at a party? They show up and are unwanted, and attempts to get them to leave is effortful and might create further difficulties. However, you can choose to allow them to be there, whilst also gently switching your efforts or engagement to focus on doing what you want to do right now or what is important to your wider life.'

5 The following scripts present a mindful breathing exercise (or a five senses exercise if breathing creates discomfort) that can be used in around five minutes once the patient is in a comfortable position (as much as is possible):

MINDFUL BREATHING: 'First of all, I would like you to simply focus on your breathing. You can close your eyes or keep them open. Bring your attention gently to your breathing, feeling your breath flowing into your body and out of your body. Do not try to change your breathing in any way. Just pay attention to it. Focus on the flow of your breath as it moves in and out. Try to focus on one aspect of your breath – perhaps the feeling of the air as it moves through your nostrils, or over your lips or on the feeling of your chest or stomach rising and falling. Keep the focus on your breathing, 'being with' each breath in and each breath out for its full duration. Again, do not try to change anything about your breathing. Just notice it. Often our minds wander. If you find your mind wandering to other thoughts, worries, noises or anything else, just notice that and gently bring your focus back to your breathing. Let us continue to practice this. Just notice your breathing, gently bringing your attention back to your breathing when it has drifted.'

FIVE SENSES: 'First of all, I would like you to focus on things around you that you can see. Notice what you can see. Now let it go and let us focus on what you can hear. See what you can notice. Now let it go and let us focus on what you can touch or feel. It could be something you can touch yourself or a feeling you notice, for example, the feeling of the air on your skin. Now let it go and let us focus on what you can smell. Finally, let it go and see if you can notice a taste. Often our minds wander. If you find your mind wandering to other thoughts, worries, noises or anything else, this is common, just notice that and gently bring your focus back to the sense you were noticing. Let us continue to practice this, noticing what is here right now using our senses.'

Responding to Our Feelings and Thoughts

The aim of this module is to promote acceptance - reducing the control agenda/efforts to control or reduce distressing experiences patients are having, or might develop, about how their burn looks and their changed appearance - and instead being willing to experience them. The module also aims to develop present moment awareness, self-as-context and foster self-compassion.

1 Briefly remind the patient about the unwanted party guest metaphor, and the idea that the patient can choose whether to focus on controlling what they do in their life rather than controlling or trying to reduce distressing feelings and thoughts (the control agenda) related to how their burn looks and their changed appearance by letting them be there, even if they are unwanted. This was covered in the introductory module and may also have been repeated in other modules that have been completed. This should take no more than five minutes.

2 The passengers on the bus exercise should take around 10 minutes. The worksheet in the patient resources (also shown on page 16) can be used to guide this exercise and can be written on. If patients do not report any upsetting experiences related to how their burn looks or changed appearance, you can invite them to think about possible future situations where these may arise. Here is a script to introduce the exercise:

"I'd like us to think about a bus. Buses have a driver at the front, who decides which roads to travel down. Buses also have passengers, who get on and off the bus. Some passengers might be pleasant to the driver of the bus, whereas some passengers might be unpleasant. Some passengers might try to dictate which route the driver of the bus takes. The driver of the bus can then choose whether to listen to these passengers or take the route they want to take to get to the destination. Imagine that life is like a bus journey. You are the driver of your own bus of life, and can choose which roads you go down and which roads you do not. Therefore, you can choose what you do and what you do not do. We all drive our own buses of life and can choose to go down roads (and do things) that are in line with our values, what really matter to us. However, sometimes we find ourselves avoiding these roads and taking detours that take us away from our values, what matters to us, by avoiding things or situations. Which roads we decide to take as the drivers of our buses can depend on our passengers. We all have passengers on our buses. These passengers represent our emotions, thoughts, memories and other feelings inside us. Some of these passengers we might like, like happy memories or positive thoughts, and some feel neutral to us. However, we all have passengers that we wish would not board our bus; these can be scary or unkind passengers. These passengers might try to tell us what to do or not do. These are the passengers we might struggle with or pay more attention to.

After a burn, people often have upsetting or unkind passengers that represent feelings and thoughts about how their burn looks and how their appearance has changed. If you don't have any at the moment, you might imagine whether any future situations may lead to any of these passengers boarding your bus. You can try to avoid these passengers, distract yourself from them, throw them off the bus, find ways to quieten them down, etc., but because they are your inner states you cannot get rid of them for good – these passengers tend to get back on your bus. So, fighting with and trying to control your passengers or by giving in to their demands means that you are not in control of where your life is headed – or what you do – which can take you away from the direction you want to go. It can also make it a tiring journey as this takes a lot of effort! However, there can be different ways of responding to upsetting or unkind passengers related to how your burn looks or your changed appearance, to help you feel more in control of your life, do what matters to you and go along your life journey in a less exhausting way. Doing this isn't easy but can be learnt like any skill. Let's now have a think about your passengers related to how your burn looks or your appearance changes.'

3 An experiential acceptance exercise to practice responding to inner states related to how the burn looks or changed appearance should take around five minutes. An example script is below:

'I'd like to invite you to bring up one or more of your current (or possible future) passengers about how your burn looks or your changed appearance. You can close your eyes or keep them open, whichever you prefer. I invite you to notice what feelings come up, and what sensations you notice in your body. Let us notice what is showing up and make some room for them. Breathe into these feelings and sensations, and open yourself to them. Letting them be there, making room for them, breathing into them. Notice any possible urges to resist, or push away, the feelings and sensations. Instead, allowing them to be there. Opening up to them. Breathing into them. Letting them be.'

4 The 'who is noticing?' exercise is a brief introduction to the self as a context for experiences related to how their burn looks and their changed appearance, and should take around five minutes, including time for the patient's reflections. A script for this is below. You may need to acknowledge that is a difficult concept to grasp, depending on the patient and their reflections:

Who is Noticing?

I'd like you to again bring up one or more of your current (or possible future) passengers about how your burn looks and your changed appearance. I wonder if you could think about what part of you is noticing these passengers? What do you call this, the part of yourself that notices and observes your inner states, those passengers?

(Reflect with the patient, then repeat, introducing the idea that there is a part of us that is a continuous observer that is separate to our feelings and thoughts)

To end the exercise, ask the patient to come up with a sentence that includes some kind words of understanding, recognition, advice or concern for themselves for their understandable upsetting experiences about how their burn looks or their changed appearance. You could suggest they think about what kind words they would give to someone they care about (or use the idea of parenting), if they were in their situation. This can be written on the patient's resource.

5 The following scripts are the same as those in the other modules. The scripts outline a mindful breathing exercise (or a five senses exercise if breathing creates discomfort or the patient wants to try a different exercise) that can be used in around five minutes once the patient is in a comfortable position (as much as is possible):

MINDFUL BREATHING: 'First of all, I would like you to simply focus on your breathing. You can close your eyes or keep them open. Bring your attention gently to your breathing, feeling your breath flowing into your body and out of your body. Do not try to change your breathing in any way. Just pay attention to it. Focus on the flow of your breath as it moves in and out. Try to focus on one aspect of your breath – perhaps the feeling of the air as it moves through your nostrils, or over your lips or on the feeling of your chest or stomach rising and falling. Keep the focus on your breathing, 'being with' each breath in and each breath out for its full duration. Again, do not try to change anything about your breathing. Just notice it. Often our minds wander. If you find your mind wandering to other thoughts, worries, noises or anything else, just notice that and gently bring your focus back to your breathing. Let us continue to practice this. Just notice your breathing, gently bringing your attention back to your breathing when it has drifted.'

FIVE SENSES: 'First of all, I would like you to focus on things around you that you can see. Notice what you can see. Now let it go and let us focus on what you can hear. See what you can notice. Now let it go and let us focus on what you can touch or feel. It could be something you can touch yourself or a feeling you notice, for example, the feeling of the air on your skin. Now let it go and let us focus on what you can smell. Finally, let it go and see if you can notice a taste. Often our minds wander. If you find your mind wandering to other thoughts, worries, noises or anything else, this is common, just notice that and gently bring your focus back to the sense you were noticing. Let us continue to practice this, noticing what is here right now using our senses.'

Passengers on the Bus Exercise:



Value(s): e.g., relationships,
self-care



- 1 In the value(s) box, write down what matters to you (what values you have in life). This is where you would like your bus of life to be headed.
- 2 Identify the passengers on your bus, related to how your burns look or your changed appearance. What do they represent (emotions, thoughts, feelings)?
- 3 Make a choice. You could decide to listen to the passengers and take a detour on your bus of life (don't do things that matter to you), and perhaps the passengers will agree to hide in the back of the bus for a while. If you do this, you may not be going where you value, but you may get some relief from the unpleasant thoughts and feelings (the passengers). This relief tends to be short lived though, as the passengers will eventually want to come to the front of the bus again. Alternatively, you could decide to go in your valued direction (do what matters to you, with your passengers on board). The passengers may come to the front of the bus and be unpleasant, but they cannot push you off your valued path.

Page

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Getting Distance from Our Thoughts

The aim of this module is to enhance cognitive defusion, develop present moment awareness and self-as-context and foster self-compassion.

1 Briefly remind the patient about the unwanted party guest metaphor, and the idea that the patient can choose whether to focus on controlling what they do in their life rather than controlling or trying to reduce distressing feelings and thoughts (the control agenda) related to how their burn looks and their changed appearance by **letting them be there, even if they are unwanted**. This was covered in the introductory module and may also have been repeated in other modules that have been completed. This should take no more than five minutes.

2 An experiential cognitive defusion exercise related to the patient's thoughts about how their burn looks or their changed appearance change should take around 10 minutes. If patients do not report any upsetting experiences related to how their burn looks or changed appearance, you can invite them to think about possible future situations where these may arise. An example script is below:

"Think about a recent time where you felt upset or concerned about how your burn looks or your changed appearance. If you have not experienced any upset or concern, you could try thinking about possible thoughts or worries that may come up in future situations. For example, when around certain people, in certain places or wearing particular clothing. You can close your eyes or keep them open, whatever you prefer. Now notice what thoughts came up at that time and try to bring them online now. Examples might be thoughts of what your burn looks like now, how your appearance has changed, how your burn might look like in the future, any unkind or critical thoughts towards yourself for having these thoughts or feeling upset, or what the change in appearance may mean for you and your life. Now pick one of those thoughts, and let us practice playing around with it. Let us try some ways that can help patients get some distance from their thoughts about how their burn looks or their changed appearance so they feel less overwhelming or powerful.

First, we can simply notice our thought. And then we can silently say to ourselves, 'I notice I am having the thought that...' followed by your thought related to how your burn looks or your changed appearance. Try this in your mind or aloud, whatever you would prefer. 'I notice I am having the thought that...' followed by your thought. Or, 'I notice this is an unpleasant, unkind or critical thought.' Continue practicing. 'I notice I am having the thought that...' followed by your thought. Or, 'I notice this is an unpleasant, unkind or critical thought.' Notice what happens when you do this noticing.

Second, we can see thought as a story that our mind reads out to us. In response to our thought, we can give this story a name to try to get some distance from it. For example, we can say, 'Aha, here is the doom and gloom story again.' Or, 'Oh yes, here comes the scary story again.' Or, 'Yep, this is the self-critical story again.' You can give your unpleasant, unkind or critical thought about how your bum looks or your changed appearance any story name you wish. Play around with this and notice what happens. You can do this in your mind or aloud, whatever you would prefer. Practice this now, and let me know if you need help with naming the story your mind reads out to you about your appearance. Notice what happens when you bring your thought to mind and you respond by naming it as a story.

The final thing we can do to try to get some distance from our thought is to thank your mind for bringing up this thought about how your bum looks or your changed appearance. We can notice when this thought comes up and say 'Thank you, mind, for this thought.' Or, 'Thank you, mind, for this unkind thought.' Let us practice this now. You can do this in your mind or aloud, whatever you would prefer. Notice what happens when you do this.'

3 Completing the leaves on a stream exercise related to the patient's thoughts about how their bum looks or their changed appearance should take around five minutes. An example script is below and an image to help with the exercise is on page 20 if helpful:

'Let us try another way to try to get some distance from our thoughts. You can close your eyes or keep them open. I'd like you to bring up one or more unpleasant thoughts or worries about how your bum looks or your changed appearance, like you did before. In your mind, imagine you are standing in a safe place at the side of a stream or perhaps on a bridge that goes over a stream. Imagine watching the water flow in the stream, and in the water, there are leaves. I'd like you to imagine your thoughts about how your bum looks or your changed appearance on the leaves in the stream. Imagine watching your thoughts on the leaves as they float around. They may flow downstream. They might hang around for a while. They might float away and then come back. Either way, just imagine yourself watching your thoughts from the safe place next to or over the stream. Notice what happens when you do this.'

4 The 'who is noticing?' exercise is a brief introduction to the self as a context for any upsetting experiences related to how their bum looks and their changed appearance, and should take around five minutes. N.B. If the patient has completed the 'Responding to our feeling and thoughts' module this will further reinforce this concept. A script for this is below. You may need to acknowledge this is a difficult concept to grasp, depending on the patient and their reflections:

'I'd like you to again bring up one or more thoughts about how your bum looks and your changed appearance. I wonder if you could think about what part of you is noticing these thoughts? What do you call this, the part of yourself that notices and observes your inner states?'

(Reflect with the patient, then repeat, introducing the idea that there is a part of us that is a continuous observer that is separate to our thoughts)

To end the exercise, ask the patient to come up with a sentence that includes some kind words or advice, related to the patient's experiences about how their bum looks or their changed appearance, from a future self (e.g., what a future self from five or ten years' time might say), who has been through this experience. This can be written on the patient's resource.

5 The following scripts are the same as those in the other modules. The scripts outline a mindful breathing exercise (or a five senses exercise if breathing creates discomfort or the patient wants to try a different exercise) that can be used in around five minutes once the patient is in a comfortable position (as much as is possible):

MINDFUL BREATHING: 'First of all, I would like you to simply focus on your breathing. You can close your eyes or keep them open. Bring your attention gently to your breathing, feeling your breath flowing into your body and out of your body. Do not try to change your breathing in any way. Just pay attention to it. Focus on the flow of your breath as it moves in and out. Try to focus on one aspect of your breath – perhaps the feeling of the air as it moves through your nostrils, or over your lips or on the feeling of your chest or stomach rising and falling. Keep the focus on your breathing, 'being with' each breath in and each breath out for its full duration. Again, do not try to change anything about your breathing. Just notice it. Often our minds wander. If you find your mind wandering to other thoughts, worries, noises or anything else, just notice that and gently bring your focus back to your breathing. Let us continue to practice this. Just notice your breathing, gently bringing your attention back to your breathing when it has drifted.'

FIVE SENSES: 'First of all, I would like you to focus on things around you that you can see. Notice what you can see. Now let it go and let us focus on what you can hear. See what you can notice. Now let it go and let us focus on what you can touch or feel. It could be something you can touch yourself or a feeling you notice, for example, the feeling of the air on your skin. Now let it go and let us focus on what you can smell. Finally, let it go and see if you can notice a taste. Often our minds wander. If you find your mind wandering to other thoughts, worries, noises or anything else, this is common, just notice that and gently bring your focus back to the sense you were noticing. Let us continue to practice this, noticing what is here right now using our senses.'

Leaves on a Stream Exercise:



Doing What is Important To Us

This module aims to promote committed action, acceptance, present moment awareness and fostering self-compassion.

1 Briefly remind the patient about the unwanted party guest metaphor, and the idea that the patient can choose whether to focus on controlling what they do in their life rather than controlling or trying to reduce distressing feelings and thoughts (the control agenda) related to how their bum looks and their changed appearance by **letting them be there, even if they are unwanted**. This was covered in the introductory module and may also have been repeated in other modules that have been completed. This should take no more than **five minutes**.

2 Reflect briefly with the patient about what matters to them in life (what their values are). As you discuss the patient's values, think with the patient about whether their upsetting thoughts or feelings about how their bum looks or their changed appearance is/might stop them from doing things that matter (living a life of value), coming up with some examples (e.g., might upsetting thoughts and feelings stop them from going to certain places, engaging in relationships, wearing certain clothes?). Spend around **five minutes** on this.

3 Ask the patient to choose one idea they had following the reflective exercise above, to identify one thing that matters to them that they are not doing now/might not do in the future because of their upsetting thoughts or feelings about how their bum looks or their changed appearance. Complete the Doing what Matters exercise, based on this one thing they are not doing now/might not do in the future. The worksheet in the patient resource can be written on (this is also on page 23). This should take around 10 minutes. It aims to reinforce the idea of doing what matters/living a life of value even in the presence of upsetting experiences patients might have about how their bum looks or their changed appearance (committed action). If a patient is not currently experiencing any distress or concerns related to how their bum looks or their changed appearance, you can invite them to think about any future situations that might feel more difficult because of how their bum looks or their changed appearance.

Here is an example script to introduce the exercise:

'In life, we constantly choose what we do or do not do. A lot of this choosing is automatic or habit, so we might not be fully aware of how often we are doing this. When we have upsetting feelings or thoughts, we often choose what to do or not do in our lives. These are times when we choose to either do what we want to do even in the presence of upsetting thoughts or feelings, or avoid doing what we want to do because of how we are thinking or feeling. I'd like to invite you to do an exercise with me, using the one thing that you have identified that you are either not doing or might not do in the future even though you'd want to because of your feelings or thoughts about how your bum looks or your changed appearance. If you don't think you are currently having any upsetting feelings or thoughts about how your bum looks or your changed appearance, you can perhaps think about any situations that might feel more difficult because of how your bum looks or your changed appearance, to practice the exercise in case it would be helpful in the future.'

4 Introducing the 'two sides of a coin' metaphor should take around five minutes. Looking at the Doing what Matters exercise, reflect on the idea of doing what matters/living a life of value even in the presence of upsetting thoughts or feelings about how their bum looks or their changed appearance. There is an example script here:

'Let us look at the Doing What Matters exercise sheet we have just completed. Can you see how upsetting thoughts or feelings about how your bum looks or your changed appearance might be stopping you from doing things that matter to you, either now or in the future? You can't have one without the other. To do what you want to do, you will need to allow yourself to experience the upsetting thoughts or feelings. This is like a coin. A coin has two sides and you cannot have one side without the other side. You cannot separate them. What do you think about this?'

5 The following scripts are the same as those in the other modules. The scripts outline a mindful breathing exercise (or a five senses exercise if breathing creates discomfort or the patient wants to try a different exercise) that can be used in around five minutes once the patient is in a comfortable position (as much as is possible):

MINDFUL BREATHING: 'First of all, I would like you to simply focus on your breathing. Bring your attention gently to your breathing, feeling your breath flowing into your body and out of your body. Do not try to change your breathing in any way. Just pay attention to it. Focus on the flow of your breath as it moves in and out. Try to focus on one aspect of your breath – perhaps the feeling of the air as it moves through your nostrils, or over your lips or on the feeling of your chest or stomach rising and falling. Keep the focus on your breathing, 'being with' each breath in and each breath out for its full duration. Again, do not try to change anything about your breathing. Just notice it. Often our minds wander. If you find your mind wandering to other thoughts, worries, noises or anything else, just notice that and gently bring your focus back to your breathing. Let us continue to practice this. Just notice your breathing, gently bringing your attention back to your breathing when it has drifted.'

FIVE SENSES: 'First of all, I would like you to focus on things around you that you can see. Notice what you can see. Now let it go and let us focus on what you can hear. See what you can notice. Now let it go and let us focus on what you can touch or feel. It could be something you can touch yourself or a feeling you notice, for example, the feeling of the air on your skin. Now let it go and let us focus on what you can smell. Finally, let it go and see if you can notice a taste. Often our minds wander. If you find your mind wandering to other thoughts, worries, noises or anything else, this is common, just notice that and gently bring your focus back to the sense you were noticing. Let us continue to practice this, noticing what is here right now using our senses.'

Doing What Matters Exercise:

- 1 What are you not doing/what might feel more difficult in the future, because of upsetting thoughts or feelings about how your burn looks or your changed appearance?

- 2 What will you choose to do?
Will you do what you want to do in the presence of your feelings or thoughts?

OR

Avoid doing what you want to do because of how you are feeling or thinking?

- 3 How does your choice fit with doing what matters to you (your values)?
If it takes you away from doing what matters to you, can you choose to open up to your upsetting thoughts or feelings?

- 4 What can you say to yourself, from a place of kindness and non-judgment within yourself to gently encourage you in choosing to do what matters to you, in the presence of upsetting thoughts or feelings?

Being Around Other People

This module aims to help the patient develop self-efficacy and skills in being around other people and responding to other people's reactions, utilising acceptance and self-compassion.

1 The Allow-Assert-Act with Kindness exercise should take around 20 minutes. There is a worksheet in the patient's resource that can be written on (this is on page 26). An example script is below to introduce the exercise:

'Humans are built to notice new, unfamiliar or different things. After a burn, some people notice other people looking or staring at it. Some people also find that others can ask questions or make comments. This does not happen to everyone, but if it does, it can feel upsetting or uncomfortable. However, usually people look, stare, ask questions or make comments because they feel either curious, uncomfortable, concerned or do not know how else to react. Often, these reactions from other people are automatic. They are not often meant to be unkind or hurtful. It can be helpful to prepare for other people's reactions, to give yourself an opportunity to think about what choices you have if you find yourself in certain situations. Let's think about this together. We are going to do an exercise called Allow-Assert-Act with Kindness and we will write down our ideas as we go through it together.'

2 Discussing taking control when around other people should take around five minutes. An example script is here:

'It can also be helpful to act confident when around other people, even if you feel uncomfortable because of how your burn looks or your changed appearance. This includes maintaining eye contact with people, smiling at or saying 'hello' and holding your head up high. Even if you feel uncomfortable around other people, you can take some control by acting confident. Keeping eye contact with other people shows an interest in other people and connecting with them. Smiling or saying 'hello' shows other people that you are approachable and friendly. Holding your head up high suggests to other people that you are accepting of yourself. It may also be helpful to have some ideas for conversation starters to help you connect with other people. For example, questions about the other person or the weather. With practice, all of these things can help you when you are around other people.'

3 The following scripts are the same as those in the other modules. The scripts outline a mindful breathing exercise (or a five senses exercise if breathing creates discomfort or the patient wants to try a different exercise) that can be used in around five minutes once the patient is in a comfortable position (as much as is possible):



MINDFUL BREATHING: 'First of all, I would like you to simply focus on your breathing. Bring your attention gently to your breathing, feeling your breath flowing into your body and out of your body. Do not try to change your breathing in any way. Just pay attention to it. Focus on the flow of your breath as it moves in and out. Try to focus on one aspect of your breath – perhaps the feeling of the air as it moves through your nostrils, or over your lips or on the feeling of your chest or stomach rising and falling. Keep the focus on your breathing, 'being with' each breath in and each breath out for its full duration. Again, do not try to change anything about your breathing. Just notice it. Often our minds wander. If you find your mind wandering to other thoughts, worries, noises or anything else, just notice that and gently bring your focus back to your breathing. Let us continue to practice this. Just notice your breathing, gently bringing your attention back to your breathing when it has drifted.'

FIVE SENSES: 'First of all, I would like you to focus on things around you that you can see. Notice what you can see. Now let it go and let us focus on what you can hear. See what you can notice. Now let it go and let us focus on what you can touch or feel. It could be something you can touch yourself or a feeling you notice, for example, the feeling of the air on your skin. Now let it go and let us focus on what you can smell. Finally, let it go and see if you can notice a taste. Often our minds wander. If you find your mind wandering to other thoughts, worries, noises or anything else, this is common, just notice that and gently bring your focus back to the sense you were noticing. Let us continue to practice this, noticing what is here right now using our senses.'

Allow-Assert-Act with Kindness exercise:

When other people look, stare, make a comment or ask a question about your appearance after a burn injury, it may be helpful to Allow, Assert and Act with Kindness.	
Allow: Remember that things happen in the world of people. Some people can do or say things that are upsetting or uncomfortable. If this happens, we can notice and allow what comes up, including upsetting or uncomfortable thoughts or feelings. Instead of focusing on controlling our feelings and thoughts, we can focus on controlling what we do. Based on this, what could you do, or say to yourself, in the moment?	
Assert: Engage with the person, in a way that feels right for you and in keeping with what matters to you (your values). Make eye contact and smile if you wish. Explain what happened if you want to, in a way that feels right for you. Change the conversation if you want to. Have something pre-prepared that you can do or say, even in the presence of any upsetting or uncomfortable thoughts or feelings that show up.	
Act with Kindness: We all struggle with upsetting or uncomfortable thoughts and feelings at times – it is human nature. How can you treat yourself with kindness and understanding if other people look/stare/ask questions/make comments? What could you do or say? How can you also treat other people, who may be struggling with not knowing how to react or what to say, with kindness and understanding? What could you do or say? Can you give the benefit of the doubt to those who you think are acting negatively, as you choose to do what is important to you with kindness?	

Acknowledgements

The ProACTIVE intervention, this guidance and the associated patient resources, were developed by:

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Appendix AH: Intervention Resources for Patients



Early Support After Burns: How Your Burn Looks and Changes to Your Appearance

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Early Support After Burns: How Your Burn Looks and Changes to Your Appearance

What does this Support Aim To Do?

The aim of this intervention is to support you with how your burn looks, and any changes to your appearance that may occur. It cannot change the physical appearance of your burns. Instead, it aims to teach you some helpful skills to respond to any upsetting experiences (e.g., emotions, thoughts) about how your burn looks and your appearance. You may have some helpful skills already. If so, the intervention may teach you some extra skills.

Is It For Me?

This support is for adults who have recently had a burn injury and are in hospital or receiving outpatient care. Some patients do not have any concerns about how their burn looks, how their appearance has changed, or how these changes may look in the future. However, it is common for some patients to feel upset or worried early on. For others, upsetting feelings or thoughts/worries can start a bit later. This support has been designed for all patients after burns, no matter the size of your burn or which area(s) of your body is affected. It can be completed whether or not you are currently feeling upset or worried about how your burn looks or your appearance. The intervention will teach you some skills, and these can be used if/when upsetting feelings or thoughts come up. This means that this support might be helpful to you now or in the future.

What does the Support Involve?

This support is based on a talking therapy called Acceptance and Commitment Therapy (ACT). ACT is helpful for many emotional and physical health difficulties, and can build resilience. The support is delivered by experienced psychological therapists working in burns services.

The support includes up to five 30-minute sessions. It starts with an introduction, which we believe everyone will find helpful. After the introductory session, you can choose how many, and which, of the other four sessions you would like to complete and when. The sessions can be in person at the hospital or over a video-appointment, depending on your preference. Descriptions of the sessions are overleaf. Your psychological therapist can help guide you, if you are not sure which sessions to choose.

Some patients find it more difficult than others to accept emotional support or 'open up' and talk about feelings and concerns. Your psychological therapist will be able to support you, if you are finding anything difficult.

This support is designed to be brief. Some patients may need extra psychological support related to how their burn looks or their changed appearance after it has been completed. If this is the case, there is support available within the burns service. There are also other services and charities that can help. Your psychological therapist can talk to you about these services and any extra support they might suggest.

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IRAS ID: 339105, R&I ref: 24CP001



After every session, your psychological therapist will give you some materials based on the session you have completed. These are for you to keep, to remind you about the content of the session. They also provide scripts and website links/QR codes that take you to audio files for exercises you did in sessions. You can use these at any time to continue practicing the skills. It is recommended that you practice the exercises in your own time in between sessions and after the support has ended, if you feel able to.

Which Sessions Shall I Do?

After the introductory session, you can choose how many, and which, sessions you would like to complete with your psychological therapist. They can guide you, if you are not sure which sessions to choose.

Introduction	All patients start here! It introduces the support and gives you the chance to tell your psychological therapist about your feelings and thoughts about how your burn looks, your appearance changes, or any concerns you may have about your appearance in the future.
Responding to Our Feelings and Thoughts	This session teaches skills to help you respond to your feelings and thoughts/worries about how your burn looks or your appearance, in a way that feels less overwhelming or a struggle.
Getting Distance From Our Thoughts	This session teaches skills to help you step back from your thoughts or worries about your appearance, so they do not have as much impact.
Doing What is Important To Us	This session teaches skills to help you do what you want to do in life, even when upsetting feelings and thoughts about appearance show up.
Being Around Other People	This session teaches skills in being around other people and any reactions you might receive (e.g., looks, stares, comments, questions).

Introduction

In this session, your psychological therapist has told you what this support involves. It aims to teach you ways to respond to upsetting experiences (such as feelings and thoughts) about how your burn looks or your changed appearance if these show up. It also aims to help you do what you want to do with your life, even when these upsetting experiences show up. You will have also shared your experiences about how your burn looks or your changed appearance with your psychological therapist, from the perspective of your most kind and non-judgmental part of yourself. For example, how you feel and what you may be thinking about now or in the future. Noticing these experiences in yourself, and doing so through a caring and kind lens, is an important part of self-care.

It can feel difficult to do this at first and it may be useful to imagine how you would respond, or what you would say, to someone you care about. Try to tune into the tone of this caring and kind voice.

So, to start off with, write down the sentence that you came up with after tuning into the most kind and non-judgmental part of yourself (or the part of yourself you would use to show kindness and non-judgment to others), to acknowledge and respond to any upsetting feelings and thoughts you are having (or might have in the future) about how your burn looks or how your appearance has changed:

You can read, or say, these kind and non-judgmental words to yourself whenever you like.



Trying New Skills...

You and your psychological therapist will have spoken about what you are doing now (or might do in the future) in response to any upsetting feelings and thoughts about how your burn looks or your changed appearance. If these work now for any upsetting feelings and thoughts about how your burn looks or your changed appearance, carry on using them. If they do not feel helpful, might not work in the longer-term, or might stop you from doing what you want to do in your life, perhaps try learning some new skills.

Attempts to Control Our Upsetting Feelings and Thoughts...

Many people try to control, or get rid of, upsetting experiences (e.g., feelings or thoughts). This can be the case when people feel upset or worried about how their burn looks or their changed appearance. However, this may not be helpful or workable in the situation you are in, especially in the longer-term. It can also feel exhausting to continually struggle, or fight, with your experiences. If this fits with your experience, this intervention with time and support can help you to learn some new skills. Try to allow yourself time and space to practice the exercises in this handout and the online audio exercises.

Allowing Unpleasant Feelings and Thoughts to be There...

Your psychological therapist will have introduced the 'unwanted party guest' metaphor.

Unwanted feelings and thoughts about how your burn looks or your changed appearance are a bit like an 'unwanted guest' at a party.

Upsetting thoughts and feelings are part of being human, but you might prefer them not to be there.

You have the option of trying to control them to get them to go away (but we know that this is not always helpful or workable, and can feel exhausting).

Or, you can focus on controlling what you do in your life. This involves being willing to let feelings and thoughts about how your burn looks or your changed appearance be there and sit with these... even if you would prefer that they were not around.

Exercises

You will have practiced either a mindful breathing or five senses exercise. Being in the here-and-now, by focusing on something and bringing your attention back when it wanders, is a helpful skill, especially during difficult times. Practicing being in the here-and-now may help you respond to upsetting feelings and thoughts about how your burn looks or your changed appearance.



On the next page, there are some scripts similar to those used by your psychological therapist. The QR codes and website links below will take you to audio recordings of these exercises that you can listen to. You can practice reading through or listening to these whenever you wish. If you have burns to your nose/mouth, you might wish to practice the five senses exercise instead of the mindful breathing exercise.

MINDFUL BREATHING: 'First of all, I would like you to simply focus on your breathing. You can close your eyes or keep them open. Bring your attention gently to your breathing, feeling your breath flowing into your body and out of your body. Do not try to change your breathing in any way. Just pay attention to it. Focus on the flow of your breath as it moves in and out. Try to focus on one aspect of your breath – perhaps the feeling of the air as it moves through your nostrils, or over your lips or on the feeling of your chest or stomach rising and falling. Keep the focus on your breathing, 'being with' each breath in and each breath out for its full duration. Again, do not try to change anything about your breathing. Just notice it. Often our minds wander. If you find your mind wandering to other thoughts, worries, noises or anything else, just notice that and gently bring your focus back to your breathing. Let us continue to practice this. Just notice your breathing, gently bringing your attention back to your breathing when it has drifted.'



https://www.youtube.com/watch?v=Mn_4thexn-8

FIVE SENSES: 'First of all, I would like you to focus on things around you that you can see. Notice what you can see. Now let it go and let us focus on what you can hear. See what you can notice. Now let it go and let us focus on what you can touch or feel. It could be something you can touch yourself or a feeling you notice, for example, the feeling of the air on your skin. Now let it go and let us focus on what you can smell. Finally, let it go and see if you can notice a taste. Often our minds wander. If you find your mind wandering to other thoughts, worries, noises or anything else, this is common, just notice that and gently bring your focus back to the sense you were noticing. Let us continue to practice this, noticing what is here right now using our senses.'



<https://www.youtube.com/watch?v=wIex20gJSN0>

Responding to Our Feelings and Thoughts

In this session, your psychological therapist will have spoken about the 'unwanted party guest' metaphor again. You may remember that upsetting thoughts and feelings are a bit like an unwanted party guest. These include those related to how your burn looks or your changed appearance. You can choose whether to try and get them to go away, or be willing to open yourself up to them.

Allowing Unpleasant Thoughts and Feelings to be There...

You and your psychological therapist will have done the passengers on the bus exercise. Buses travel along roads. They have a driver, who decides what route to take. They also have passengers that hop on and off the bus. Life is like a bus journey. You are the driver of your bus of life, and you can choose which roads to take (you can choose what you do and what you do not do). We can choose to do things that help us live our lives according to what matters to us (our values).

But, sometimes we find ourselves avoiding certain roads and taking detours, away from what matters to us.

We can avoid or stop doing the things we want to do because of our passengers (our feelings and thoughts). We all have passengers on our bus. Some passengers are helpful and positive, some are neutral, and some are scary, upsetting or unkind.

After a burn, it is common to have upsetting or unkind passengers about how your burn looks or how your appearance has changed. These upsetting or unkind passengers can be difficult to ignore. You can try to avoid them, distract yourself from them, throw them off the bus, try to quieten them down, etc. However, passengers usually come back. This is because we cannot just switch off our minds – our emotions, thoughts/worries, concerns, etc. This is often the same for thoughts and feelings about how burns look or appearance changes after burns.

So, fighting with and trying to control your passengers about how your burn looks or your changed appearance, or by giving in to their demands, might mean that you start to lose control of where your life is headed. It could take you away from the direction you want to go and stop you from doing the things you want to do or from going places that you want to go. It can also make it a tiring journey as this takes effort!

To take control of our lives, we can choose to allow all our passengers on the bus but do what matters to us anyway.



What Passengers are on Your Bus, or might come onto Your Bus, about how Your Burn Looks or Your Changed Appearance? Can you Choose to Live Your Life, with These Passengers on Board?



Value(s): e.g., relationships, self-care

E.g., self-consciousness



- 1 In the value(s) box, write down what matters to you (what values you have in life). This is where you would like your bus of life to be headed.
- 2 Identify the passengers on your bus, related to how your burns look or your changed appearance. What do they represent (emotions, thoughts, feelings)?
- 3 Make a choice. You could decide to listen to the passengers and take a detour on your bus of life (don't do things that matter to you), and perhaps the passengers will agree to hide in the back of the bus for a while. If you do this, you may not be going where you value, but you may get some relief from the unpleasant thoughts and feelings (the passengers). This relief tends to be short lived though, as the passengers will eventually want to come to the front of the bus again. Alternatively, you could decide to go in your valued direction (do what matters to you, with your passengers on board). The passengers may come to the front of the bus and be unpleasant, but they cannot push you off your valued path.

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Exercises

You will have practiced an exercise to help you allow and make room for upsetting thoughts and feelings (passengers) about how your burn looks or your changed appearance. This is a helpful skill to have, especially when we are in difficult situations that we do not have full control over. We can allow ourselves to have unpleasant thoughts and feelings by noticing them, making room for them, and letting them be there. You can try this with your thoughts and feelings about how your burn looks or your changed appearance.



Notice Them

Breathe Into Them

Allow/Make Room For Them

You will have also practiced the mindful breathing or five senses exercise again.

On the next pages, there are some scripts for the exercises. The QR codes and website links below will take you to audio recordings of these exercises that you can listen to. You can practice reading through or listening to these whenever you wish. If you have burns to your nose/mouth, you might wish to practice the five senses exercise instead of the mindful breathing exercise.

ALLOWING UNPLEASANT THOUGHTS AND FEELINGS:

'Upsetting thoughts and feelings about how your bum looks or your changed appearance are like upsetting or unkind passengers on your bus of life. Because they are your inner states you cannot get rid of them for good – these passengers tend to get back on your bus even if you try to avoid them, distract yourself from them, throw them off the bus, find ways to quieten them down, etc. Fighting with and trying to control your passengers or giving in to their demands means that you are not in control of where your life is headed – or what you do – which can take you away from the direction you want to go. It can also make it a tiring journey as this takes a lot of effort! Let us practice a different way of responding to upsetting or unkind passengers related to how your bum looks or your changed appearance, to help you feel more in control of your life, do what matters to you and go along your life journey in a less exhausting way. I'd like to invite you to bring up one or more of your current (or possible future) passengers about how your bum looks or your changed appearance. You can close your eyes or keep them open, whichever you prefer. Bring up one or more of these passengers now. I invite you to notice what feelings come up, and what sensations you notice in your body. Let us notice what is showing up and make some room for them. Breathe into these feelings and sensations, and open yourself to them. Letting them be there, making room for them, breathing into them. Notice any possible urges to resist, or push away, the feelings and sensations. Instead, allowing them to be there. Opening up to them. Breathing into them. Letting them be.'



<https://www.youtube.com/watch?v=BEErJ2k85qs>

MINDFUL BREATHING: 'First of all, I would like you to simply focus on your breathing. You can close your eyes or keep them open. Bring your attention gently to your breathing, feeling your breath flowing into your body and out of your body. Do not try to change your breathing in any way. Just pay attention to it. Focus on the flow of your breath as it moves in and out. Try to focus on one aspect of your breath – perhaps the feeling of the air as it moves through your nostrils, or over your lips or on the feeling of your chest or stomach rising and falling. Keep the focus on your breathing, 'being with' each breath in and each breath out for its full duration. Again, do not try to change anything about your breathing. Just notice it. Often our minds wander. If you find your mind wandering to other thoughts, worries, noises or anything else, just notice that and gently bring your focus back to your breathing. Let us continue to practice this. Just notice your breathing, gently bringing your attention back to your breathing when it has drifted.'



https://www.youtube.com/watch?v=Min_4thxsu-8

FIVE SENSES: 'First of all, I would like you to focus on things around you that you can see. Notice what you can see. Now let it go and let us focus on what you can hear. See what you can notice. Now let it go and let us focus on what you can touch or feel. It could be something you can touch yourself or a feeling you notice, for example, the feeling of the air on your skin. Now let it go and let us focus on what you can smell. Finally, let it go and see if you can notice a taste. Often our minds wander. If you find your mind wandering to other thoughts, worries, noises or anything else, this is common, just notice that and gently bring your focus back to the sense you were noticing. Let us continue to practice this, noticing what is here right now using our senses.'



<https://www.youtube.com/watch?v=wles20gJSNQ>

Your psychological therapist will have also asked you to think about the part of yourself that notices and observes your thoughts and feelings, including those about how your burn looks or your changed appearance. This is not something that we think about often. There is a part of us that continuously observes, and is separate from, our thoughts and feelings. If we connect to this part of ourselves, we can sit back and observe our thoughts and feelings as they show up.

Write down the kind words you would give to someone you care about (or what you would say to a child) of understanding, recognition, advice or concern towards yourself for any upsetting feelings and thoughts you are having (or might have in the future) about how your burn looks or your changed appearance:

You can read, or say, these words to yourself whenever you like.



Getting Distance from Our Thoughts

In this session, your psychological therapist will have spoken about the 'unwanted party guest' metaphor again. You may remember that upsetting thoughts and feelings are a bit like an unwanted party guest. These include those related to how your bum looks or your changed appearance. You can choose whether to try and get them to go away, or be willing to open yourself up to them. The latter involves being willing to let feelings and thoughts about how your bum looks or your changed appearance be there and sit with these...even if you would prefer that they were not around, so you can focus on controlling your life.

Your psychological therapist will have taught you some ways to get some distance from your thoughts about how your bum looks or your changed appearance. These thoughts might be about what your bum looks now, how your appearance has changed because of your bum, how any scars or other skin changes might look like in the future, unkind or critical reactions to yourself for having these thoughts or worries, or what your changed appearance might mean for you and your life.

Things to Try...



Notice the Thought

Say, 'I Notice I Am Having the Thought That...'

Say, 'I Notice I Am Having an Upsetting/Unkind/Critical Thought'



Give Your Thoughts a Name, Like a Story (e.g., 'Here Comes the Unkind Story Again')

Thank Your Mind for the Thought



You will have also practiced an exercise, where you imagined your thoughts or worries about how your burn looks or your changed appearance as leaves on a stream. This is another way to try and get some distance from your thoughts.

You will have also practiced the mindful breathing or five senses exercise again.

Below and on the next page, there are some scripts similar to those used by your psychological therapist. The QR codes and website links below will take you to audio recordings of these exercises that you can listen to. You can practice reading through or listening to these whenever you wish. If you have burns to your nose/mouth, you might wish to practice the other exercises instead of the mindful breathing exercise.



LEAVES ON A STREAM: 'Let us try and practice getting some distance from our thoughts. You can close your eyes or keep them open. I'd like you to bring up one or more unpleasant thoughts or worries about your changed appearance. In your mind, imagine you are standing in a safe place at the side of a stream or perhaps on a bridge that goes over a stream. Imagine watching the water flow in the stream, and in the water, there are leaves. I'd like you to imagine your thoughts about your appearance on the leaves in the stream. Imagine watching your thoughts on the leaves as they float around. They may flow downstream. They might hang around for a while. They might float away and then come back. Either way, just imagine yourself watching your thoughts from the safe place next to or over the stream. Notice what happens when you do this.'



https://www.youtube.com/watch?v=O_sGDuue9FU

MINDFUL BREATHING: 'First of all, I would like you to simply focus on your breathing. You can close your eyes or keep them open. Bring your attention gently to your breathing, feeling your breath flowing into your body and out of your body. Do not try to change your breathing in any way. Just pay attention to it. Focus on the flow of your breath as it moves in and out. Try to focus on one aspect of your breath – perhaps the feeling of the air as it moves through your nostrils, or over your lips or on the feeling of your chest or stomach rising and falling. Keep the focus on your breathing, 'being with' each breath in and each breath out for its full duration. Again, do not try to change anything about your breathing. Just notice it. Often our minds wander. If you find your mind wandering to other thoughts, worries, noises or anything else, just notice that and gently bring your focus back to your breathing. Let us continue to practice this. Just notice your breathing, gently bringing your attention back to your breathing when it has drifted.'



https://www.youtube.com/watch?v=Mn_4thxsnv8

FIVE SENSES: 'First of all, I would like you to focus on things around you that you can see. Notice what you can see. Now let it go and let us focus on what you can hear. See what you can notice. Now let it go and let us focus on what you can touch or feel. It could be something you can touch yourself or a feeling you notice, for example, the feeling of the air on your skin. Now let it go and let us focus on what you can smell. Finally, let it go and see if you can notice a taste. Often our minds wander. If you find your mind wandering to other thoughts, worries, noises or anything else, this is common, just notice that and gently bring your focus back to the sense you were noticing. Let us continue to practice this, noticing what is here right now using our senses.'



<https://www.youtube.com/watch?v=wlea20gJSNQ>

Your psychological therapist will have also asked you to think about the part of yourself that notices and observes your thoughts and feelings, including those about how your burn looks or your changed appearance. This is not something that we think about often. There is a part of us that continuously observes, and is separate from, our thoughts and feelings. If we connect to this part of ourselves, we can sit back and observe our thoughts and feelings as they show up.

Write down the kind words or advice that your future self might give you about any upsetting feelings and thoughts you are having (or might have in the future) about how your burn looks or your changed appearance:

You can read, or say, these words to yourself whenever you like.



Doing What is Important To Us

In this session, your psychological therapist will have spoken about the 'unwanted party guest' metaphor again. You may remember that upsetting thoughts and feelings are a bit like an unwanted party guest. These include those related to how your burn looks or your changed appearance. You can choose whether to try and get them to go away, or be willing to open yourself up to them.

You will have talked with your psychological therapist about what is important to you (your values). You will have also thought about whether any upsetting thoughts or feelings about how your burn looks or your changed appearance is stopping you from doing anything that matters to you right now. Or, whether they might stop you from doing anything that matters to you in the future.

You will have done the Doing what Matters exercise that shows how you have a choice about what you do in your life, even in the presence of upsetting thoughts or feelings about how your burn looks or your changed appearance. This is like a coin. It has two sides and you cannot have one side without the other side. To do things you want to do in your life, you have to allow yourself to experience the upsetting thoughts or feelings when they show up.



What Choices are You Making Now, or Might Make in The Future, Related to How You Feel or Think About How Your Burns Look or Your Changed Appearance?

How does this fit with doing what matters to you (your values)?

Doing What Matters Exercise:

- 1 What are you not doing/what might feel more difficult in the future, because of upsetting thoughts or feelings about how your burn looks or your changed appearance?

- 2 What will you choose to do?
Will you do what you want to do in the presence of your feelings or thoughts?

OR

Avoid doing what you want to do because of how you are feeling or thinking?

- 3 How does your choice fit with doing what matters to you (your values)?
If it takes you away from doing what matters to you, can you choose to open up to your upsetting thoughts or feelings?

- 4 What can you say to yourself, from a place of kindness and non-judgment within yourself to gently encourage you in choosing to do what matters to you, in the presence of upsetting thoughts or feelings?

You will have also practiced the mindful breathing or five senses exercise again.

Below are some scripts similar to those used by your psychological therapist. The QR codes and website links below will take you to audio recordings of these exercises that you can listen to.

You can practice reading through or listening to these whenever you wish. If you have burns to your nose/mouth, you might wish to practice the five senses exercise instead of the mindful breathing exercise.



MINDFUL BREATHING: 'First of all, I would like you to simply focus on your breathing. You can close your eyes or keep them open. Bring your attention gently to your breathing, feeling your breath flowing into your body and out of your body. Do not try to change your breathing in any way. Just pay attention to it. Focus on the flow of your breath as it moves in and out. Try to focus on one aspect of your breath – perhaps the feeling of the air as it moves through your nostrils, or over your lips or on the feeling of your chest or stomach rising and falling. Keep the focus on your breathing, 'being with' each breath in and each breath out for its full duration. Again, do not try to change anything about your breathing. Just notice it. Often our minds wander. If you find your mind wandering to other thoughts, worries, noises or anything else, just notice that and gently bring your focus back to your breathing. Let us continue to practice this. Just notice your breathing, gently bringing your attention back to your breathing when it has drifted.'



https://www.youtube.com/watch?v=Mn_4thxsn-8

FIVE SENSES: 'First of all, I would like you to focus on things around you that you can see. Notice what you can see. Now let it go and let us focus on what you can hear. See what you can notice. Now let it go and let us focus on what you can touch or feel. It could be something you can touch yourself or a feeling you notice, for example, the feeling of the air on your skin. Now let it go and let us focus on what you can smell. Finally, let it go and see if you can notice a taste. Often our minds wander. If you find your mind wandering to other thoughts, worries, noises or anything else, this is common, just notice that and gently bring your focus back to the sense you were noticing. Let us continue to practice this, noticing what is here right now using our senses.'



<https://www.youtube.com/watch?v=w1esa20gJSNQ>

Being Around Other People

In this session, you thought about being around other people, and what to do if other people looked, stared, made a comment or asked a question about your burn.

You completed the **Allow, Assert, and Act with Kindness** exercise below to help you think about what to do if someone looked, stared, made a comment or asked a question about your burn. You hopefully came up with some ideas with your psychological therapist that feel right for you. You can add any new ideas if any come to mind.

When other people look, stare, make a comment or ask a question about your appearance after a burn injury, it may be helpful to **Allow, Assert** and **Act with Kindness**.

Allow:

Remember that things happen in the world of people. Some people can do or say things that are upsetting or uncomfortable. If this happens, we can notice and allow what comes up, including upsetting or uncomfortable thoughts or feelings. Instead of focusing on controlling our feelings and thoughts, we can focus on controlling what we do. Based on this, what could you do, or say to yourself, in the moment?

Assert:

Engage with the person, in a way that feels right for you and in keeping with what matters to you (your values). Make eye contact and smile if you wish. Explain what happened if you want to, in a way that feels right for you. Change the conversation if you want to. Have something pre-prepared that you can do or say, even in the presence of any upsetting or uncomfortable thoughts or feelings that show up.

Act with Kindness:

We all struggle with upsetting or uncomfortable thoughts and feelings at times – it is human nature. How can you treat yourself with kindness and understanding if other people look/stare/ask questions/make comments? What could you do or say? How can you also treat other people, who may be struggling with not knowing how to react or what to say, with kindness and understanding? What could you do or say? Can you give the benefit of the doubt to those who you think are acting negatively, as you choose to do what is important to you with kindness?

Your psychological therapist will have also spoken about ways you can take control of situations when around other people.

Act Confident even if You Do Not Feel Confident

Keep Eye Contact

Hold Your Head Up High

Smile or Say 'Hello'

Have Some Conversation Starters Ready to Take Control of Conversations (e.g., Questions About Themselves or The Weather)

You will have also practiced the mindful breathing or five senses exercise again.

On the next page, there are some scripts similar to those used by your psychological therapist. The QR codes and website links below will take you to audio recordings of these exercises that you can listen to. You can practice reading through or listening to these whenever you wish. If you have burns to your nose/mouth, you might wish to practice the five senses exercise instead of the mindful breathing exercise.



MINDFUL BREATHING: 'First of all, I would like you to simply focus on your breathing. You can close your eyes or keep them open. Bring your attention gently to your breathing, feeling your breath flowing into your body and out of your body. Do not try to change your breathing in any way. Just pay attention to it. Focus on the flow of your breath as it moves in and out. Try to focus on one aspect of your breath – perhaps the feeling of the air as it moves through your nostrils, or over your lips or on the feeling of your chest or stomach rising and falling. Keep the focus on your breathing, 'being with' each breath in and each breath out for its full duration. Again, do not try to change anything about your breathing. Just notice it. Often our minds wander. If you find your mind wandering to other thoughts, worries, noises or anything else, just notice that and gently bring your focus back to your breathing. Let us continue to practice this. Just notice your breathing, gently bringing your attention back to your breathing when it has drifted.'



https://www.youtube.com/watch?v=Mn_4thcsn-8

FIVE SENSES: 'First of all, I would like you to focus on things around you that you can see. Notice what you can see. Now let it go and let us focus on what you can hear. See what you can notice. Now let it go and let us focus on what you can touch or feel. It could be something you can touch yourself or a feeling you notice, for example, the feeling of the air on your skin. Now let it go and let us focus on what you can smell. Finally, let it go and see if you can notice a taste. Often our minds wander. If you find your mind wandering to other thoughts, worries, noises or anything else, this is common, just notice that and gently bring your focus back to the sense you were noticing. Let us continue to practice this, noticing what is here right now using our senses.'



<https://www.youtube.com/watch?v=w1esa20gJSNQ>

Acknowledgements

The intervention and resources were developed by:

Dr Laura Shepherd, who is a Consultant Clinical Psychologist at the burns service at Nottingham University Hospitals NHS Trust, UK. She developed this intervention as part of a PhD at the University of Sheffield, UK.



Professor Lance McCracken, who is Professor and Head of Division of Clinical Psychology at the University of Uppsala, Sweden.



Professor Andrew Thompson, who is a Consultant Clinical Psychologist and Professor of Clinical Psychology at Cardiff and Vale University Health Board and Cardiff University.



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In addition to psychological therapists within your burns service, other sources of support that you may find helpful include:

Changing Faces
www.changingfaces.org.uk
Email: info@changingfaces.org.uk
Support line: 0300 012 0275

Katie Piper Foundation
www.katiepiperfoundation.org.uk
Support line: 0300 365 0055

Dan's Fund for Burns
www.dansfundforburns.org
Email: info@dansfundforburns.org
Tel: 07526 847699

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Appendix AI: Sources Used in Intervention Development

Module	Content	Relevant sources in addition to core ACT textbooks
Introduction	Introducing the aim of the intervention, acknowledging that it may be useful now, in the future or both	
	Inviting the patient to briefly describe their experiences related to how their burn looks and their appearance change(s) and how they are responding to these, incorporating self-compassionate perspective-taking	Hulbert-Williams et al. (2021)
	Reflecting on the workability of the patient's strategies	Hulbert-Williams et al. (2021)
	Unwanted party guest metaphor - introducing the idea of reducing the control agenda (acceptance)*	Hulbert-Williams et al. (2021); Pearson et al. (2012); Powell et al. (2023); Shepherd et al. (2020)
	Mindful breathing exercise (or five senses exercise if breathing creates discomfort)	Brassington et al. (2016); Hadlandsmyth et al. (2019); Hulbert-Williams et al. (2021); Powell et al. (2023); Shepherd et al. (2020); Zucchelli et al. (2021)
Responding to our feelings and thoughts	Reminding the patient about the unwanted party guest metaphor and reducing the control agenda	Hulbert-Williams et al. (2021); Pearson et al. (2012); Powell et al. (2023); Shepherd et al. (2020)
	Passengers on the bus exercise	Brassington et al. (2016); Hadlandsmyth et al. (2019); Hulbert-Williams et al. (2021); Powell et al. (2023); Shepherd et al. (2020); Zucchelli et al. (2021)

	Experiential acceptance exercise (breathing into/making room for/allowing internal experiences)	Brassington et al. (2016); Hulbert-Williams et al. (2021); Powell et al. (2023); Shepherd et al. (2020)
	‘Who is noticing?’ reflection, and self-compassionate perspective-taking	Shepherd et al. (2020)
	Mindful breathing exercise (or five senses exercise if breathing creates discomfort)	Brassington et al. (2016); Hadlandsmyth et al. (2019); Hulbert-Williams et al. (2021); Powell et al. (2023); Shepherd et al. (2020); Zucchelli et al. (2021)
Getting distance from our thoughts	Reminding the patient about the unwanted party guest metaphor and reducing the control agenda	Hulbert-Williams et al. (2021); Pearson et al. (2012); Powell et al. (2023); Shepherd et al. (2020)
	Experiential cognitive defusion exercise (noticing the thought, naming the story, thanking your mind)	Hadlandsmyth et al. (2019); Hotton et al. (2022); Hulbert-Williams et al. (2021); Powell et al. (2023); Shepherd et al. (2020)
	Leaves on a stream exercise	Brassington et al. (2016); Hotton et al. (2022); Powell et al. (2023); Shepherd et al. (2020)
	‘Who is noticing?’ reflection, and self-compassionate perspective-taking	Shepherd et al. (2020)
	Mindful breathing exercise (or five senses exercise if breathing creates discomfort)	Brassington et al. (2016); Hadlandsmyth et al. (2019); Hulbert-Williams et al. (2021);

Doing what matters to us	Reminding the patient about the unwanted party guest metaphor and reducing the control agenda	Powell et al. (2023); Shepherd et al. (2020); Zucchelli et al. (2021)
	Values reflection	Hulbert-Williams et al. (2021); Pearson et al. (2012); Powell et al. (2023); Shepherd et al. (2020)
	Doing what matters exercise**	
	‘Two sides of a coin’ metaphor	Hulbert-Williams et al. (2021)
	Mindful breathing exercise (or five senses exercise if breathing creates discomfort)	Brassington et al. (2016); Hadlandsmyth et al. (2019); Hulbert-Williams et al. (2021); Powell et al. (2023); Shepherd et al. (2020); Zucchelli et al. (2021)
Being around other people	Allow-Assert-Act with Kindness exercise	
	Taking control when around other people	Hotton et al. (2022); Pasterfield & Thompson (unpublished); Zucchelli et al. (2021)
	Mindful breathing exercise (or five senses exercise if breathing creates discomfort)	Brassington et al. (2016); Hadlandsmyth et al. (2019); Hulbert-Williams et al. (2021); Powell et al. (2023); Shepherd et al. (2020); Zucchelli et al. (2021)

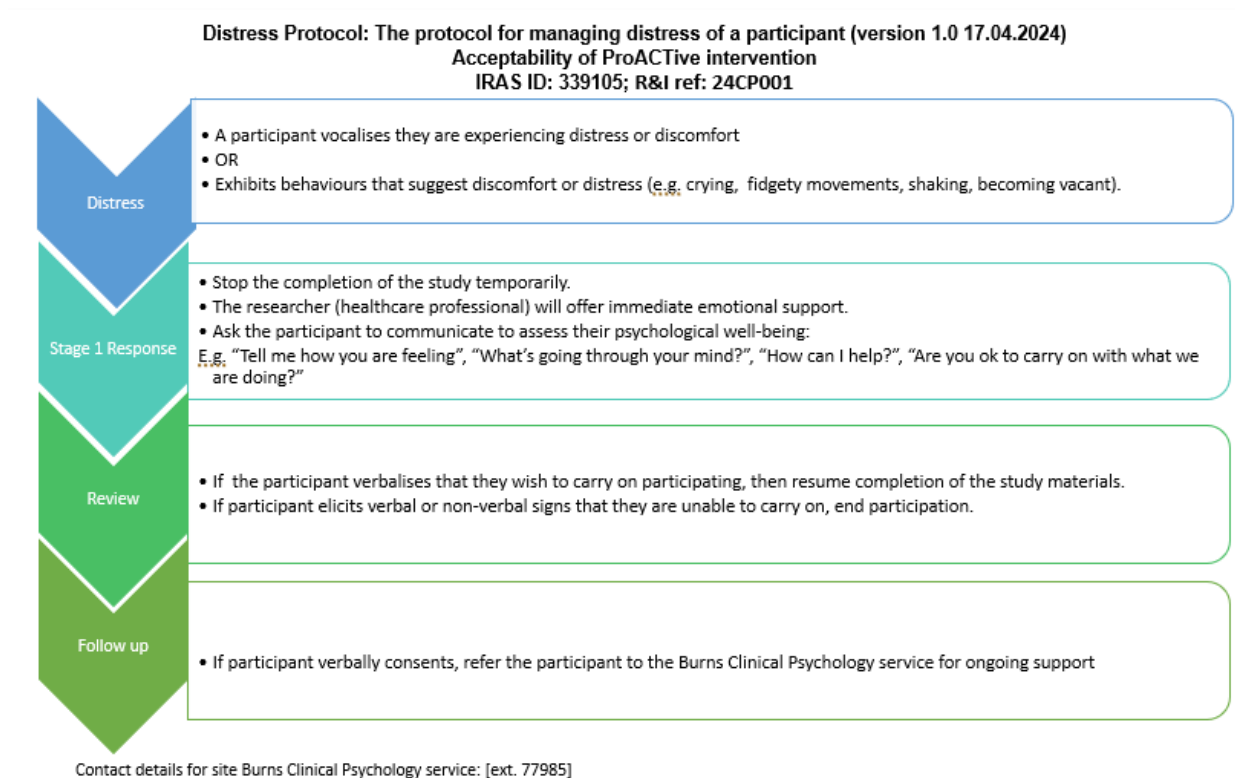
Note. *Metaphor changed from the tug of war with a monster metaphor to the unwanted party guest metaphor following PPI input and association between monsters/villains and visible differences.

** Adapted from the choice point exercise.

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Appendix AJ: Mixed-methods Acceptability Study: Distress Protocol



Appendix AK: Mixed-methods Acceptability Study: Initial Template

Template v1

Study aim: To explore the acceptability of 'ProACTive,' an early acceptance and commitment therapy (ACT) intervention, to help burns patients adjust to changes to appearance and prevent distress

1. Affective attitude

1.1 Intervention

1.1.1 Flexibility

1.1.1.1 Flexibility in module choice

1.1.1.2 Flexibility in spacing of modules

1.1.2 Shift in thinking

1.1.3 Skills building and techniques for the future

1.1.4 Structure

1.1.5 Use of metaphors

1.2 Resources

1.2.1 Content of resources

1.2.2 Delivery of resources

1.3 Timing

1.3.1 Views from those who are not concerned about appearance changes

2. Burden

2.1 Minimal effort

2.2 Cognitive effort

3. Ethicality

4. Intervention coherence

4.1 Clear objective

4.2 Meta-awareness

4.3 Skills building

5. Opportunity costs

5.1 No costs

6. Perceived effectiveness

6.1 Building skills for responding to inner states in the future

6.2 Developing acceptance of inner states

6.3 Developing self-as-context

6.4 Effectiveness for those with mild or no appearance concerns

6.5 Exploration of thoughts and feelings

6.6 Feeling supported

6.7 Reducing distressing thoughts and feelings

7. Self-efficacy

8. Importance of the therapeutic relationship

9. Offering support at an uncertain time

Appendix AL: Mixed-methods Acceptability Study: Final Version of Template

Final template

Study aim: To explore the acceptability of 'ProACTive,' an early acceptance and commitment therapy (ACT) intervention, to help burns patients adjust to changes to appearance and prevent distress

1. An acceptable intervention

1.1 Affective attitude: Positive views

1.1.1 Skills building

1.1.2 Flexibility

1.1.3 Structure

1.2 Intervention coherence: A clear intervention aiding reflection and developing skills to respond to appearance concerns

1.3 Burden: Easy and accessible

1.4 Self-efficacy: Confidence in using the techniques and resources

1.5 Ethicality: It is fair

1.6 Opportunity costs: No costs

1.7 Perceived effectiveness: A helpful intervention

1.7.1 Reducing distress

1.7.2 Developing skills to respond to distress with psychological flexibility

1.7.3 Coping with other people's reactions

1.7.4 More helpful for people with appearance concerns

2. Valuing the therapeutic relationship

3. Early support is key

3.1 Getting the timing right when uncertainty around longer-term appearance is present

Appendix AM: Mixed-methods Acceptability Study: NVivo Codebook of Final Helpful Aspects of Therapy Questionnaire Themes

Name	Description	Files	Example quotation(s)
Exploring and reflecting on appearance changes	This theme highlights the usefulness of the intervention for exploring, reflecting on and expressing their feelings and thoughts related to their appearance because of the burn injury. This often enabled the person to understand their appearance concerns better, or prompting thought and reflection on specific situations that may feel more difficult now.	10	“Talking through emotions and thoughts that I wouldn’t normally consider. It made me think really deeply about what I think and how I think. I found the three sections made me really question. I found them very difficult to respond to and that made me think.” “Asking me how I would feel in the situation I was worried about. It brought my attention to it and what I was anticipating. Just helping me think about different ways to drill down into stuff, if you know what I mean.” “I’m not wearing dresses that show my body, and my wound isn’t where others would see it, but it is good to go through thoughts I have, to work out the feelings I have about myself now.” “Being asked about what I’m worried about the most, and focusing on that. I understand what I’m worried about now.” “Talking about future possibilities. Thinking about any changes, all part of future life. Talking about outcomes on how I might feel in relationships.”
Valuing the therapeutic relationship	This subtheme reflects the valuing of a therapeutic space to explore and share distressing experiences related to appearance changes with someone. People found the intervention helpful in terms of feeling listened to and validated.	5	“Talking about my thoughts. I always find it helpful to talk to someone who understands.” “And opening up and telling you about my feelings. I feel I lot more of a weight off my shoulders because I’ve opened up about it.” “I feel like I was listened to, no judgement, and I really like that. It is being understood.” “You are a very good listener and know how to make me think. It was nice to be heard. Giving someone the space to bring a scenario in their heads, with someone else, and not be consumed by it gives a lot of opportunity to

Name	Description	Files	Example quotation(s)
			think of future problems, insecurities and fears. A problem shared is half-solved.”
Developing and reinforcing psychological flexibility	This theme represents descriptions about psychological flexibility and how the intervention developed or consolidated this. For some, it enabled a shift in how inner experiences were viewed, for example, through metaphors. Many talked about the value of content or techniques focused on acceptance, cognitive defusion and present moment contact. A small number also spoke about the usefulness of enhancing creative hopelessness, self-as-context, values identification and committed action.	13	“Learning ways to accept these feelings. The (acceptance) exercise. Realisation of sitting with the feeling.” “The passengers on the bus exercise. It put the metaphor to it and showed you a different way of looking at emotions and going on your path. How to deal with unwanted passengers. Talking about how comfortable I'd be doing things in the future that are close to me and the worries around them. It just helps remind me that I can keep going and I can continue with the thoughts and worries.” “I feel it is all off my chest. Acknowledging my feelings.” “Honestly, everything was really useful and interesting. The passengers on the bus exercise was particularly helpful. It's a good exercise because I can do it in the future as well. I can imagine myself as the driver of my bus and I can carry the passengers.” “The passengers on the bus exercise. Making attention to what feelings you've got and that they're there, and you can live with them and accept them.” “The introduction of a completely alien (to me) concept of thanking my mind. Very thought provoking. It made me appraise and think in a completely different direction that I couldn't have otherwise thought of.” “Nagging negative passengers. Managing negative influences/thoughts.” “The breathing exercise was relaxing. I am in the real world - I am not letting my thoughts control everything.”

Name	Description	Files	Example quotation(s)
			“And noticing thoughts and saying, 'I notice I am having the thought that...’” “Giving the thoughts title names and thanking my mind for bringing them up. The story names created a distance. It's like your brain is now telling you a story. It's a different perspective on it. And the thanking - it makes it feel nicer and more of a helpful thought.” “Thinking of being in a peaceful place and letting you be one with your thoughts (leaves on a stream exercise). By imagining being alone, I could let go and be one with my thoughts.” “Mindful breathing - very useful. It gave me focus and led me, causing a very restful but directed introspection.” “The last bit. The breathing exercise. It made me think and control my breathing. It made me feel different. Better.” “The breathing exercise. It's calmed my nerves down and made me feel calmer, not to worry so much.” “The breathing exercise was relaxing. I am in the real world - I am not letting my thoughts control everything.” “The breathing exercise today. Today has felt really overwhelming and it was a minute to stop. Just feeling relaxed.” “The breathing exercise was decent. It helped me zone out and focus on something. I'm quite distractible usually and I'll be using this more.” “Thinking about the challenges to doing something for the first time. It made me think about getting my life back on track.”

Name	Description	Files	Example quotation(s)
			“Talking about control and vulnerability. Asking for help. Made me understand/explore how not opening up to people can inhibit healing mentally and physically.” “The unwanted guest at the party. I try a lot to block it out and push it away, but it's not always the best way.” “Talking to you about what matters to me and highlighting that, and how it goes round. My core values go deeper. That was interesting and helpful.” “When I realised my passengers and I had to tell you my values and what is important for me. Because in normal life, you don't think about these really, and it is good to know.” “Noticing which part of me is noticing those thoughts, where they are coming from. Helped me think about how I was thinking - it is from my mind and not other people's opinions.” “The observing self. I've never noticed that before. I feel it creates a sense of an observation. You can observe it in a different way and observe different things as well.” “I still like the observing - you observing it. It creates a nice distance, and noticing how you're noticing makes it feel a lot more manageable to deal with.” “Your metaphor was good. It was an interesting way to look at the potential experiences. To try and look at it from a different point of view.” “The bus analogy was quite good. It was a different perspective to look at things from.” “The coin analogy was helpful too - it was a nice, visual thought for me.”

Name	Description	Files	Example quotation(s)
			“The passengers on the bus exercise. It put the metaphor to it and showed you a different way of looking at emotions and going on your path. How to deal with unwanted passengers.” “The unwanted guest - it is nice to know there is different ways to look at it - my thoughts and feelings.” “Thinking about how other people treat you or affect how you may feel or change the way you feel, through the passenger on the bus exercise. I got to think more about dealing with other ways to think about option e.g. coping.” “All of the ideas and concepts that came up during the session that were all in some way foreign to the way I usually look at things.” “Giving the thoughts title names and thanking my mind for bringing them up. The story names created a distance. It's like your brain is now telling you a story. It's a different perspective on it. And the thanking - it makes it feel nicer and more of a helpful thought.”
Fostering self-compassion	This theme represents the helpfulness of fostering self-compassion and the ability to respond to internal experiences and situations with kindness for one's self.	5	“Introducing the concept of supporting someone else in the same position and then turning that on it's head to support myself. It made me think and put various ideas from this intervention into a context that I was unable to imagine. I feel a dillard - thinking how I could support someone else but turning that towards yourself - I've never thought of that.” “Sitting there and thinking of the question, "What could you say to be kind to yourself?" It was reassuring myself.” “It's to realise it's ok to feel how I feel. And it's ok to not do everything due to my injury. I'm ok to give time to myself and my body to heal. It's helped me to realise what's happened and it's ok to give me time to recover. I don't have to be ashamed. It was good.”

Name	Description	Files	Example quotation(s)
			“Trying to be kind to myself and think more about myself. You’ve made me think that I don’t think about myself enough, with my feelings and thoughts, and maybe I should think of myself more, instead of being chilled and batting it off all the time.” “Thinking of what your future self might think. It helps people to think more kindly. You never know when you might need it.”
Preparing for being around other people	This theme represents the intervention providing an opportunity to consider social or relational situations that may feel difficult for them following their burn injury, reflect on how other people may react, and learning ways and skills that may be helpful when around other people.	7	“Working through a scenario which is coming up - first visit to the café outside of the safe environment of the ward.” “Thinking about dealing with other people's reactions/comments.” “Asking about what I'd say to other people and how I'm going to feel when people start looking at me. If you hadn't have asked, it would have caught me off guard when I go back to work tomorrow. It's made me more aware of it, of being prepared.” “Thinking about how people might react and how I might react to them. I can think about what people might say before I see people, and I feel I'd be a lot more prepared for their questions. And also, I'd be less emotional and react better, because I can plan.” “The advice on staying confident - smiling - and in that way you come across as more approachable. I hadn't thought about a situation, what I'd say or do if I was in that situation.” “That part when we meet with people - I know I'm going back to work, so I already know who will ask me questions - but it's good to think about it - it's coming soon - and how to react. I don't have to be ashamed. It was good.” “To remind myself that I can't control what others will feel or express. I can just control my own reaction. It comes in one ear and out of the other - I

Name	Description	Files	Example quotation(s)
			don't need to let it affect me. Even if you don't care about it (how the burn looks), like it is for me, it's useful for the future or other concerns in life. Thinking about standing up for myself. It's nice to remind yourself, it's ok to do that."

Appendix AN: Mixed-methods Acceptability Study: Excerpt from Reflective Diary

[Participant ID withheld]: He was admitted to the ward for surgery and consented to take part. At that time, he had not reported any appearance concerns clinically. However, when we began the intervention it was clear he was worried about how it would look in the future and whether it would be noticeable to others. This makes me reflect on the difficulty identifying people clinically, as concerns are often not expressed/denied, and the importance of offering support even when this is not expressed explicitly. I find myself continuing to wonder what this is about – do people consciously deny concerns and perhaps think it is vain to admit appearance concerns, or think they should just be focused on function, especially perhaps when it is in a concealable body area. Or, do people subconsciously suppress these concerns? How do we address this in intervention development and research?

[Participant ID withheld]: She has no appearance concerns at all, and I found it hard at times to get the content to work with during sessions. For example, when trying to practice cognitive defusion skills. She seems keen to help with the study and described feeling it would be useful for others but I get the sense it isn't helpful for her personally. It has left me wondering how applicable it is to people who are certain they won't be concerned about their appearance now or in the future. She completed all 5 sessions. I don't think she found it particularly helpful for herself and I don't think she fully engaged in some aspects of it. It did feel quite difficult to do some of the exercises fully given she was adamant she would not feel upset or worried or have any concerns in the future.

Appendix AO: Mixed-methods Acceptability Study: Audit Checklist

Audit Form

Data collection

1. Is there evidence that raw data was collected and is appropriate for the research aims?

Yes (E.g. as evidenced by anonymised transcripts/data)

2. Has relevant demographic and background information been collected to contextualise the sample (E.g. gender, age, burn injury information, interview type/location/time)?

Yes

3. Are there reflections/notes/summaries made during the data collection process?

Yes

Research/analysis process

4. Has the researcher engaged appropriately in supervision as part of the research process?

Yes

5. Has the data been sufficiently coded? (e.g. is all the relevant data coded?)

Yes

6. Has the data been systematically coded?

Yes

7. Is it clear that the researcher has engaged in a process of refining and redefining the template and are these processes justified? (E.g. evidenced by looking at different

versions of templates, NVivo documents and notes, changes to coding/themes should be justified).

Yes

Cross-checks

8. Crosschecking randomly selected excerpts from the interview transcripts against the corresponding coding and themes recorded on NVivo.

Are these consistent?

Yes

9. Vice-versa crosschecking randomly selected themes from NVivo against the corresponding data.

Are these consistent?

Yes

Study write-up/results

10. Are quotes sufficient to provide evidence of the template/themes?

Yes

11. Does the results/write-up sufficiently address the aims of the study?

Yes

Signature of researcher



Signature of auditor

