The Functions of Self-harm: A Q-methodology study

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The candidate confirms that the work submitted is his/her own and that appropriate credit has been given where reference has been made to the work of others.

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ABSTRACT

Current knowledge on the functions of self-harm understands this phenomenon as serving numerous, complex, contradictory and varied functions for individuals. Using Q-methodology this study sought to explore participant's subjective viewpoint on the functions of self-harm that are outlined in the current existent academic literature. Q-methodology is a mixed methods approach to the scientific study of people's viewpoint on a topic (their subjectivity). Using this approach, the current knowledge on the functions of self-harm was presented as a set of statements to people who self-harm. Twenty participants (aged 21-57, 14 female and 6 males) were recruited through the NHS, online forums and a third sector support group. These participants were asked to sort, rank and comment on these functions according to whether they agreed and disagreed with these as a personal reflection of their own functions for self-harm. The Q-methodology factor analytic findings revealed consensus between the participants on some of the functions of self-harm; specifically agreement was evident in self-harm managing negative internal experiences and disagreement was evident in self-harm serving sexual functions. The factor analytic findings also revealed two distinct and statistically robust factors. These two factors allow for an appreciation of differences in degree of agreement and disagreement on some of the functions of self-harm. These differences in viewpoint found that Factor 1 (named 'increasing the positive') endorsed positive and validating functions to a greater extent than Factor 2. In contrast, Factor 2 (named 'removing the negative') appeared to view the cleansing and self-punishment functions as more relevant. Additionally, Factor 2 also agreed with self-harm as a greater way to switch off memories and terminate depersonalisation. Such findings need to be considered in the context of the study's strengths and weaknesses yet the findings have clinical implications for people who wish to reduce or stop self-harming. These include the flexible use of the factors as a clinical heuristic or framework during therapeutic assessment and formulation to help guide intervention. Implications are also evident for future research and the current understanding of the functions of self-harm.

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1. INTRODUCTION

In order to appreciate the aim and relevance of this study it is important to consider current and historical clinical and research knowledge on the functions of self-harm. For this reason I shall start with an overview of the definition of self-harm; its characteristics and associations. This leads to an appreciation of the functions of self-harm which I shall review in some depth. Function is defined as the underlying purpose of behaviour; in this case how self-harm serves a meaningful purpose for individuals who self-harm.

Irrespective of functional understandings, the literature on self-harm is complex and multi-faceted. I have drawn on a range of sources including academic journals, clinical material (measures, textbooks) and policy documents, in order to cover the breadth of the literature on self-harm. Therefore, this review shall be organised as follows:

- Defining self-harm
    - What it is and what it is not: No simple definition
    - Characteristics of self-harm
- Associations with self-harm
    - Self-harm and suicide
    - Self-harm and other behaviours
    - Self-harm and Risk factors
    - Self-harm and Psychiatric Diagnoses
- Functions of self harm.

1.1 Defining self-harm

1.1.1 What it is and what it is not: No simple definition

Self-harm has been defined as the direct and deliberate infliction on or destruction of one's own body tissue without the intention to die (Nock, 2009; Favazza, 2011). Under this simple definition, behaviours that cause harm for culturally sanctioned intentions are not included. Therefore, behaviours like tattooing and piercings are exempt due to their cultural endorsement as decorative (Nock, 2009, Suyemoto, 1998).

This definition is also believed to be different to unintended harmful behaviours such as smoking or driving under the influence of alcohol. Although these behaviours could be argued to be pose a harmful risk to the body, they have traditionally be conceptualised as distinct to self-harm as the intention to harm the body is not considered a primary motivator to these behaviours (Suyemoto, 1998).

If we chose to adopt this deceptively simple definition of self-harm a number of difficulties can arise. For example, focussing on self-harm at the individual level may risk obscuring self-harm's functional connections with motivations that may be collectively endorsed (such as the punishment, cleansing or purification functions associated with certain religious rituals). This may inadvertently pathologise self-harm as it is not appreciated as meaningful behaviour with functional links to other behaviours serving similar functions. It may also hide an exploration of any functional overlap between behaviours considered to be self-harm and others like smoking or drug taking.

Additionally, as shall be discussed later, the intention to die has been found to have a more dimensional association with self-harm rather than a categorical 'no intention to die' definition. These arguments allow us to start to appreciate the complex and often challenging nature of trying to establish a definition of self-harm.

1.1.2 Characteristics of self-harm behaviour

Research and clinical understandings of self-harm have investigated its characteristics according to individual's method and frequency of self-harm; these shall be reviewed next.

Method. The definition of self-harm mentioned earlier where self-harm is the infliction of direct harm on body tissue assumes self-harm to include behaviours like cutting, burning, scratching, banging, hitting parts of the body and/or interfering with wound healing. Historically, self-poisoning was considered indirect and separate to these more direct methods. Yet terms like parasuicide and deliberate self-harm were constructed to encompass both direct and indirect methods.

More recently, the term Non Suicidal Self Injury (NSSI) has pressed for certain direct methods such as cutting not to be associated with suicidal intent. This unintentionally leaves indirect methods such self-poisoning assumed to be associated with suicidal intent (Kapur et al., 2013). However, switching between different methods of self-harm is common for people who self-harm. This is particularly the case for the method of cutting, for example, Kapur et at. (2013) found over 60% of people who were seen after they had cut themselves will change method in a further episode, most frequently to poisoning.

This highlights how creating and using certain terminology for certain methods precludes an understanding of the changeable nature of methods of self-harm and can hamper an exploration of the underlying intentions and motivations.

Frequency. Self-harm is often assumed to be repeated with the average number of lifetime instances (in populations chosen for the likelihood of repetition of self-harm) ranging from 3.4 to 50 (Klonsky, 2007). In one study, 15% to 25% of individuals who present to hospital with self-harm returned to the same hospital following a repeat episode of self-harm within a year (Owens, Horrocks & House, 2002).

A history of repeated self-harm is often associated with psychologically driven motives rather than as a response to a short term crisis (Howe-Martin, Murrell & Guarnaccia, 2012). Understanding these motives has clinical implications for healthcare delivery.

Prevalence

A lack of consensus exists in the estimates and epidemiological statistics of self-harm, partly due to the lack of agreement on the definition of the behaviour and source of data. Nonetheless, one study of hospital attendance for self-harm in the UK found that 45.2% were men and 54.8% were women (Gunnell et al. 2004). The median age of the males was 33.0 (range 18–95) and females 33.0 (range 18–90). However, Edmondson (2013) reported that early studies of self-harm reported it being more common in adult females. In addition, differences in rates of self-harm are found according to social and economic indices of deprivation. In the UK, rates of self-harm are higher in areas of greater socio-economic deprivation (Hawton, Harriss, Hodder, Simkin & Gunnell, 2001).

Reliable estimates of prevalence have been impeded by access to data on self-harm that does not come to the attention of clinical services (Borges et al. 2011). Most epidemiological studies rely on records from clinical settings and fewer records are taken from community populations. However, more recent community based studies, such as the Adult Psychiatric Morbidity Survey (Bebbington et al. 2010) and Millennial Cohort Study (Patalay & Gage, 2018) similarly show difficulties in establishing rates for multiple repetitions. The lack of consensus and complexities associated with defining self-harm also account for the lack of accurate estimates.

1.1.3 Conclusions

Research attempts to define self-harm has presented with its challenges as the construction of how certain behaviours may become understood and labelled as self-harm exist within the context of varying perspectives across space and time (Favazza, 2011, Kapur et al. 2013, Edmondson, 2013).

Currently in the UK, a broader definition of self-harm is used as outlined in the latest Cochrane review on self-harm (Hawton et al. 2016) and the National Institute for Clinical Excellence (NICE) guidelines (2013). Accordingly, self-harm is conceptualised as all non-fatal intentional acts of self-poisoning or self-injury, irrespective of degree of suicidal intent. This includes acts intended to result in death (‘attempted suicide’), those without suicidal intent (e.g., to communicate distress, to temporarily reduce unpleasant feelings), and those with mixed motivation. This wider definition is

used in the current study as it allows for less restriction when reviewing possible functions of self-harm and provides a greater representation of viewpoints on the functions of self-harm expressed in the literature.

Irrespective of the challenges in its definition and characteristics, self-harm presents a growing public health problem in most countries (Hawton et al. 2016, Skegg, 2005). This has prompted research into understanding the various risk factors and clinical correlates associated with self-harm.

1.2 Associations with self-harm

1.2.1 Self-harm and Suicide

Research has established a link between repeated episodes of self-harm and an increased risk of suicide. People who self-harm have a 50- to 100-fold higher likelihood of dying by suicide in the 12-month period after an episode of self-harm than people who do not self-harm (NICE, 2013). Hawton et al. (2015) reported that within a year from a hospital presentation for self-harm between 0.5% and 1% of people will die by suicide. The variations in the statistical estimates of suicide risk of self-harm reflect differences in the characteristics of the self-harm population and background national suicide rates. Importantly for definitions of self-harm, the risk of suicide is higher compared to the general population even when no intention to die was reported in the self-harm episode (Kapur et al. 2013). This has led some to consider self-harm existing along a continuum with suicide (Linehan, 2000).

Despite the statistical link between self-harm and suicide, the literature has at times attempted to delineate self-harm intended to end one's life and self-harm not intended to end one's life. In the US, suicidal self-harm and non-suicidal self-harm are conceptually differentiated and widely used in academic, research and clinical practice (Edmondson, Brennan & House, 2016). Critically, such assumptions can have an impact on risk management and care offered. Therefore, although self-harm can be separated from suicide in a definitional way (e.g. pragmatically the person does not express intent to die) individuals who self-harm tend to have more suicidal ideation and more past suicide attempts (Suyemoto, 1998). Although the link between self-harm as a risk factor for suicide has been

established in research, this at times has not been reflected in conceptual and academic definitions (e.g. NSSI) which can have a bearing on clinical practice.

These areas of research present the intentions of self-harm as complex, changeable and at times confusing. However, rather than attempting to establish clear margins around what is and what is not self-harm, a helpful approach could be to embrace the "the fluidity of motives" (Edmondson, 2013, p.4); as echoed in NICE guidelines "mixed motivations" definition to self-harm.

1.2.2. Self-harm and other behaviours

Many people who engage in self-harm face long-term significant life difficulties (Hawton et al. 2003). Common problems include disrupted relationships, employment difficulties, financial and housing problems and social isolation. Alcohol abuse and, to a lesser extent, drug misuse are often present too (Hawton et al., 2016). It is this contextual appreciation and overlap with other behaviours that can be helpful to hold in mind in conceptualising self-harm generally and its functions.

Research has highlighted a positive relationship between urges to self-harm and urges for alcohol and drug use and food binging and purging (Favazza, 2011). This may allude to common underlying processes between self-harm and other behaviours possibly serving similar functions. Such findings also have a bearing on the limiting nature of restricting functions of self-harm to certain methods.

1.2.3 Self-harm and its risk factors

Self-harm has been associated with a number of vulnerability factors which can pre-dispose people to start self-harming. For example, a history of adverse childhood experiences, such as physical and/or sexual abuse, is an important clinical factor. Other factors include difficulties in problem-solving abilities, low self-esteem, hopelessness and impulsivity (Hawton et al. 2016).

1.2.4 Self-harm and Psychiatric Diagnoses

Self-harm is associated with many forms of psychological distress. A high proportion of patients who present to hospital following self-harm have psychiatric diagnoses, including depression, anxiety, and substance misuse (Hawton et al. 2016).

Self-harm also forms part of criteria for some psychiatric diagnoses such as Borderline Personality disorder (Nock, 2009). The Diagnostic and Statistical Manual of Mental Disorders, fifth edition (DSM-5) (APA, 2013) includes two types of self-harming behaviour as conditions for further study, namely non-suicidal self-injury disorder (NSSID) and suicidal behaviour disorder (SBD). Many researchers and clinicians, however, believe this to be an artificial and misleading categorisation as attaching a diagnostic category to motivational behaviour will always have its pitfalls (Kapur et al., 2013). Claes and Vandereycken (2007) note that key in appreciating the meaning of behaviour like self-harm is the context in which it emerges and is spoken about; "crucial in the labelling (self- care vs self-harm) is thus the meaning (motive, purpose) of the behaviour within the social context or (sub) culture of the persons involved… such labels tend to reduce rather than augment efforts in searching for explanations, since the label itself includes an interpretation" (p. 138). Therefore, a tendency to diagnose and categorise can hamper explorations of the meaning and purpose of self-harm.

Another example of this is self-harm in adults with intellectual disabilities which has often been conceptualised as "challenging behaviour" and thought to be more in line with definitions and understandings of stereotypic and repetitive behaviour. However, these distinctions can obscure looking at the functional overlap of self-harm in the general population and those with intellectual and psychiatric diagnoses (James & Warner, 2005; Harvey et al. 2008).

In summary, the tradition of certain diagnoses or terms being linked to self-harm can preclude a deeper understanding of the functions behind repeated self-harm. It can also limit the understanding of a connection between self-harm and other behaviours that are similarly functional. Such limitations can potentially restrict a basis for treatment. Importantly, NICE guidelines are clear that assessment

and treatment for self-harm should be offered without the necessity of a diagnosis (NICE guidelines, 2013).

1.3 Conclusion to defining self-harm

Claes and Vandereycken (2007) pose the question 'is self-harm a sign of pathology or of meaningful behaviour?' They propose that research has sought to investigate self-harm using two distinct approaches, a structural and a functional one. These two different approaches can lead researchers and clinicians to conceptualise self-harm in different ways and potentially arrive at different theoretical understandings (Edmondson, 2013). A structural view of self-harm is typically medical and epidemiological in nature with a focus on "topographical characteristics" (p. 141). This type of research seeks to ascertain clarity and structure around the typical features of the behaviour and people who self-harm e.g. age of onset, method, rate of repetition etc. In this manner, it has sought to define self-harm by attempting to attach definitive categories and terms to understanding the phenomenon. Although this approach has yielded interesting results, it has resulted in a lack of agreement on terminology which has resulted in difficulties getting an accurate agreement on statistics (e.g. frequency, prevalence etc). Additionally, it can lead to a narrowing of understandings and impede an exploration to "penetrate the complex processes" (Edmondson, 2013, p.5) related to self-harm (Michel et al. 2002).

In contrast, a functional or psychosocial approach focuses on individuals' idiographic meaning of self-harm. This perspective assumes self-harm as personally purposeful and meaningful yet also searches for common themes shared between people who self-harm. Adopting an approach that considers acts of self-harm as having meaningful and functional purposes for the individual shall be explored next.

1.4 Literature on the functions of self-harm

An appreciation of self-harm as a meaningful behaviour has lead to the exploration of the academic literature on the functions of self-harm. Function is defined as the underlying reason or

purpose of an action. Understanding what purpose an action serves is an essential feature to understanding behaviour and informing intervention.

A note on terminology: I use the term function to describe how self-harm serves an individual in their life. The word "reason" has a similar connotation but can also elicit more proximal precipitants to an episode of self-harm (e.g. I self-harmed because I was angry) which are not functional in nature and so not the focus of this study.

Suyemoto (1998) describes self-harm as "over-determined" in nature meaning it can serve a number of functions simultaneously in one episode or act of self-harm. Therefore, it can become the behaviour of choice for many who self-harm for different underlying functions; and any one function would be insufficient. Moreover, self-harm is often repeated, as it becomes a coping mechanism of choice over time (Suyemoto, 1998). Next I turn to key academic and research reviews on the functions of self-harm to track the evolving nature of our understandings on the functions of self-harm.

1.4.1 Early research: Bancroft, Skrimshire and Simkin (1976)

In 1976 Bancroft et al. explored people's functions for self-poisoning by giving participants the following four possible functions to choose from:

- To seek help from someone,
- To escape for a while from an impossible situation,
- To get relief from a terrible state of mind, and
- To try to influence some particular person or get them to change their mind.

As can be seen these were themed around environmental influence, regulating a psychological state and escape functions.

Later in 1979 Bancroft, Hawton, Simkin, Kingston, Cumming & Whitwell extended the study as they acknowledged the limitation of using lists as 'putting words into subject's mouths' (p.353). Thus the personal meaning of self-harm as expressed by the participant was sought through

interviews. The study found that the most frequently reported reasons for self-harm was a need to relieve a state of mind.

This focus on regulating internal states has led some to express concern that other reasons for self-harm may have become over-shadowed and underemphasised, particularly when considering the over-deterministic view of self-harm (Klonsky, 2007). Subsequent research has identified many other functions, explanations and meanings of self-harm by people who self-harm (Edmondson, 2013).

A number of literature reviews have attempted to organise the academic, research and clinical literature on the functions of self-harm. Among the most notable of these reviews are Suyemoto (1998), Klonsky (2007), Nock (2009) and Edmondson, Brennan & House (2016). I shall consider each review chronologically as it provides a useful account of the development in research and clinical understandings of the functions of self-harm; bringing in a temporal context to the research and academic understandings of why people self-harm.

1.4.2. Suyemoto's (1998) Six functional models

Suyemoto (1998) carried out a review of clinical and research literature on the functions of self-harm. Six models were proposed in an attempt to both integrate and differentiate between the functions of self-harm. At the time, the review helped organise a discussion of the possible psychological and developmental understandings of self-harm (Suyemoto, 1998).

An important strength of Suyemoto's review was setting out a clear connection between self-harm and psycho-therapeutic (particularly psychodynamic) orientations (Table 1.1). Therefore it made a clear link to the clinical implications behind the functions of self-harm; an approach that can help bridge the gap between the assessment and treatment in clinical settings.

Table 1.1 Suyemoto's (1998) six functional models of self-harm

Model	Psycho-therapeutic tradition
1. The Environmental model	Behavioural and systemic theory
2. The Anti-suicide model	Psychoanalytic theory
3. The Sexual model	Psychoanalytic theory
4. The Affect regulation model	Ego and self-psychology
5. The Dissociation model	Ego and self-psychology
6. The Boundaries model	Self-psychology and object relations theory

Crucially, throughout the review Suyemoto underscores the difficulty in approaching each model as completely different to the next. The review acknowledges the complexity in understanding self-harm as it recognises the interrelatedness of functions and the probability that more than one will apply to individuals at any one time (i.e. over-deterministic nature). The review also highlights the "contextual embeddedness" in that self-harm is related to a variety of diagnoses, symptoms, past experiences and life difficulties. Suyemoto argued that this makes self-harm difficult to draw theoretical generalisations from and to. With this in mind each of the six models shall be discussed next.

The Environmental model

This model helps explain the initiation and maintenance of self-harm using behavioural, systemic and socio-developmental theoretical explanations. In this model self-harm behaviour develops from a familial modelling of abuse where one abuses and harms oneself in line with early experiences of abuse, linking to social learning theory (Bandura 1973). Learning about the benefits of inflicting self-harm over time can reinforce the behaviour through operant conditioning. Suyemoto

describes this model as an individual's attempt at self-care is done through self-harm; harm that was initially mediated by the social environment.

This environmental model also encompasses how an individual starts self-harming by observing and modelling another's self-harm. The attention, status, admiration or envy someone acquires from their environment (e.g. status among peers for enduring the pain) can also initiate and maintain the behaviour. Attention and influence over others as a consequence of the self-harm may act as an environmental reinforcer over time (operant conditioning).

Suyemoto also incorporates systemic and unconscious ideas into this environmental model and explains that self-harm may be a way of maintaining a systemic balance "…expressing or deflecting attention from systemic dysfunction…may not have a conscious awareness of the way in which they interact with their interpersonal environments, they do serve the system by expressing conflicts and feelings that others experience but repress or defend against successfully" p. 539. Therefore, self-harm behaviour can be conceptualised as serving an important homeostatic function in diverting attention away from systemic conflicts and dysfunction (e.g. in families) and thus locate these problems in an individual.

The Drive Models: Anti-suicide and sexual models

This model understands self-harm as a way of simultaneously expressing and repressing a drive for life, death and sex. In the anti-suicide model self-harm is seen as a compromise between life and death drives. Destructive impulses to die are expressed and processed via self-harm and so complete destruction is avoided; a type of damage limitation (Edmondson 2013). Firestone & Seiden (1990) use the term "microsuicides" to characterise this function of self-harm serving to master suicidal urges. Self-harm is seen as an active way to avoid suicide; a way of preserving the self yet still appeasing suicidal urges. From this vantage point the statistics and debate between self-harm and suicide can be appreciated. The theme of control over impulses is also at play in the sexual model which understands self-harm as a way of offering sexual gratification as well as punishing sexual feelings or actions.

The Affect Regulation Model

Many authors view the affect regulatory function of self-harm as the primary motivating factor for self-harm. Therefore, this function is most often quoted in the literature. Here self-harm exerts an adjusting effect on distressing and overwhelming internal experiences and moods.

Self-harm is seen as regulatory as it manages and distances negative emotions and psychologically aversive states. This has theoretical links to Ego and psycho-analytic traditions which are concerned with expressing or containing affect and need; where similar intolerable affect from childhood experiences are confounded with current situations and triggers. Thus, self-harm provides a way of expressing and externalising (managing) intolerable and unbearable emotion. Self-harm then becomes a way to create a sense of control or containment over emotions that are experienced as threatening to overwhelm the individual. The emotion is likely to be related to a perceived sense of abandonment before the act.

This model is related to the much cited and popular idea of a need to feel real physical pain as opposed to emotional pain. Emotions associated with situations where the individual lacks control (e.g. anger or sadness at abandonment) are experienced as painfully intolerable and overwhelming. In an effort to manage and regain a sense of control, these experiences can be transformed and expressed actively as the pain is controlled and regulated by the individual. Likewise, studies also quote participants describing the idea of needing a physical manifestation of their emotional pain, providing evidence that their emotions are real and justified. Therefore, self-harm validates and creates a sense of control over emotion.

As has already been described, the affect regulation function of self-harm is believed to be associated with experiences of developmental abuse and neglect, particularly in childhood. An internal state of being bad, wrong, dirty and in pain are associated with early experiences of care givers failing and neglecting to attend to need or distress in the child. This is hypothesised to lead to poor stable internalised representation of the self and others and a poor ability to know how to self-soothe emotion effectively as this was not modelled effectively in childhood. For example, in the case of anger at the injustice of neglect and abandonment, the negative internal appraisals (of the self) can lead to a belief that it is more effective to direct anger inwards to hurt the self rather than others. This

is a dynamic process that is similar to psychoanalytic explanations for depression, “it is not the object that is hated for leaving, but rather the self, for both the anger and the need” (Suyemoto, 1998 p.544).

When language cannot express emotion self-harm can; Suyemoto explains this function being associated with difficulty in using symbols (e.g. language) to express affect. Self-harm expresses and communicates feeling to the self (and others), and it controls the affective experience through distancing and externalising. This can be appreciated as also connected to the environmental model as self-harm is seen as a means of communication, internally or externally.

In spite of the often written affect regulation function of self-harm, Himber (1994) found that self-harm was at times associated with feelings of anger and shame towards the self after the act. In these cases self-harm was described as compulsive, out of the individual’s control and addictive. Therefore, although the affect regulation function can be seen as “catch all” model it is important to still consider some of the nuances and contradictory findings in the literature (Edmondson, 2013).

The Dissociation Model

Dissociation and depersonalisation are defined as an aversive internal states where there is a disruption to the usually integrated functions of consciousness, memory, identity and perception of the self and environment. The function of self-harm serving to end dissociation is often discussed in the literature. Self-harm can then been appreciated as an effort to maintain a continuous sense of self, internal experience and knowledge thus disrupting any dissociative experience that can threaten this sense of continuity and integration. Some literature also acknowledges the use of self-harm in inducing a state of dissociation in an effort to distance the self from current intolerable psychological states, a function similar to affect regulation.

The sight of blood and the scars of self-harm has been suggested as creating a continuity of experience and thus terminating a dissociative experience “by connecting episodes of dissociation or preserving past events or emotions that could not be integrated into the sense of identity” (Suyemoto, 1998, p. 545). Evidence for this model is limited and at times conflicting, the mechanisms through which self-harm ends or induced self-harm is also little understood (Edmondson, 2013).

The Boundaries Model

A function connected to a need to experience a sense of integration is the Boundaries model. This model values self-harm as a way of affirming the self physically and psychologically; where the self ends and begins. This model is rooted in psychoanalytic conceptualisations of object relations and self-psychology developmental theory.

A boundaries understanding proposes that intense emotions can threaten to overwhelm and engulf the self, where the perception of loss of other is experienced as loss of self. Self-harm can protect against this loss as harming the body can define the boundaries between the self and other and emphasise the self as real and separate.

The model argues that people who self-harm have not successfully separated or individuated from primary care givers as a natural developmental process because of early experiences with care givers being inconsistent, abusive and/or neglectful. Similar to the affect regulation model, emotional needs are experienced as overwhelming and there is a wish for merger with the other (e.g. idealised carer or perfect mother). When a perceived threat of loss (e.g. abandonment) is experienced by the individual, the self is also perceived to be under threat. Self-harm is seen as a way of coping or defending against the threat of loss as the harm is a confirmation that a separate self exists. This function is seen as an attempt at maintaining the boundary and identity between the self and other (Suyemoto, 1998).

Conclusion

Suyemoto's six functional models provide valuable and comprehensive coverage of the psychologically meaningful understandings of why people may self-harm. The theoretical underpinnings in each functional model are clear. However, there is considerable overlap of functions within and between the models (for example, the intense feelings associated with the dissociation and boundaries model). Therefore, viewing the six models as higher order categories may not be useful and even misleading. One option may be to emphasise or explore the relatedness of functions that exist within an individual who self-harms as the considerable overlap in functions can help understand self-harm as a trans-theoretical phenomenon. Nonetheless, these larger themes and models may be

used for descriptive purposes as they help organise and extend our understanding of the functions of self-harm.

One disadvantage of understanding the therapeutic rationale of functions is the inaccessibility of some of the language and concepts proposed to underlie self-harm; some of these concepts can rely on an understanding of psycho-analytic and unconscious processes which may not be consciously articulated and understood by people who self-harm. Suyemoto (1998) states that the affect regulation and boundaries model have received more empirical support than the drive or environmental model, in part because these explanations are more consciously accessible and reportable by people that self-harm. Therefore, some models like the drive and sexual model may be harder to operationalise and observe.

1.4.3 Klonsky's (2007) Seven function model

Building on Suyemoto's (1998) models, Klonsky (2007) reviewed the evidence on the functions of self-harm and concluded that seven functions were repeatedly found in the literature. The review was based on 18 empirical studies that used three different methodologies: self-report of reasons, self-report of phenomenology and laboratory studies. This allowed for greater reliability and agreement in the functional models that emerged from the review. Table 1.2 outlines these.

Table 1.2. Klonsky's (2007) seven

Name of function	Description of function	Function present in the 18 studies reviewed
1. Affect regulation	Self-harm is a strategy to relieve acute negative affective states.	18/18
2. Anti-dissociation	Causing injury may shock the system out of a dissociative episode. Dissociation is thought to be initially caused by prolonged absence of a loved one or as a result of intense emotions. Sometimes also referred as a feeling generation function. A way of feeling real and alive again.	10/18
3. Anti-suicide	Self-harm as a strategy of resisting urges to attempt suicide. Thus suicidal thoughts are expressed without risking death. A compromise between life and death.	3/18
4. Interpersonal boundaries	Self-harm as a way of upholding boundaries of the self. Related to insecure early attachments and inability to individuate from these. Thus self-harm attempts to assert a distinction of self and other. Related to objects relations theory.	2/18
5. Interpersonal influence	Self-harm as a way to influence other people in the environment; such as eliciting attention and/ or behaviour in others.	10/18
6. Self-punishment	Self-harm as an expression of anger and hatred towards the self. The act is experienced as ego-syntonic due to punishing, abusive and invalidating early experiences. Thus self-harm becomes a way of soothing and caring for oneself.	11/18
7. Sensation seeking	Self-harm as a way of creating excitement and exhilaration like that of activities such as bungee jumping or sky-diving.	5/18

In comparison to Suyemoto's models, two additional functions were defined, namely sensation seeking and self-punishment. Although the ideas around sensation seeking and self-punishment are evident in some of Suyemoto's models, Klonsky gave these functions a more direct differentiation as these functions had been highlighted in the self-reported literature of self-harm. However, Klonsky does not pay heed to a sexual function of self-harm unlike Suyemoto's review. Thus areas of disagreement between the reviews exist.

Importantly, Klonsky asserted that the frequencies of the seven functions evidenced in the studies tended to remain consistent regardless of sample characteristics (e.g. non-clinical vs clinical, women vs men). This has implications for the assessment and treatment for people who self-harm. In addition, Klonsky states that clinical lore contains a number of misconceptions about the functions of self-harm, such as an over-emphasis of inter-personal functions over other functions.

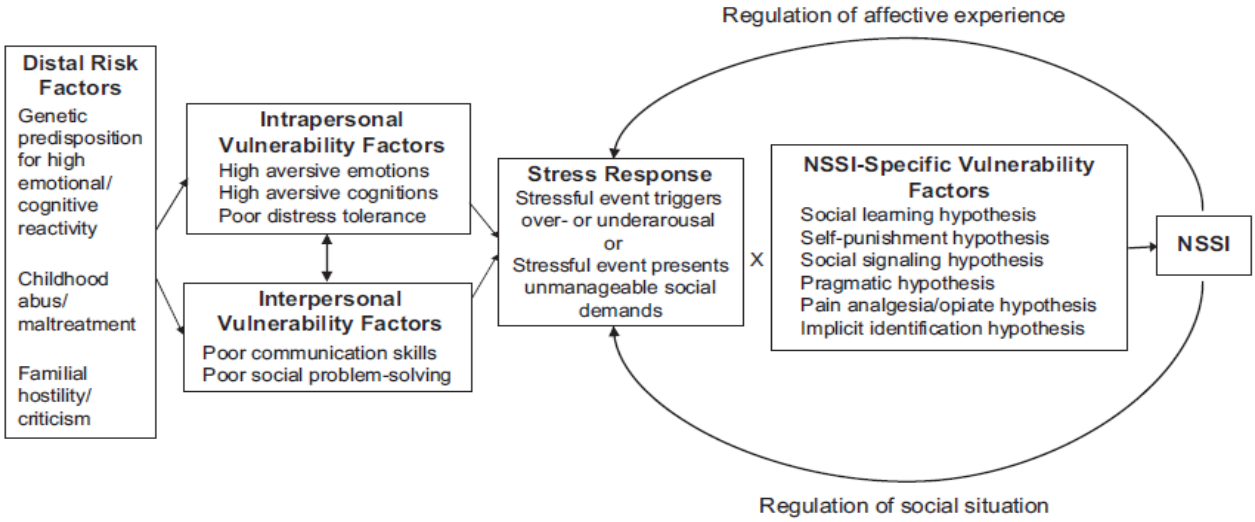
Similar to Suyemoto's review, Klonsky argued that these functions are not necessarily mutually exclusive as different functions may co-occur and overlap theoretically as well as in individuals; it is this last assertion that will be explored using the current Q-study.

Suyemoto's (1998) and Klonsky's (2007) reviews have the advantage of providing a clear depiction of the functions that underlie self-harm behaviours. A next step would be to explore links and associations between functions and a proposed theoretical model for the functions of self-harm.

1.4.4 Nock's (2009) Integrated theoretical model for self-harm

Nock (2009) attempted to integrate the different identified functions of self-harm into a cohesive theoretical framework (figure1.1). The proposed model brought together research that identified proximal and distal vulnerability factors.

Figure 1.1 Nock's (2009) Integrated theoretical model for self- harm



Nock (2009) takes a behavioural approach to understanding self-harm, emphasising the following key functional processes in self-harm:

- Intrapersonal negative reinforcement (i.e. decrease and distraction from aversive emotive and cognitive experiences)
- Intrapersonal positive reinforcement (i.e. increase in positive or desired experiences),
- Interpersonal positive reinforcement (i.e., NSSI facilitates help-seeking), or
- Interpersonal negative reinforcement (i.e., NSSI facilitates escape from undesired social situations.

The model understands self-harm as a behaviour that, although harmful, is serving several intrapersonal and interpersonal functions that may vary across time and context (Nock, 2009).

However, such efforts can lose sight of the complexity of self-harm and can risk becoming reductionist such as assuming that causes are linear in nature. For example, dissociation and affect regulation are not separated but collectively described as a 'stress response' or the mechanism through which distal factors impact on immediate triggers are not elucidated. This could inadvertently lose the nuances and gradation involved in the functions of self-harm.

Nock's model has been criticised for not reflecting enough of the intrapersonal positive reinforcement. The Functional Assessment of Self-Mutilation FASM (Nock & Prinstein, 2004) only includes one positive intrapersonal reinforcement namely to feel relaxed. Nock's 2009 review does not elaborate on these positive functions further despite the growing evidence for the positive functions of self-harm in the literature.

Nock uses the term 'Non-suicidal self-injury' (NSSI). As discussed earlier, there is much debate over the reliance on the term NSSI which can exclude the suicidal dimension of self-harm. Anti-suicide functions have been evidenced in the self-report literature but have not been included in Nock's model. This may risk excluding an important function and dimension in self-harm; which can have potentially real clinical assessment and treatment implications.

Similarly, Nock's integrated model has implications for treatment as it favours certain psychotherapeutic orientations over others. Previously explored accounts such as psychodynamic unconscious processes are given little opportunity in this model. So although the model is integrative it can still be biased in favour of certain psychotherapeutic traditions. This may have an effect on clinical management and treatment of self-harm.

1.4.5.Edmondson, Brennan & House (2016) review

In light of the risk of missing nuance by reducing self-harm to distinct functional models, Edmondson et al. (2016) carried out a meta-synthesis review of the self reported accounts of reasons for self-harm. A 'best fit framework' was used to capture the functions; this meant that when reviewing the literature if a function did not fit the initial framework then additional themes were generated.

One strength of this review was the heterogeneity of methodology in the studies reviewed. A total of 152 studies using questionnaire and interview methods were included. This meant that a total of 29,350 participants' voices were included in the review. There was also heterogeneity in the study's populations. This helped ensure greater coverage of potential reasons for self-harm in line with current broader definitions of self-harm (Hawton et al. 2016).

Functions were clustered into three broad themes including 'Responding to distress', 'Self-Harm as defining the self' and 'Self-Harm as a positive experience'. Within these themes a number of subthemes were identified. Table 1.3 shows the functional themes that were identified by the review and the % of studies that refer to the identified functions for self-harm. This gives a rough estimate of how often these functions are highlighted in the literature. Consistent with previous findings, affect regulation was the function most frequently identified in the studies reviewed by Edmondson et al (2016).

Table 1.3 Self-reported functions for self-harm in Edmondson et al. (2016).

Function	% studies reviewed that identified this reason
Responding to distress	
• Affect regulation	93%
• Exert an interpersonal influence	87%
• Punishment	63%
• Create and terminate depersonalisation	48%
• Averting suicide	15%
• Maintaining or exploring boundaries	8%
• Expressing and coping with sexuality	6%
Self-Harm as a positive experience	
• Gratification	21%
• Sensation-seeking	20%
• Protective (of self and others)	14%
• Experimental	10%
Self-Harm as defining the self	
• Sense of personal mastery	27%
• Strength/ toughness/ self-validation	21%
• Sense of belonging	13%
• Self harm as a personal language	13%

Some of these emerging themes highlighted conceptualisation of functions as positive experiences and as defining the self; functions that are attempting to achieve a goal that may be validated by anybody. This has the potential to lead to less pathologising language and narratives for the function of self-harm. Exploring this may also inform interventions that depend on finding less damaging ways to meet the same positive personal functions.

1.4.6 How the reviews fit together

The above reviews on the functions of self-harm portray it as meaningful behaviour, allowing for an understanding of the value it serves for individuals. Table 1.4 attempts to bring together the reviews by considering the similarities and differences in their conceptualisations of the many functional themes and models of self-harm identified in the literature. Similarities or overlaps in function between the reviews are presented as a tick (for example, the presence of affect regulation or interpersonal influence functions across all reviews). The functions that are not clear or explicitly similar are represented as a question mark. For example, sexual drives are not represented as part of Klonsky's review or the larger 'catch-all' function of affect regulation may reflect gratifying and sensation-seeking functions which may also be associated with functions aimed at terminating dissociation.

Table 1.4 Differences and similarities in presence of a certain functions in the major literature reviews on the functions of self-harm.

Function (as identified in the literature)	Suyemoto (1998)	Klonsky (2007)	Nock (2009)	Edmondson et al. (2016)
Affect Regulation	✓	✓	✓	✓
Interpersonal/ social influence	✓ (as Environmental model)	✓	✓	✓
Punishment	✓ (as Environmental model)	✓	?	✓
Environmental model	✓	✓ (as interpersonal boundaries and interpersonal influence)	✓ (as interpersonal positive and negative reinforcement)	✓ (Covered in other functions)
Anti-suicide	✓	✓	?	✓
Sexual drives	✓	?	✓ (as Intrapersonal positive reinforcement)	✓ (as Expressing and coping with sexuality)
Dissociation	✓	✓	✓ (as Intrapersonal negative reinforcement)	✓ (as create and terminate depersonalisation)
Boundaries	✓	✓ (but links with interpersonal influence)	?	✓ (in maintaining and exploring boundaries)
Sensation seeking	?	✓	✓	✓

			(in Intrapersonal positive reinforcement)	
Gratification	?	?	?	✓
Protective (of self and others)	? (somewhat covered in boundaries)	? (somewhat covered in anti-suicide)	?	✓
Experimental	?	?	?	✓
Sense of personal mastery	?	?	? (in Intrapersonal positive reinforcement)	✓
Strength/ toughness/ self-validation	?	?	? (Intrapersonal positive reinforcement)	✓
Sense of belonging	?	?	?	✓
Self harm as a personal language	?	?	? (Intrapersonal positive reinforcement)	✓

✓ Present ? Query/ not explicit

Although evidence between the reviews does converge at times, the explicit nature of the different functions seems also to depend on the methodology of the tools used to investigate them (Edmondson, 2013), for example relying on in-depth interviews versus a priori developed questionnaires.

Nock (2009) provided more of a theoretical proposal than a review of the literature. However, it is still included in table 4 to illustrate how some of the proposed mechanisms are not explicitly addressing many of the functions endorsed in the self-reported literature. One disadvantage of focussing on processes that are too generalised is that different concepts can be grouped under one function and so appreciation of the finer detail is lost. For example, Nock's (2009) intrapersonal positive reinforcement may be due to a sense of validation self-harm offers or increase in feelings of gratification and relaxation. This finer detail is relevant for a Q study which relies on the diversity and breadth of opinion on a topic.

Nonetheless, clinical and research consensus exits that self-harm is an externalised expression of diffuse intrinsic distress (Sinclair & Green, 2005). This broad function is covered by all the reviews. However, not all reviews encompass the non-distressing aspects of self-harm. An approach that is able to achieve a comprehensive and holistic picture of why an individual may self-harm will have important implications for assessment and intervention in clinical settings.

1.4.7 Conclusions

Over approximately the last forty years there has been a growing literature exploring the functions of self-harm. This literature has and continues to illustrate the diverse and varied narratives and accounts of why people chose to self-harm (Sinclair & Green, 2005). It depicts self-harm as a complex, multi-factorial and nuanced phenomenon with various theoretical and psychotherapeutic orientations converging to attempt to explain this behaviour. The research agrees that self-harm can serve a variety of different functions, possibly via a range of different methods, in response to different circumstances, for each individual (Edmondson, 2013).

1.5. The current study

Understanding how this diverse, complex and varied body of academic literature on the functions of self-harm is understood at an individual subjective level by people who self-harm continues to be worthy of further exploration. An appreciation of the functions deemed most and least significant by those who engage in self-harm and how the multiple functions meaningfully relate for an individual can add to our existing models of self-harm as well as inform therapeutic endeavours.

Providing an individual with a variety of possible functions enables that individual to rank them in an active and personally meaningful way. Bringing together a number of these personally meaningful viewpoints can shed light on how these functions cluster in significant ways thus furthering theoretical and clinical implications in the field of self-harm.

These aims are in line with a Q-methodology study as it provides a novel way of appreciating which functions cluster together across individuals. Grouping individuals according to similarities in their functions for self-harm, rather than for other characteristics, has significant implications for collaborative treatment choices and care planning.

2. Method

2.1 Introduction to method

This section aims to elaborate on Q-methodology (also called a Q-study) and the rationale for using this approach in the current study. An overview of Q-methodology design and implementation shall be presented first before relating these principles to the current study on the functions of self-harm.

2.2 Overview of Q methodology: An inquiry into subjectivity

Q methodology is a scientific way to study people's subjectivity (Watts & Stenner, 2012). Subjectivity is defined as an individual's point of view or their 'internal' frame of reference (Watts & Stenner, 2012). Q methodology does not aim to understand objective facts or definitions; instead it aims to investigate the subjective realms of feelings, opinions and beliefs (Lee, 2017). Q methodology is used predominantly in political and social sciences and increasingly in health research.

Q methodology was first developed by William Stephenson, a British physicist and psychologist, in the 1930s. Stephenson sought to devise a method of extending behaviourism into the realms of thought and opinion to make these internal constructs measurable and observable as behaviour (Brown, 1995). He argued that subjectivity can be captured and measured as people respond to the external stimuli of statements, usually written on a card (Lee, 2017).

Stephenson used factor analytic theory to develop the theoretical basis of Q methodology which is different to traditional factor analysis used in psychology (called R methodology). R methodology is the factor analytic paradigm used in traditional empirical psychology (Cross, 2005). Accordingly, a psychological construct (e.g. IQ or personality) is a constant measurable variable that does not change relative to the participant's stance, so participants are assumed to be passive in the construction and understanding of the variable. However, some psychological constructs are more subjective and invite a diversity of opinions, meanings and understandings in its construction. In Q, the participants are assumed to be active constructors and their subjectivity of the topic becomes

measurable (Brown, 1997). Stephenson named it Q so as to be distinguishable from R-type factor analysis. In R-type factor analysis the variables that are being measured (e.g. personality trait items in a questionnaire) are correlated resulting in the variables being grouped together that share common variance, these groups are called factors. In Q type factor analysis, opinions about a topic are understood holistically as a participant creates their own Q sort. It is these Q sorts that are then correlated and participants with similar Q sorts (i.e. similar perspectives on a topic) will tend to cluster and form a factor. Therefore, the participants as opposed to the items are the variables that are correlated. This means Q methodology is useful when the aim of a study is to group people based on their response to all the variables.

It is an approach to research that aims to understand the variety and diversity of viewpoints, where they are shared and where they are distinct. Q methodology also allows for a nuanced and exploratory appreciation of points of view on a topic as variables are considered in relation to each other. It enables the participant to represent their vantage point by rank ordering statements about a topic using a quasi-normal distribution (Van Excel & De Graaf, 2005). These subjective meanings of a topic can be held up for inspection and comparison with other viewpoints (Watts & Stenner, 2012 p. 72). As previously discussed, there is much complexity, subtlety and diversity of perspectives and knowledge in the academic and clinical literature on the functions of self-harm. Q methodology can allow for an enriched understanding of phenomena that are "socially contested, argued about and debated…. matters of taste, values and beliefs" (Stainton Rogers, 1995, p 180).

Q methodology assumes that subjective experiences are diverse (but not infinitely so) and it is this finite diversity it seeks to explore. Exploring opinions on a topic allows the expression of 'competing equivalent stories' about a single social topic (Eccleston, Williams, & Stainton Rogers, 1997). Similar to other forms of qualitative methodology, Q methodology seeks to understand knowledge that is socially understood; perspectives that are culturally available and relevant are explored in Q studies. Therefore, it assumes that what we know about people's views on a topic cannot be separated from the social and historical context in which they arise (James & Warner, 2005).

Q methodology uses a combination of qualitative and quantitative procedures and thus has been seen as a mixed methods approach to research. Lee (2017) argues that Q method belongs in the field of qualitative research methods as, although it is aided by statistical analysis, it combines a broadly qualitative approach in sampling and in the interpretation of the statistical output. My own position would be that Q methodology is a mixed methods approach as viewpoints are identified statistically and interpreted qualitatively. This is similar to Watts and Rogers' (2004) argument for Q methodology as a mixing or 'hybrid' approach termed 'Qualiquantology' in its own right. In summary, it is a method of identifying and then describing the diverse landscape of viewpoints (Alderson, Foy, Bryant, Ahmed & House, 2018).

2.3. Overview of Research design in Q methodology

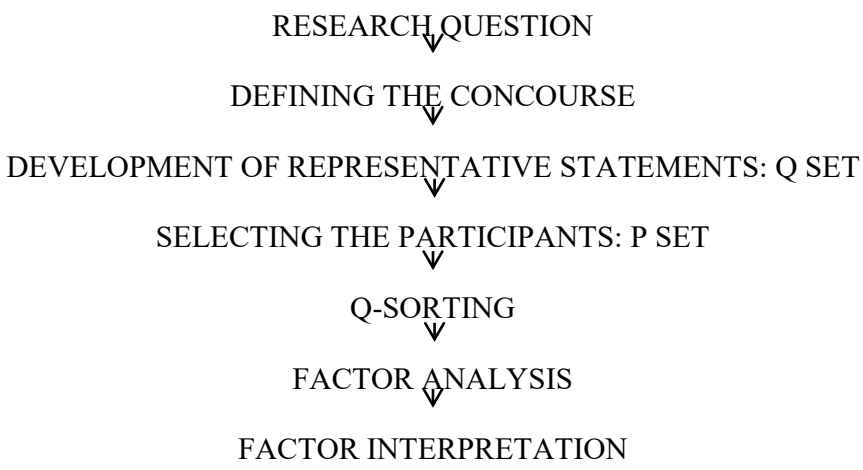
There are a number of stages involved in a Q methodological study. There are also a variety of terms used in Q studies; a glossary of these terms is summarised in Table 2.1.

Table 2.1 Glossary of Q-methodology terms (adapted from Bryant, Green & Hewison, 2006).

Term	Description
P-set	The participants of a Q study who complete the Q-sorting procedure. The Q-sorters.
Q-set	The sample items or statements on the topic under enquiry. These are transcribed onto a set of cards and used in the Q-sorting procedure.
Q-sort	The results of the ranking processes for each participant. Each item is allocated a score. A Q-sort represents the pattern of beliefs or opinions the individual holds about the topic.
Q sorting	The process whereby items are sorted and ranked.
Response matrix	The template grid that participants use to sort their statements onto a forced sort. The Q-Sort grid uses a quasi-normal distribution shape.
Sorter	The person conducting the Q-sorting procedure, i.e. the participant.
Item	A statement or proposition relating to the topic under enquiry.
Concourse	The discourse or 'flow of communicability'; what is written and said about the topic of interest.
Exemplar	A Q-sort that loads significantly on only one factor and so exemplifies the view represented by that factor.
Factor	Represents one understanding of the topic under enquiry. Operationalised by merging the exemplar Q sorts for each factor to produce a synthetic or standardised Q sort called the factor array.
Factor array	A synthetic or standardised Q sort that is used as a physical representation of a particular viewpoint or factor. Generated by amalgamating the exemplar Q sorts and averaging the scores (Z-scores) for each item. Arrays represents a 'best estimate' of the factor's viewpoint.

A typical Q-study follows a series of steps as illustrated in the flow chart in Figure 2.1 (adapted from Amin (2000)). A brief overview of each of step shall be summarised next.

Figure 2.1. Simple flow-chart of the steps involved in Q methodology (adapted from Amin (2000)).



i. Defining the concourse

First, a wide range of information is gathered about the topic to be studied. This information represents the ideas that are culturally available and relevant about the topic, this is known as the 'concourse' (Stephenson, 1953). It is a collection of opinions, ideas, what is written and said about the topic and provides the raw material for a Q study. It is made up of the narratives and discourses (written or otherwise expressed) about the topic. The concourse can be collected from academic literature, interviews and focus groups or even general conversation.

ii. Creating the Q set

The concourse is purposively sampled to create the Q set items (or Q sample) which is a set of statements about the topic. This means that the items/ statements demonstrate good coverage of the topic so that the Q set broadly represents the opinions of the concourse. Statements are created and selected to represent themes or categories within the concourse (Van Excel & De Graaf, 2000; Brown, 1980).

Q methodologists do not subscribe to any hard and fast rules on how to develop the Q-set. However, one key requirement is that the Q-set statements represent the breadth of the concourse, with each statement making a distinct assertion or perspective about the topic being studied. The

process of Q-set development allows for a bottom-up or data driven approach similar to thematic analysis where new categories emerge through exploring the concourse data and checking them against the categories that already exist (Watts & Stenner, 2012).

Q-methodology also advises for the inclusion of statements that "provoke" the engagement of the Q-sorter, such as statements that may be vague or are noticeably different. This is in an effort to gain qualitatively different reactions from Q-sorters (Watts & Stenner, 2012). This aim for active engagement allows participants to impress their own meaning and subjectivity into the process of Q-sorting and commentary after Q-sorting (Brown 1993). Watts and Stenner (2012) state "Q is a method of impression" (p. 68), an approach to enable different subjectivities to be offered up.

When the Q researcher starts to find narratives that are repetitive then this demonstrates that exploration of the concourse has been exhausted and no new categories/ statements are adding to the topic (Lee, 2017). This is a process equivalent to data saturation in qualitative approaches. A Q set between 30-80 statements has become the standard in Q methodological studies (Watts & Stenner, 2012).

Once the Q set is chosen, the statements are randomly assigned a number. Each statement is printed on a separate card with their assigned number on the reverse ready for Q-sorting.

iii. Selecting participants (P-set)

Watts & Stenner (2012) define two key characteristics to the P-set:

1. Participants should have an interest and a relevant view on the topic and
2. Participants are selected for diversity of their viewpoint.

As Q methodology does not aim to identify how prevalent views are in a population, participants are not selected to be representative of a particular population. Instead participants are sampled for diversity in an effort to enable a wide diversity of viewpoints and discourses to be uncovered and offered up (Watts & Stenner 2012). Participants are not randomly selected but are selected to represent the diversity within a target population.

iv. Q-sorting

The first step in Q-sorting involves participants understanding the context in which the statements are to be sorted this is called the condition of instruction. Each participant is instructed to sort the Q set items along a "single, face-valid dimension, such as most agree to most disagree, most

important to most unimportant" p. 53 (Watts & Stenner, 2012). Participants read the statements and then rank statements along this predefined dimension (e.g. importance or agreement). Usually, participants first sort the statements into piles such as agree, neutral (undecided) and disagree. Next, participants arrange the statements onto a quasi-normal fixed distribution that illustrates a continuum of the dimension (See figure 2.2). This makes the ranking of statements a more manageable task whilst also requiring participants to carefully consider all statements in relation to each other (James and Warner, 2007). Once a Q set is sorted each item has a score (or rank number) according to the column it is positioned on.

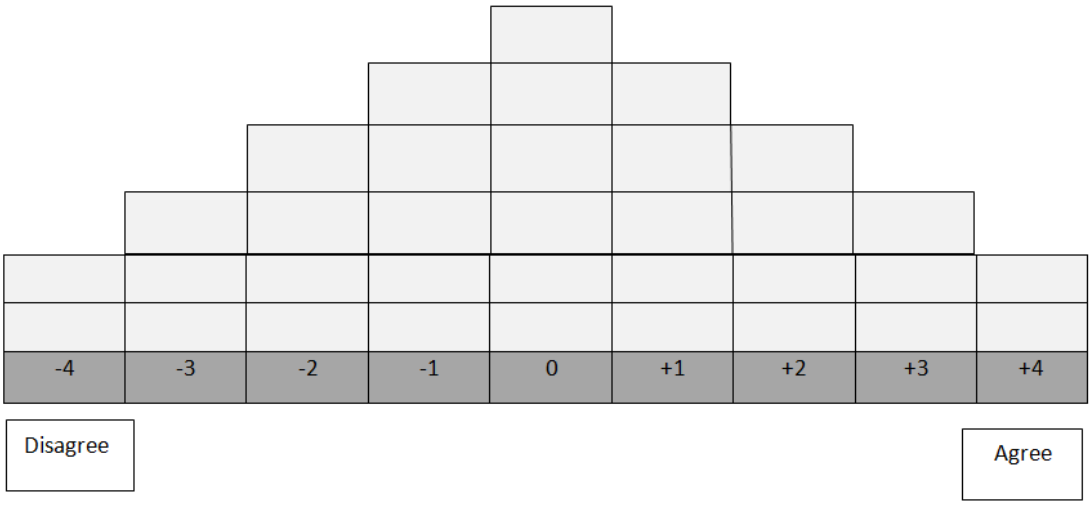


Figure 2.2 Example Q-sort grid.

It is important to note that there are no distribution effects on the factors that emerge from Q studies. Therefore the shape of the Q sort distribution grid (as long as it is symmetrical) is irrelevant in factor analysis. It is the pattern of rankings (i.e. statement orderings or positions) within the distribution that impacts on the resulting factors (Watts & Stenner, 2012).

The procedure of Q sorting means each participant chooses the most suitable statement out of many and in relation to each other. This allows participants to consider the topic, their choices of statements and positions on the Q-sort grid in greater depth; engaging participants actively to instil their own subjective meaning into the Q-sorting process. Each participant produces their own Q-sort that represents their unique point of view on the topic.

Finally, participants are then asked to comment on the experience of completing the Q-sort and asked to include an explanation for their most agree and most disagree choices.

v. Factor analysis

Participants' Q sorts are analysed using a pair-wise correlation which highlights the degree to which Q sorts have a statistical relationship with each other. Therefore, Q sorts that have been sorted similarly will express a similar viewpoint on the topic and thus have positive correlation. In contrast, Q sorts with differing viewpoints will have negative correlations. The resulting correlation matrix is then analysed using factor analysis, a data-reduction technique. The way the participants sort the statements is then compared and contrasted to find groups of people who have sorted the statements in similar ways and so share a similar viewpoint on the topic.

Participants whose Q-sorts are similar will 'load' significantly onto the same factor, thus allowing the data to be reduced to key factors that express a certain point of view on the topic. From the factors identified, factor arrays or 'model' Q sorts are constructed by merging the significantly loading Q-sorts. The factor arrays are constructed from the Q sorts of participants who have sorted in a similar way, therefore the factor arrays can be thought of as the "weighted averages" or representational Q sort of a factor's viewpoint (James & Warner, 2007).

vi. Factor interpretation

The distinct factors are then holistically interpreted to get an understanding of the essential nature of their viewpoint. Interpretation aims to understand the meaning of each factor's point of view on the topic. This is achieved with the aid of the participant's post Q sorting comments and the configuration of items/statements in each factor array identifying the positioning of items indicating strong agreement and disagreement.

2.4 The current study: Rationale for choosing Q methodology

In order to appreciate the reasons for using Q methodology, the study's research questions were:

- Is it possible to identify the range of viewpoints on the functions of self-harm?
- If so, what characterises these viewpoints – in what ways are they similar and distinct from each other?

With these aims in mind the next section shall consider why Q methodology was chosen to answer the above aims.

2.4.1 Advantages of a Q methodology approach

Q studies have been argued to combine the strengths of both qualitative and quantitative research; it has been described as "a bridge between the two paradigms of inquiries" (Sell & Brown, 1986). Q methodology is appropriate for exploring how different people interpret complex phenomenon that has multiple layers of understanding and meaning. It is useful to look at topics that people may hold numerous, inconsistent or contradictory opinions on. This ambivalent nature is common in academic accounts of the functions for self-harm (e.g. appeasing simultaneous urges to live and die or terminating and creating dissociation).

The activity of Q sorting enables the communication of an internal standpoint on a topic. In Q methodology each item is subjective; it does not make claims as to the truth and thus focuses on the perspective for the research participant. In this way, Q methodology complements the diversity of opinions and perspectives cited in the academic literature on the functions of self-harm and so seeks to extend our understanding of the functions of self-harm, which has traditionally relied on interview and questionnaire data.

Academic and research literature shows that the functions of self-harm are not necessarily mutually exclusive as different functions may co-occur and overlap conceptually and during an episode of self-harm (Suyemoto, 1998). Q methodology allows for this characteristic of self-harm as

it asks participants to consider functions along a continuum and in relation to each other. This facilitates an appreciation of the relative interconnectedness and relevance of different functions. Similarly, Q methodology can establish the existence of particular distinct viewpoints which can potentially challenging established preconceptions and assumptions about a topic or population. Therefore, it may serve to realign or redefine how a topic is understood by the relevant groups and stakeholders in an area of study. As Watts & Stenner (2012) explain, Q methodology allows light to be shed on differences in opinion that may conventionally be missed during the standardisation process of R methodology.

In clinical settings, Q sorting has been a useful adjunct to psychotherapy as it can enable discussions on a topic that may be difficult to articulate in words (e.g. Schneider, Pruetzel-Thomas, & Midgley, 2009). Q sorting as a therapeutic tool can allow client and therapist to develop and deepen a shared understanding of difficulties brought to therapy and to plan a collaborative approach (Combes, Hardy & Buchan, 2004). Q set items has the potential to be used as assessment tools in clinical and therapeutic settings to explore and reflect on the functions of self-harm. The clinical implications of Q methodology in self-harm may allow for a sensitive topic to be studied and explored without participants being asked about their opinions directly (Jacques, 2015).

Prasad (2001) argues that use of the forced choice method during Q-sorting (having to place one item in each cell) means that the respondents have to consider their attitudes more carefully, which can bring out true feelings in response. Qualitative interviews cannot always convey the multidimensional or holistic nature of opinions on topics as verbal expression often is only able to express one idea at a time (Lee, 2017). In Q, each statement is answered in the context of the other statements. As the participants are in control of the sorting, richer information and areas of ambivalence are observed and explored. This can reveal nuances in viewpoints which can have greater therapeutic implications.

Questionnaires are common quantitative methods for assessing opinions and beliefs. An advantage of a Q study over using questionnaires is that it can throw light on different perspectives missed in standard R-type factor analysis. By placing items in relation to each other participants are

making a greater number of choices as each item is considered in relation to the others (Stainton Rogers, 1995). This is something not possible in the ordered and linear approach to answering items on a questionnaire or likert scale. This allows areas of consensus and difference between items to be highlighted and the participant to actively consider.

Qualitative methods which allow for exploration of themes that emerge from in depth interviews with participants are a useful approach for the aims of this study. However, differences between items/variables would be harder to elucidate in traditional Qualitative methods which look for shared themes. Using Q methodology to study the topic of functions of self-harm seems like a natural progression as it uses the knowledge that has already emerged from qualitative research. It allows us to consider any distinct and shared viewpoints in how the different components that make up the functions of self-harm fit together for participants (Alderson et al. 2018).

2.4.2. Criticisms and Limitations of Q methodology

Q methodology has been criticised for its mixed methods approach as it is seen as an unconventional use of factor analysis. For example, some have argued that the reliability of the Q-sorts and thus the factors is questionable (see Brown, 1997 for a discussion). Q methodology lends itself more to exploratory research rather than prediction or confirmatory research. Thus concerns about validity of the interpretation of results are similarly tackled as in other qualitative studies (Midgley & Delprato, 2017).

Nonetheless, Cross (2005) maintains that Q sorts can be replicated with 85% consistency up to a year later. This means that Q sorts have shown to have a test-retest reliability of 0.8 or more (Brown, 1986). However, Thomas & Baas (1992) argue that issues around reliability and predictability are less important as Q is concerned with statements of a social issue not statements of facts. Therefore, meanings and inferences in a qualitative sense are the focus, rather than how many people adhere to that position. Q methodology is more concerned with the nature of participants positions on a topic, thus it has become a useful tool at informing policy decision-making. As Van Excel & De Graaf (2005) assert “The results of a Q methodological study are the distinct

subjectivities about a topic that are operant, not the percentage of the sample (or the general population) that adheres to any of them." (p. 3).

However, one limitation to Q studies is in the sorting procedure, specifically the constraint placed on responses due to the pre-determined nature of statements. Therefore it could be argued that there are only a limited number of accounts which can be expressed, unlike in depth unstructured interviews which allow for no restriction on expression of opinion. However, an effective Q study depends upon meticulous and thoughtful sampling of the statements. People can 'tell a story' only if they have the appropriate language with which to tell it. Thus, the start of a Q study involves a careful and methodical review of the way the topic is written and spoken about (Cross, 2005). To mitigate somewhat against the criticism of a restricted set of statements, the current study shall ask participants whether any function of self-harm were missing.

Difficulties can sometimes be encountered by participants who feel unable to fit the statements into a pattern that resembles a quasi-normal distribution (Lee, 2017). This means that they may give up sorting or continue even though they feel it does not accurately represent their point of view. This is usually mitigated by explaining that ranking of the statements, for example a statement a +1 column is only slightly different to something in 0 or even -1. It is the overall pattern that matters most and most weighting is given to items placed at the extremes which most people usually feel most confident in sorting.

2.5 The current study: Design

2.5.1 Creating the Q set

The Q Set was developed from the academic literature on the functions of self-harm (presented in the introduction section). The concourse is the wide breadth of thoughts, opinions and narratives on the topic (Lee, 2017). To enable the research questions to be answered it is necessary to explore the concourse sufficiently so that the Q set reflects and represents the diversity of opinions on the functions of self-harm. In creating the Q set the aim is to locate the range of viewpoints rather than prevalence of different views.

One other study on self-harm has used Q-methodology. Rayner & Warner (2003) explored 'explanations of self-harm' in a sample of participants with no lived experience of self-harm. Their study did not provide key information needed to appraise the study most importantly the list of statements or the characteristics of the participants. This means it is not possible to know whether explanations were similarly defined as functions of self-harm as in the current study. No statistics are cited in the results and the rationale behind the factors extracted and interpreted is missing. Two factors are based on just one Q-sort and so are not in line with data reduction aim of factor analysis in Q-methodology. Additionally, which statements are shared and distinct across the factors are not presented. In comparison to the current study, Raynor and Warner did not base their statements on the literature opting to use interviews with five people (characteristics of whom are not known). The current study is grounded in the literature on the functions of self-harm. Unfortunately, I was unable to contact Rayner or Warner for a copy of the Q set to include in the current study.

A starting point in exploring the concourse was Edmonsdon et al's (2016) study; a recent meta-synthesis of the qualitative literature on the self-reported functions of self-harm and thus a useful framework from which to access the concourse. In addition, the concourse was also accessed from the results and ideas expressed in other academic literature, both qualitative and quantitative approaches. These included:

- Theoretical models of the functions of self-harm: Suyemoto (1998), Klonsky (2007), Nock (2009).
- Academic books on self-harm (Favazza, 2011 & Sutton, 2007)
- Measures of self-harm (used in clinical and research settings):
    - Self-harm questionnaire items (Warm, Murray & Fox, 2003)
    - Deliberate Self-Harm Inventory (DSHI) (Gratz, 2001)
    - Inventory of Statements about Self-Injury (ISAS) (Klonsky & Glenn, 2009)
    - Self-Injury Motivation Scale (SIMS) (Osuch et al. 1999)
    - The Functional Assessment of Self-Mutilation (FASM) (Nock & Prinstein, 2004)

    - List of reasons for para-suicide on the Parasuicide History Inventory (PHI) Brown et al. (2002).
- Q-sets from two other Q methodology studies on self-harm in people with a learning disability (Dick et al. 2010, James & Warner, 2010).

Information from these sources that alluded to the functions, reasons and motivations for self-harm were written on separate pieces of paper and referenced; a process akin to creating a qualitative code. These codes described a range of functions of self-harm; those that expressed similar functions were grouped into themes. Themes were initially grouped according to Edmondson et al (2016) meta-synthesis' categories (see Table 1.3). Codes that did not match any of Edmondson's categories were grouped separately.

This process was similar to a basic thematic analysis where new ideas or categories that emerged from exploring the concourse were checked against the categories that had previously been developed from the published academic literature (Watts & Stenner, 2012). Braun & Clarke (2006) provide clear guidelines and principles on the use of thematic analysis and these were followed during the Q-set's development.

During this process, each category reflected a unique idea on the function of self-harm. This yielded a large quantity of data, much of it expressing similar ideas which were grouped according to the essence of the idea they were expressing (see Appendix 1for a photograph of the initial codes and themes).

Additional sources of information (e.g. popular media and other academic texts) discussing the functions of self-harm did not yield any new categories on the functions of self-harm. Therefore, additional material became repetitive and it was decided at this point that the researcher knows that the diverse range of opinion on the concourse has been adequately sampled (Watts & Stenner, 2012).

The following bullet points describe the key processes involved in the development of the study's Q set. Although what follows is presented sequentially it's important to emphasise that the development of the Q set was an iterative process as the statements and categories would change in light of searching the concourse.

- Initially, the focus was not to rely too heavily on the importance of categorisation. Therefore, ideas were tentatively held in categories as searching the literature revealed that some ideas could be held under more than one category.

- Some information (particularly longer pieces of text) from the concourse was split into different categories that expressed two or more ideas for later consideration.
    - For example, Suyemoto's (1998) Environmental model "Self-harm created environmental responses that are reinforcing while simultaneously serving the needs of the environment by sublimating and expressing inexpressible and threatening conflicts and taking responsibility for them"(p. 537). In this example, ideas around protecting others, interpersonal influence and a personal language were identified.
- Some ideas that were specific to certain methods of self-harm were further refined to make them applicable to self-harm in general.
    - For example, the idea of "washing bad blood away" was grouped with similar ideas around cleansing so as not to make statements method specific.
- As the development of the Q-set was refined the use of language became increasingly important as statements reflected the original function from the concourse.
    - Some words that had similar meanings were reduced to a common descriptor. Words like relief, release, escape, distract, diminish, reduce were all apparent in the concourse. The common theme in these ideas was the aim of managing so the word "control" and "switching off" were used to capture these ideas.
    - Some words moved away from an affect regulation function to a sensation seeking function; functions considered separate in the literature (e.g. controlling feelings vs. creating feelings).
    - The language and wording of statements was paid attention to sufficiently to make the function clear but also allow enough scope to enable participants to comment on their understanding and resonance with the statement. Q

methodology uses this as a way of facilitating participants' perspectives to come to the fore.

Throughout developing the Q set, input was provided from supervisors through discussions and reflections on the codes, categories/ themes and use of language. For example, Edmondson et al's "experimental" category was dropped from the Q-set as this is related to only one episode of self-harm (e.g. "I wanted to see what it felt like") and so not seen as consistent with being able to sort the other statements/ functions.

Two carer and service user groups were consulted with on the Q set. One of the groups was affiliated with the Doctorate in Clinical Psychology course at Leeds University called 'Everyone's voice'. The other group was user led/ expert by experience support group for people with personal experience of self-harm in Leeds called 'Battle Scars'. Both groups were consulted with during the final stages of developing the Q set to make sure the statements were understandable, appropriate and whether any reasons or functions were missing.

The final Q set statements were clear, concise and together represented the comprehensiveness of the concourse. Table 2.2 represents all 46 items of the Q set; each item belongs to a theme/category as referenced and reflected in the original source (the concourse).

Table 2.2 Statements, their theme/category and original sources

STATEMENT (Number and wording)	THEME/ CATEGORY	ORIGINAL SOURCE
1. Self-harm helps because physical pain is easier to deal with than emotional pain. 2. Self-harm helps me control my emotions	Managing emotional pain	Edmondson et al (2016)- Affect Regulation Sutton (2007), SIMS (Osuch et al. 1999), FASM (Nock & Printein 2004), Briere & Gil (1998), Laye-Gindhu et al. (2005), Brown et al. (2002), Nixon et al. (2002), Warm et al. (2003), Suyemoto (1998), ISAS (Klonsky & Glen, 2009), Brain et al. (1998), Dick et al. (2011), James & Warner (2007).
3. Self-harm is a way of showing others I need care and help 4. Self-harm is a way of showing other people how bad I feel 5. Self-harm makes other people take notice of me 6. Self-harm means people leave me alone 7. Self-harm means I avoid what I would rather not do	Interpersonal influence	Edmondson et al (2016)- Interpersonal Influence James & Warner (2007), Dick et al. (2010), FASM (Nock & Printein 2004), Brown et al. (2002), SIMS (Osuch et al. 1999), Nixon et al. (2002), Warm et al. (2003), ISAS (Klonsky & Glen, 2009), Briere & Gil (1998), Laye-Gindhu et al. (2005), Suyemoto (1998),

8. Self-harm allows me to create a strong emotional reaction in others		
9. Self-harm is a way of punishing myself 10. Self-harm is a way of proving to myself how worthless or bad I am	Self-punishment	Edmondson et al. (2016)- Punishment James & Warner (2007), Dick et al. (2010), Laye-Gindhu et al. (2005), Nixon et al. (2002), Brown et al. (2002), SIMS (Osuch et al. 1999), ISAS (Klonsky & Glen, 2009), FASM (Nock & Printein 2004), Briere & Gill (1998), Sutton (2007).
11. Self-harm makes me feel unreal or disconnected from myself or the world	Disconnection and Reconnection	Edmondson et al. (2016)- Create Depersonalisation SIMS (Osuch et al. 1999), Brown et al. (2002), Suyemoto (1998), Nixon et al. (2002), ISAS (Klonsky & Glen, 2009), Briere & Gill (1998), Laye-Gindhu et al. (2005), Briere & Gill (1998), Sutton (2007).
12. Self-harm allows me to disconnect from the intensity of my emotions	Disconnection and Reconnection	Edmondson et al (2016)- Affect Regulation Sutton (2007), SIMS (Osuch et al. 1999), FASM (Nock & Printein 2004), Briere & Gill (1998), Laye-Gindhu et al. (2005), Brown et al. (2002), Nixon et al. (2002), Warm et al. (2003), Suyemoto (1998), ISAS (Klonsky & Glen, 2009), Brain et al. (1998), Dick et al. (2010), James & Warner (2007).
13. Self-harm makes me feel alive or real again when I have been	Disconnection and	Edmondson et al. (2016)-Terminate Depersonalisation

feeling disconnected and unreal	Reconnection	SIMS (Osuch et al. 1999), Brown et al. (2002), Suyemoto (1998), Nixon et al. (2002), ISAS (Klonsky & Glen, 2009), Briere & Gill (1998), Laye-Gindhu et al. (2005), Briere & Gill (1998), Sutton (2007).
14. Self-harm helps me control the urge to kill myself	Preventing suicide	Edmondson et al (2016)-Averting suicide Sutton (2007), Warm et al. (2003), SIMS (Osuch et al. 1999), Nixon et al. (2002), Suyemoto (1998), ISAS (Klonsky & Glen, 2009).
15. Self-harm makes me feel that my body is separate and distinct to anyone else 16. Self-harm shows that I own my own body	Managing and exploring boundaries	Edmondson et al (2016)- Maintaining and exploring boundaries ISAS (Klonsky & Glen, 2009), Suyemoto (1998), Briere & Gill (1998).
17. I find self-harm arousing/ sexually exciting 18. Self-harm allows me to reduce my sexual feelings	Sexual arousal and/or control	Edmondson et al (2016)- Expressing and coping with sexuality Suyemoto (1998), Brown et al. (2002), SIMS (Osuch et al. 1999).
19. Self-harm gives me a way to care for myself (such as caring for the wound or injury) 20. Self-harm is satisfying	Self-care/ comforting	Edmondson et al (2016)- Sense of personal mastery Dick et al. (2010), James & Warner (2007), SIMS (Osuch et al. 1999), Warm et al. (2003), Briere & Gill (1998), Laye-Gindhu et al. (2005), Nixon et al. (2002), FASM

because I can care for myself afterwards.		(Nock & Printein 2004), ISAS (Klonsky & Glen, 2009), Sutton (2007).
21. Self-harm gives me a sense of warmth, calm and comfort.	Self-care/ comforting	Edmondson et al (2016)- Gratification Sutton (2007), Briere & Gill (1998), ISAS (Klonsky & Glen, 2009), SIMS (Osuch et al. 1999), FASM (Nock & Printein 2004), Laye-Gindhu et al. (2005), Brown et al. (2002), Nixon et al. (2002), Warm et al. (2003), Suyemoto (1998), Brain et al. (1998), Dick et al. (2010), James & Warner (2007).
22. Self-harm reminds me I have control because I chose how, when and where I self-harm 23. Self-harm reminds me that I don't need to rely on others as I can control what I do to myself	Demonstrates control	Edmondson et al (2016)- Sense of personal mastery Dick et al. (2010), James & Warner (2007), Sutton (2007), ISAS (Klonsky & Glen, 2009), FASM (Nock & Printein 2004), Warm et al. (2003), Nixon et al. (2002), Laye-Gindhu et al. (2005), Briere & Gill (1998), SIMS (Osuch et al. 1999).
24. Self-harm shows me I am strong as I can take the physical pain	Demonstrates strength	Edmondson et al (2016)- Strength, toughness, self-validation James & Warner (2007), Sutton (2007), Brown et al. (2002), ISAS (Klonsky & Glen, 2009), SIMS (Osuch et al. 1999).
25. Self-harm creates a physical reminder that I am strong and powerful	Demonstrates strength	Edmondson et al (2016)- Personal language James & Warner (2007), Warm et al. (2003), Briere & Gill (1998), ISAS (Klonsky &

		Glen, 2009), Sutton (2007).
26. I self-harm to see how far I can stand the pain	Demonstrates strength	Edmondson et al (2016)- Strength, toughness, self-validation James & Warner (2007), Brown et al. (2002), Sutton (2007), ISAS (Klonsky & Glen, 2009), SIMS (Osuch et al. 1999).
27. Self-harm allows me to feel less alone as I belong with other people who self-harm 28. I self-harm because it has become a part of who I am (self-identity)	Belonging with others who self-harm/ identity	Edmondson et al (2016)-Sense of belonging Dick et al. (2010), James & Warner (2007), Brown et al. (2002), Nixon et al. (2002), ISAS (Klonsky & Glen, 2009), FASM (Nock & Printein 2004), Laye-Gindhu et al. (2005).
29. Self-harm creates a physical reminder for important memories	Retain important memories	Edmondson et al (2016)- Personal language James & Warner (2007), Sutton (2007), ISAS (Klonsky & Glen, 2009), Briere & Gill (1998), Warm et al. (2003).
30. Self-harm is a personal language that I cannot express in words	Personal language	Edmondson et al (2016)- Personal language James & Warner (2007), Sutton (2007), ISAS (Klonsky & Glen, 2009), Briere & Gill (1998), Warm et al. (2003).
31. Self-harm makes me less attractive to others and so protects me 32. Self-harm prevents me	Protection from others	Edmondson et al (2016)- Protective of self and others Sutton (2007), SIMS (Osuch et al. 1999), Brown et al. (2002), Briere & Gill (1998).

from being hurt by others in a worse way		
33. Self-harm stops me from hurting someone else 34. Self-harm protects others as I do not have to burden them with my problems	Protection of others	Edmondson et al (2016)- Protective of self and others Sutton (2007), SIMS (Osuch et al. 1999), Brown et al. (2002), Briere & Gill (1998), Suyemoto (1998),
35. Self-harm helps me get feelings of pleasure 36. Self-harm gives me feelings of excitement	Pleasure/ excitement	Edmondson et al (2016)- Sensation seeking James & Warner (2007), Laye-Gindhu et al. (2005), Brown et al. (2002), Briere & Gill (1998), Nixon et al. (2002), SIMS (Osuch et al. 1999) , Warm et al. (2003), ISAS (Klonsky & Glen, 2009), FASM (Nock & Printein 2004).
37. Self-harm allows me to talk to those who have hurt me	Connection to/ communication those who hurt me	Briere & Gill (1998), ISAS (Klonsky & Glen, 2009).
38. Self-harm allows me to feel close to those who have hurt me	Connection to/ communication those who hurt me	Briere & Gill (1998), ISAS (Klonsky & Glen, 2009).

39. I self-harm to please a powerful other	Pleasing a powerful other	Osuch et al. (1999).
40. Self-harm switches off thoughts 41. Self-harm switches off memories	Cognitive distraction	Edmondson et al (2016) - Distraction (placed under affect regulation). Dick et al. (2010), Sutton (2007), Brown et al. (2002), Laye-Gindhu et al. (2005).
42. Self harm is practice to get used to the idea of killing myself	Getting used to suicide	Suicidal behaviour/ practice to die Dick et al. (2010), Brown et al. (2002).
43. When I self harm I am washing away all that is bad 44. When I self-harm I am killing off a part of myself	Cleansing	Cleansing/ opposite to punishment Sutton (2007).
45. Self-harm reminds me that my pain is real and understandable	Validation of emotional pain/ distress	Brown et al. (2002), Sutton (2007), ISAS (Klonsky & Glen, 2009).
46. I self-harm because I want to die	Expression of suicidality	Brown et al. (2002).

Measure Acronyms:

FASM- Functional Assessment of Self- Mutilation

ISAS- Inventory of Statements about Self-Harm

SIMS- Self-Injury Motivation Scale

PHI-Para-suicide History Inventory

2.5.2 Selecting participants: the P-Set

In this study the participant group of interest with a relevant and key viewpoint to explore were people with a history of, or current engagement in, self-harm. Self-harm is currently defined broadly as acts intended to result in death ('attempted suicide'), those without suicidal intent and those with mixed motivation. This is consistent with definitions in the Cochrane review (Hawton et al., 2016) and NICE guidelines (2013). I have used the term "reasons" (rather than functions) when addressing participants as this is a more accessible and easier to understand term.

Participants were people over the age of 18. This cut-off age was chosen due to recruiting from adult age services. Additionally, most of the literature sampled from the concourse used an adult age participant sample.

A diverse P-set is important in Q-studies; sampling attempts to recruit participants for diversity across potential viewpoint and demographics (including age, gender and ethnicity). Diversity was sought in methods of self-harm, frequency of self-harm and type of support services accessed as this may influence viewpoints. These were collected and monitored through the pre-sort questions.

Sample size

Q methodologists argue that as a Q study is interested in the nature of viewpoints and the extent to which they are similar or dissimilar, concerns around large numbers of participants are considered relatively unimportant (Van Excel & De Graaf, 2005).

Watts & Stenner (2012) recommend the 'rule of thumb' of a minimum ratio of two Q-set items to every participant; where the number of participants should be less than the number of items in the Q-set. This is because Q factor analysis is an inversion of R methodology as the participants are

the variables that are grouped rather than the items. Nonetheless, one important consideration is having enough participants to support a robust factor analysis but not to have too many to make Q-sorts redundant (Watts & Stenner, 2012). In the current study, a P-set between 20-30 was aimed for (with the 46 item Q-set).

Recruitment

Participants were recruited from three sources (see appendix 3 for further detail):

1. Online recruitment. A number of user-led support groups and third sector organisations were contacted via email to recruit participants to complete postal Q-sorts (see Appendix 9). Forums that were successfully recruited from included: National Self Harm Network Forum and Battle Scars Facebook page.
2. Leeds York Partnership Foundation NHS Trust (LYPFT). Two clinical services in LYPFT were contacted for recruitment; Acute Liaison Psychiatry Service (ALPS) and Personality Disorder Network. The latter service works with people who self-harm and have a psychiatric diagnosis and the former service works with people who have self-harmed and presented at Accident & Emergency. Clinical governance presented a barrier for recruiting from the Personality Disorder Network leaving ALPS as the only source of recruitment from LYPFT. Participants recruited from ALPS had the option of completing the study by post or in person with the researcher.
3. Battle Scars support group. Battle Scars is a third sector support group which runs a number of meetings for people who self-harm in Leeds. Participants recruited through this support group had the option of completing the study by post or in person if they were a service user of LYPFT.

Six Q-sorts were collected as part of a research study called FReSH START (NIHR Ref No. RP-PG-1016-20005). FReSH START is using the Q-set developed for this study as part of a programme to improve therapies for people who self-harm.

As Q-methodology aims to recruit a diverse P-set, the demographic and characteristic data during recruitment was continuously assessed to see if it reflected enough diversity. At one point during recruitment all the sample appeared to be over the age of 23. Therefore, a third sector young adult mental health organisations (Market Place Leeds) was contacted in an effort to recruit adults between 18-23 years old. Unfortunately this did not yield any results but a participant under 23 was subsequently recruited through ALPS.

2.5.3 Ethical considerations

The study was approved by Yorkshire & the Humber - South Yorkshire Research Ethics Committee (IRAS number: 234182). Ethical approval was granted in line with the following ethical considerations (See appendix 4).

Confidentiality and data protection

The research data of the study (comprising participants' Q-sort and pre and post questions) did not contain personal identifiable information and once collected was transferred into electronic form and stored securely on the researcher's university M-drive (and password protected). It is stored for 5 years in line with University of Leeds research guidelines.

The participants' signed consent forms and paper copies of the Q-sort were stored separately to each other in secure storage in the Doctorate of Clinical Psychology course office at the University of Leeds. These are stored for 5 years in line with University of Leeds research guidelines.

Informed consent

Each participant was asked to read the participant information sheet (PIS) prior to the study. The PIS detailed the purpose and procedure of the study (Appendix 5). This allows informed consent to participate in the study to be sought; participants then signed a consent form (Appendix 7).

Distress

Concerns may be raised for participants as thinking about functions for self-harm may lead to distress and potentially self- harm. However, when fully informed and given choice, it has been the

experience of other researchers that rather than becoming distressed, informed participants welcome the opportunity to share their experiences and opinions. For example, one study found that few individuals reported experiencing distress as a result of participating in a self-harm survey (Hanley et al. 2011). It was anticipated that participating in the study may provide an opportunity for participants to think more deeply about their reasons for self-harm.

Nonetheless, to mitigate against possible distress the following procedures were in place (see risk protocol for further details, Appendix 8):

- The prospective participants were fully informed about the task involved in the Q study. This gave participants an understanding of the nature, content and process of the study allowing them to decide whether they wished to proceed and take part.
- The participants were provided with information of useful contact details in case of present or future distress associated with the study (including after-hours services).
- The prospective participants were informed about their right to withdraw from the study. It was emphasised to the participant that nonparticipation will not affect their access to treatment or services.

2.5.4 Materials

A pack of materials for participants to complete the study included the following (also see appendices 2, 5, 6 and 7).

1. Participant Information Sheet and Consent Form.
2. 46 statements (the Q set)
3. Q-sort grid (45cm x 32 cm)
4. Pre-sort questions. The pre-sort questions were demographics; age the participant first self-harmed, estimated number of self-harm episodes, method(s) of self-harm, whether they want to stop self-harming and whether they want help to stop. These questions were included as they may be relevant to interpreting a factor's viewpoint and allowed diversity of the P-set to be monitored.

5. Instructions for the Q sorting

6. Post-sort questions to capture experience of Q sorting:

- Can you say a little more about the statements you put in the far right (+ 4 position) of the grid? What is it about these statements that make you strongly agree?

- Can you say a little more about the statements you put on the far left (-4 position) of the grid? What is it about these statements that make you strongly disagree?

- Did you have difficulty placing any items? If so, which ones and why?

- Was there anything missing from the Q-sort? For example, are there any reasons that you self-harm that weren't in the statements?

Sections 4, 5 and 6 were combined into a single booklet (Appendix 6).

2.5.5 Procedure

Following informed consent, participants were asked a series of demographic questions and the pre-sort questions. Next, participants were instructed on how to sort the statements on the grid (see Appendix 6). The following condition of instruction was used to allow participants to understand the conditions under which they were sorting the statements:

"I want you to consider whether you agree or disagree with the statements according to the reasons you self-harm. Your reasons may change between the times you self-harm or your reasons may have changed over time. I want you to consider the reasons that apply to you most of the time"

Once participants completed the Q sort and were satisfied with the positioning of the statements, they were asked to write down the statement numbers onto a smaller Q sort grid in the booklet. Following this participants were asked to comment on the process of sorting with the post-sort questions.

2.5.6 Analysis

A total of 20 Q sorts were collected. 2 of the 20 participants completed the Q sort in person with the researcher; the other 18 completed the study via a postal Q sort.

Factor Analysis

The 20 Q-sorts were entered into PQ Method Version 2.11 (Nov 2014), a statistical software for Q factor analysis (http://schmolck.org/qmethod/). First, PQ Method produces a correlation matrix where Q-sorts are inter-correlated with each other. This provides a correlation coefficient of how similar each Q-sort pair is to each other. Factors were derived from this correlation matrix using either Centroid Factor Analysis or Principle Component Factor Analysis (PCA) on PQ Method, both yield similar results. The number of factors that emerge depends on the amount of variability between the Q-sorts.

Next, the researcher has to decide how many factors to extract from the dataset for interpretation. Watts & Stenner (2012) provide several statistical and interpretive criteria to inform this judgement. Statistical criteria provide a numerical indication based on a statistical perspective and interpretive criteria examine whether the viewpoint expressed by a factor is clear and distinct from the other factors. These shall be discussed next and how they were applied in the current study.

Statistical Criteria

Firstly, eigenvalues for each factor are examined. An eigenvalue is a numerical expression of the "statistical strength and explanatory power" of a factor (Watts & Stenner, 2012, p. 105). Eigenvalues are calculated by PQ Method, the higher the eigenvalue of a factor the higher the percentage of variance in the study that a factor accounts for. Factors with eigenvalues lower than 1.00 are advised not to be extracted as they explain less than one Q-sort of the study's variance. Table 2.3 shows the factors with eigenvalues using PCA.

Table 2.3. Eigenvalues of factors

	F1	F2	F3	F4	F5	F6
Eigenvalue using PCA	8.64	1.73	1.47	1.37	1.25	0.89

A second statistical criterion that can be used when deciding how many factors to keep is the number of Q-sorts from the study that significantly load onto a factor. Factor loadings are expressed as correlations as they provide a numerical value of the extent to which a Q-sort is associated with each factor. This is based on the idea that a factor should express a shared viewpoint among its Q-sorts. Significant factor loadings at $p < 0.01$ level are calculated using the number of items in the study as follows (Watts & Stenner, 2012, p. 107):

$$\text{Significant factor loading} = 2.58 \times (1 \div \sqrt{\text{no. of items in Q-set}})$$

$$= 2.58 \times (1 \div \sqrt{46})$$

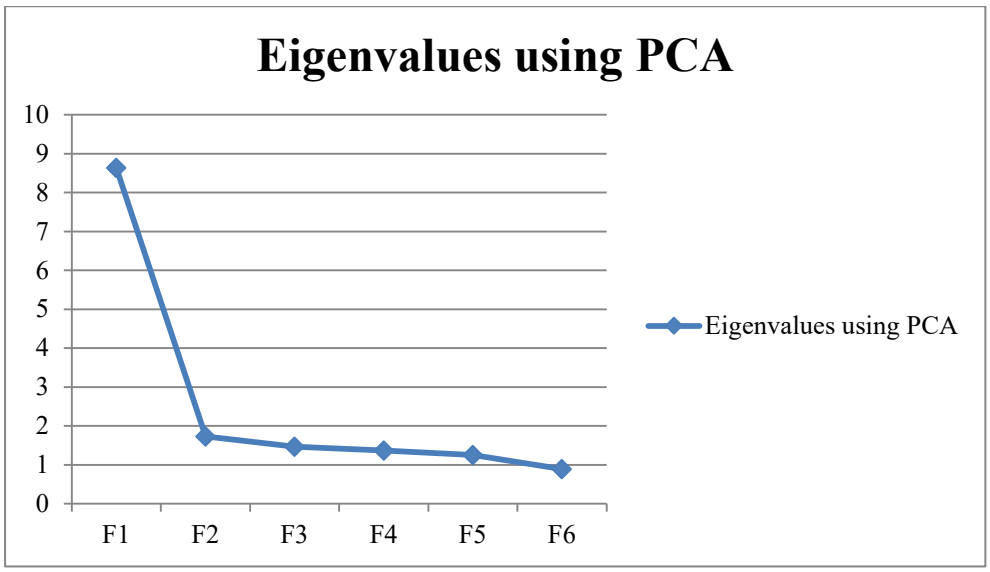
$$= 2.58 \times (1 \div 6.78)$$

$$= 0.36$$

Therefore, in this study for a Q-sort to significantly load onto a factor at the probability level of < 0.01 its factor loading should be 0.36 or greater.

A third statistical way of helping to decide the number of factors to be extracted is the Scree Test. This provides a visual representation of the factor's eigenvalues on a line graph. The number of factors to extract is represented at the point on the graph where the line changes slope. Figure 2.3 shows the Scree Test plot for the study. However, examining the scree plot it is not exact and can be subjective. As can be appreciated from the figure, after 5 factors the eigenvalue dips below 1 which indicates that the variance it explains is less than the viewpoint of one Q-sort.

Figure 2.3. Scree Plot



Factor Extraction

The information provided from the factor eigenvalues and the Q-sort significance levels were used in deciding how many factors to extract to the next phase of the analysis (rotation). The sets of factors to carry forward to the next phase are called factor solutions.

Interpretive criteria

A five factor solution yielded no statistically significant loading Q-sorts for the fifth factor. So a four and a three factor solution were examined. Table 2.4 illustrates the key information in deciding which factor solution to keep for rotation and interpretation. A sound factor solution should explain at least 35-40% of study variance (Watts et al. (2012), p.105). The solution should strike a balance between the number of Q-sorts accounted for and variance explained.

As can be seen in table 2.4, the three factor solution actually only had two factors with statistically significant loading exemplars; exemplars are those Q-sorts that load significantly on one factor only. This two factor solution had more exemplars per factor than the 4 factor solution; an important consideration for qualitative interpretation of the factor. Additionally, the two factor

solution had two less confounded Q-sorts (these are Q-sorts that load significantly on more than one factor in a solution); similarly important during factor interpretation.

Although the four factor solution explained the greatest total variance it was statistically less robust as it had fewer significant Q-sorts. Moreover, factors three and four of this solution only explained one participant's viewpoint each and were not in line with data reduction principles in factor analysis. This was balanced against the possibility that the four factor solution may offer some explorative insights. On examining the commentary from the Q-sorts that loaded onto factor 3 and 4, one had little commentary from the Q-sorter on positioning of the statements. This would hinder a richer interpretation of that factor.

These differences between the two and four factor solution were key in deciding which factor solution best represented the set of Q sorts for subsequent factor interpretation. Therefore, the two factor solution was assessed to be the best representation as it had more Q-sorts and less confounds which would yield a richer qualitative interpretation of the factors. The two factor solution shall be presented as the primary results.

Table 2.4 Number of participant Q-sorts significantly loading on factors and percentage of study variance explained by factors for each potential solutions.

Characteristic of potential solutions	**2(3) factor solution**	**4 factor solution**
Number of Q-sorts with a statistically significant loading on factors (exemplars)	F1: 7 F2: 6 F3: 0 Total: 13	F1: 5 F2: 5 F3: 1 F4: 1 Total: 12
Number of confounded Q-sorts	6	8
Number of non-significant Q-sorts	1	0
% of study variance explained by solution	48%	54%

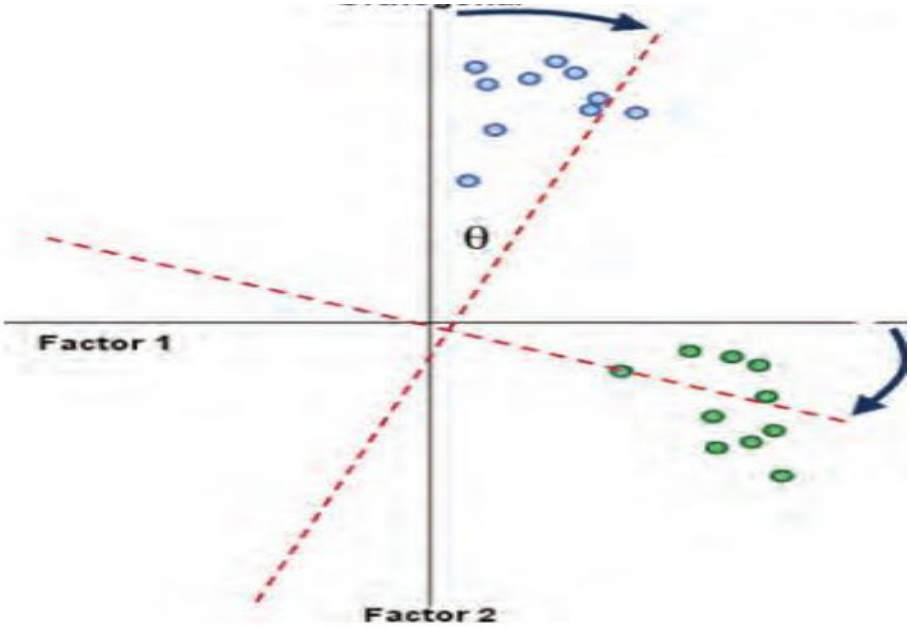
Factor Rotation

Factors are rotated in a process that allows each factor to better approximate the viewpoint expressed by its exemplar Q-sorts. This results in factors that are maximally separated from each other and so explain the maximum percentage variance of the study (Watts & Stenner, 2012). In PQ Method this is enabled by a function called 'Varimax' where the exemplar Q-sorts are identified (a term called 'flagged') by the researcher to be included in the process of rotation.

As each exemplar Q-sort has a factor loading for each factor these can be used as coordinates and mapped onto conceptual geometric space. Therefore, the Q-sorts that are mapped closer together generally point towards agreement and expression of a similar viewpoint. These Q-sorts will tend to

cluster together when mapped in geometric space. Factor rotation allows this geometric space to be suitably focused so that distinct viewpoints can become clearer. This can be done by repositioning or rotating a factor (and thus the other factors) in geometric space by tilting the axis to a certain degree so that it lies closer to a cluster of Q-sorts (like a line of best fit). This results in the factor more closely approximating the viewpoint of a particular group of Q-sorts that have sorted the statements in similar way and thus represents a distinct viewpoint as illustrated visually in figure 2.4 (taken from https://www.slideshare.net/rajdeepkraut/factor-analysis-fa). Rotating the factors does not affect the viewpoint of that factor or the correlation between the Q-sorts; rather it moves the perspective from which the factors are viewed. Rotated factors allow us to view a group of Q-sorts that correlate with each other in that factor and do not correlate with others outside that factor.

Figure 2.4 Illustration of factor rotation



Exemplar sorts and Factor Arrays

The exemplar Q-sorts are those Q-sorts that best represent a particular viewpoint as they load significantly (over 0.36 in this study) on only that factor. In Table 2.5 the exemplar Q sorts are illustrated by an X next to the factor loading.

Following factor rotation, PQ Method created a factor array for each factor. A factor array is created from the weighted averages of the Q-sorts that significantly load onto a factor (i.e. the exemplars). Together these Q-sorts allow each item (statement) to have a Z-score per factor; the Z-scores allow for an appreciation of the standardised ranking of each statement in the factor. This creates a single composite Q-sort that represents a factor's viewpoint with each statement having a Z-score and thus a placing/ranking for each factor. This means a factor array is a standardised Q-sort that exemplifies a factor's viewpoint. Qualitative comments made by the exemplars and the information provided by the factor arrays are pivotal in interpreting a factor's viewpoint.

Table 2.5 Rotated factor matrix

Q SORT	FACTOR 1 LOADINGS	FACTOR 2 LOADINGS
01 CONFOUND	0.6415	0.4330
02	0.3179	0.4248X
03	0.5062X	0.3324
04	0.5923X	0.2362
05 CONFOUND	0.5317	0.5347
06 NS	0.1595	0.2237
07	0.4325X	0.2513
08	0.3083	0.5796X
09 CONFOUND	0.3980	0.4424
10 CONFOUND	0.5239	0.4300
11	0.5204X	0.2714
12	-0.0979	0.5961X
13	0.7919X	0.1323
14	0.8086X	0.2812
15	0.6174X	-0.0368
16	0.3361	0.8400X
17 CONFOUND	0.5492	0.4679
18	0.2776	0.6055X
19	0.1335	0.6166X
20 CONFOUND	0.4285	0.5173
Rotated Eigenvalue	4.8	4.2
% explained Variance	24	21

As PQ Method does not calculate rotated eigenvalues, the following equation (Watts et al. (2012), p.105) was used:

Rotated eigenvalue for a Factor = V x (number of Q-sorts in study ÷ 100),

V = the percentage of study variance explained by the factor in question.

2.5.7 Interpretation of factors

The interpretation of factors aims to present a narrative account of the point of view conveyed by each factor. To do this the Q researcher draws on key sources of information, including the factor arrays, exemplar comments and the statistically distinguishing statements for each factor (calculated by PQ Method based on Z-scores). This allows the researcher to build a description of the differences in viewpoint on the functions of self-harm between the factors (Brown, 1980).

The interpretation takes into account the interrelationship of the many items within the factor array. It identifies the important issues that make a factor polarised in its view point relative to the other factors, such as the items ranked higher or lower in that factor than by any other factor. Additionally, the comments provided by the exemplar Q-sorters are considered in giving an account of the viewpoint of the factor. To aid interpretation within and between factors a crib sheet was used (designed by Watts & Stenner, 2012). The crib sheet was helpful in identify the statements that were ranked as higher and lower on that factor compared to the other factors and thus helps identify differing viewpoints (Appendix 10).

PQ Method also produces a table called the descending array of difference between factors. This table compares each statement's Z-scores across the factors. It shows the largest and smallest difference in Z-scores between each item's ranking on factor 1 and 2 (Watts & Stenner, 2012). As it uses Z-scores (rather than the position rankings of items) it allowed for a more nuance appreciation of the difference between factor 1 and factor 2's viewpoint on the functions of self-harm.

2.6 Methods Summary

This chapter began with the rationale and method of Q-methodology generally before applying it to the current study on the functions of self-harm found in the academic literature. The factor analysis on the 20 Q-sorts yielded a number of factor solutions. After balancing the statistical and interpretive considerations a two factor solution was chosen as this best represented the viewpoints of the available 20 Q-sorts. The Q-sorts that loaded significantly on one of the two factors were highly correlated with each other so their Q-sorts had similar configurations and shared a similar viewpoint on the academic functions of self-harm. The final stage of the Q-study was interpretation where each of the two factors was holistically interpreted as narrative accounts of their viewpoint, these shall be presented next.

3. RESULTS

This results section focuses on the description and interpretation of the two factor solution as identified from the Q factor analysis outlined in the previous chapter.

3.1 Introduction to two factor solution results

The two factor solution was based on the PQ Method factor matrix output illustrated in table 2.5. The table shows the loading of each Q-sort on each factor expressed as a correlation co-efficient. To load at a $p<0.01$ level of significance Q-sorts were required to load at a minimum of 0.36 significant level (as represented with an X on table 2.5). Certain Q-sorts are known as the 'exemplars' of a factor as they load significantly onto one factor only. Confounded Q-sorts (n=6) are the Q-sorts that load significantly onto both factors (these are highlighted in blue in table 2.5). There was one non-significant Q-sort that did not significantly load onto any of the two factors (Q-sort 6; highlighted in green in table 2.5).

3.2 Creation of Factor Arrays

The factor arrays for Factor 1 and Factor 2 are given in table 3.1. This table illustrates the ranking or position (-4 to +4) of each of the 46 items/ statements in each factor. This allows for a comparison of the relative difference and similarity in ranking of the statements between the two factors. The consensus statements (i.e. the statements that show no significant difference in ranking between the factors), illustrate the shared viewpoint between the factors on the functions of self-harm and are highlighted in purple in table 3.1.

Table 3.1 Factor arrays for Factor 1 and Factor 2

STATEMENT	FACTOR 1	FACTOR 2
1. Self-harm helps because physical pain is easier to deal with than emotional pain	+2	+4
2. Self-harm helps me control my emotions	+3	+3
3. Self-harm is a way of showing others I need care and help	+1	0
4. Self-harm is a way of showing other people how bad I feel	+1	0
5.Self-harm makes other people take notice of me	-1	-1
6. Self-harm means people leave me alone	0	-3
7. Self-harm means I avoid what I would rather not do	-3	+2
8. Self-harm allows me to create a strong emotional reaction in others	-1	-3
9. Self-harm is a way of punishing myself	+2	+3
10. Self-harm is a way of proving to myself how worthless or bad I am	0	+3
11. Self-harm makes me feel unreal or disconnected from myself or the world	+2	0
12. Self-harm allows me to disconnect from the intensity of my emotions	+4	+4
13. Self-harm makes me feel alive or real again when I have been feeling disconnected and unreal	0	+1
14. Self-harm helps me control the urge to kill myself	0	+1
15. Self-harm makes me feel that my body is separate and distinct to anyone else	0	-1
16. Self-harm shows that I own my own body	-1	0
17. I find self-harm arousing/ sexually exciting	-4	-4
18. Self-harm allows me to reduce my sexual feelings	-3	-4
19. Self-harm gives me a way to care for myself (such as caring for the wound or injury)	+1	-2
20. Self-harm is satisfying because I can care for myself afterwards	-1	-1
21. Self-harm gives me a sense of warmth, calm and comfort.	+4	0
22. Self-harm reminds me I have control because I chose how, when and where I self-harm	+2	+2
23. Self-harm reminds me that I don't need to rely on others as I can control what I do to myself	0	+1

24. Self-harm shows me I am strong as I can take the physical pain	0	-2
25. Self-harm creates a physical reminder that I am strong and powerful	0	0
26. I self-harm to see how far I can stand the pain	-1	0
27. Self-harm allows me to feel less alone as I belong with other people who self harm	0	-2
28. I self-harm because it has become a part of who I am (self-identity)	+1	-1
29. Self-harm creates a physical reminder for important memories	+2	0
30. Self-harm is a personal language that I cannot express	+3	1
31. Self-harm makes me less attractive to others and so protects me	-1	-1
32. Self-harm prevents me from being hurt by others in a worse way	-2	0
33. Self-harm stops me from hurting someone else	-3	+1
34. Self-harm protects others as I do not have to burden them with my problems	0	+2
35. Self-harm helps me get feelings of pleasure	+1	-1
36. Self-harm gives me feelings of excitement	+1	-3
37. Self-harm allows me to talk to those who have hurt me	-2	-1
38. Self-harm allows me to feel close to those who have hurt me	-1	-2
39. I self-harm to please a powerful other	-4	-3
40. Self-harm switches off thoughts	+3	+3
41. Self-harm switches off memories	+1	+2
42. Self-harm is practice to get used to the idea of killing	-3	-2
43. When I self-harm I am washing away all that is bad	-2	+2
44. When I self-harm I am killing off a part of myself	-2	+1
45. Self-harm reminds me that my pain is real and understandable	+3	+1
46. I self-harm because I want to die	-2	0

3. 3 Shared viewpoints across Factor 1 and Factor 2

Consensus statements are the items that yielded no statistical difference in ranking between the two factors (at $P < .05$ or less). Therefore, these items indicate non-statistical difference in the way both factors placed the items; they also indicate elements of a shared viewpoint on the functions of self-harm to some degree. Analysis found that half of the Q-set statements were consensus statements (n=23), highlighting a significant amount of overlap and agreement between the participants on the functions of self-harm. It is this shared perspective that shall be presented first.

All significantly loading Q-sorts for each factor (N=13) were used in the following narrative interpretation of the shared perspective of the functions of self-harm. Similarly to the Q-set development, Braun & Clarke's (2006) guidelines and principles of using thematic analysis were applied. This involved identifying themes and patterns within the data. After becoming familiar with the data (namely the arrays and participant comments) codes were created from the data. These codes were reviewed and linked to the Q-set before defining and naming them. Higher order themes and subthemes were generated to present an account that reflects the statements' original source (table 2.1), their positioning in the arrays and participants' qualitative responses to the statements. The qualitative responses are in quotes with Q-sort number next to it (this aids its identification with a particular factor). The use of mini-tables and quotes help to guide the narrative on the shared viewpoints on the functions of self-harm.

Theme 1: Self-harm in relation to the self

Control over emotion and thought

Four items indicated a common theme of self-harm having a control function.

Statement	Factor 1 position	Factor 2 position
1. Self-harm helps because physical pain is easier to deal with than emotional pain	+2	+4
2. Self-harm helps me control my emotions	+3	+3
12. Self-harm allows me to disconnect from the intensity of my emotions	+4	+4
40. Self-harm switches off thoughts	+3	+3

The function of self-harm as a way of managing distressing emotions and thoughts was most strongly endorsed by both factors. Self-harm was seen as a way to disconnect from and remove strong

negative emotions and thoughts (statement 12 and 40), providing participants with a sense of agency over emotion (statement 2). Distraction was described by participants as how self-harm had control over emotion and thought. Some participants also described self-harm serving to ground them in the 'here and now' and bring them 'back to earth'.

"For me it's about regaining control and removing negative strong emotions" QS8

Participants acknowledged emotional pain being hard to manage; unlike inflicting physical pain on oneself which was easier to manage and control (Statement 1). One participant described "transferring" to "displace" emotional pain into something physical. Although this item was statistically a consensus statement its position differed by two points between the factors (higher in factor two); this may be understood later in terms of factor 1 and 2's holistic viewpoint. Nonetheless, in response to statement 1, participants similarly described greater agency over physical rather than emotional pain.

"It is much easier to process physical pain than emotional pain. I can make physical pain worse or better as I choose, but I can't do this with emotional pain." QS18

One participant described the physical pain from self-harm serving as a distracting function until they are in a safer interpersonal circumstance to allow processing of emotion. Safety and control appeared to be related.

"Because I use self-harm as a way to control my emotions when I begin to get overwhelmed, I find physical pain distracts me from emotional pain until I am in a safe environment (normally my therapist's office) to face it." QS16

The need for control over emotion was also apparent in participants' descriptions of the intense, overwhelming and unbearable nature of the emotions leading up to self-harm.

"When emotions- usually negative ones- become too much to comprehend and I felt like I could not take any more."QS14

Some participants were explicit in differentiating between controlling cognitive and emotional aspects of experiences. Whereas others offered more general descriptions of control.

"Controlling internal stressors" QS11

"I have severe OCD and I used to use self-harm as a way to deal with the relentless "bad thoughts"... I wanted self-harm to switch off the thoughts it only did that for a couple of minutes. I was in deep emotional despair and. OCD wasn't the only reason. I felt so much despair, loneliness and emotional pain." QS15

Irrespective of the cognitive and/or emotional experience being managed by self-harm, some participants also highlighted the context-dependent nature of self-harm episodes.

"I remember throwing myself against the wall of a shower cubicle as I was so overwhelmed by desperation. This was in the context of a relationship in which my boyfriend wouldn't be seen in public with me. I had very low self-esteem and loved him, I didn't fully grasp that his behaviour was wrong as I had no self-worth. I also self-harmed badly after speaking to this same guy 2 years later about how he had treated me. I used self-harm a lot during that relationship but the self-harm had started years before as a reaction to my OCD and desperation." QS15

Some participants elaborated on self-harm's control function by describing self-harm as being very effective; their most powerful means to manage unbearable mental and emotional states.

"It is the easiest way for me to deal with emotions I'm struggling to process." QS16

"…powerful feelings= powerful distraction"QS14

The way self-harm controls internal experiences was also captured by a few metaphors and analogies by participants. In two metaphors there was a personification of self-harm "being there" and "catching you"; which may allude to self-harm's function being akin to an interpersonal safety.

"I have self-harmed since around the age of six years. When I was young I would always describe it as "my friend", as it was always there for me and was something I could control when everything around me was chaotic". QS17

"Brexit is a nation self-harming to test whether it still has control"QS19

A few participants described the control over emotion and thought self-harm creates not being confined to just the act of self-harm itself. Physical reminders and environmental cues associated with self-harm were also effective at this function.

"Even just planning an act of SH like breaking something and looking at the shards of glass stops the thoughts for a few days."QS1

"The aftermath, keeping wounds open, using bleach lengthened this effect and kept with me as a reminder of banishing the pain." QS14

"When I touch my scars its grounding, allows me to stay in the moment; rather than being sucked into my head with worries about the future"QS1

NB. Although Q-sort 1 was a confound Q-sort (and so not included in the final calculation of consensus statements in PQ Method) they placed all four of these consensus items illustrating control in +3 and +4 position. Therefore, their comments help illustrate the function of self-harm controlling thoughts.

Reminders of control

Two statements illustrated a common theme of self-harm serving as a reminder of control.

Statement	Factor 1 position	Factor 2 position
22. Self-harm reminds me I have control because I chose how, when and where I self-harm	+2	+2
23. Self-harm reminds me that I don't need to rely on others as I can control what I do to myself	0	+1

The statements of self-harm acting as reminders of control were particularly agreed with. These were self-harm serving as a reminder of personal agency (statement 22) and to a lesser degree a reminder of personal agency in an interpersonal context (statement 23).

"*I have always cut myself on my legs, as it meant I could release my thoughts/ feelings and emotions in a private way, that it didn't bother or raise any alarms to those around me. As I hid it from others when I did it, it meant I had even more control over it without the stress and panicking of those around" QS5*

Self-Punishment

A function of self-harm being a way of punishing oneself was positively endorsed by both factors.

Statement	Factor 1 position	Factor 2 position
9. Self-harm is a way of punishing myself	+2	+3

Despite being a consensus statement, the slight difference in its position between factors may reflect a difference in terms of the holistic positioning of positively and negatively connoted functions between factors 1 and 2 (as described in section 3.5).

"Sometimes I feel I deserve the physical pain..."QS18

Creating depersonalisation

Statement 11 describes what the literature on self-harm defines as the function of creating depersonalisation and/or dissociation. This is defined as an aversive internal state of disruption to the cognitive functions of consciousness, memory, identity and perception of the self and the environment (Suyemoto, 1998).

Statement	Factor 1 position	Factor 2 position
11. Self-harm makes me feel unreal or disconnected from myself or the world	+2	0

Not many Q-sorters commented on this statement. Although statistically indistinguishable, the difference in positioning of this item by two points between the factors shall be discussed further when exploring the differences between factors. Statement 11's counterpart on terminating depersonalisation (statement 13) may shed light on a nuanced difference in depersonalisation functions between the factors.

Self-care

Only one statement describing a self-care function was a consensus item between the factors.

Statement	Factor 1 position	Factor 2 position
20. Self-harm is satisfying because I can care for myself afterwards	-1	-1

Statement 20 was disagreed with by both factors, although not strongly. In comparison, the other two self-care themed statements (statement 21 and 19) were not consensus statements. The generation of positive feelings (*statement 21- "self-harm gives me a sense of warmth, calm and comfort"*) and the more neutral description of self-care that does not include an adjective (*statement 19- "self-harm gives me a way to care for myself"*) may be pointing towards different degrees or ways of caring or soothing that does not accord with participants' interpretation of the word satisfaction.

Demonstrating Strength

Statement	Factor 1 position	Factor 2 position
25. Self-harm creates a physical reminder that I am strong and powerful	0	0
26. I self-harm to see how far I can stand the pain	-1	0

Similarly, consensus statements with less strong endorsement were statements 25 and 26. No comments were made by participants to statement 26 and so may not have strongly resonated with participants. However, for one participant (a confound Q-sorter) statement 25 made them consider an internal struggle with the risks of self-harming. Thus a level of ambivalence around self-harm to stand the pain was somewhat apparent.

> ***"****It's like a weird competition in my head it's a dangerous attitude really seeing how far I can go…I am scared of doing it and I am scared to stop.. it's a lottery- rational vs irrational. It's like a metaphor, there is a red chair but you convince yourself its blue like you should and shouldn't self-harm".QS20*

Owning your body

Statement	Factor 1 position	Factor 2 position
16. Self-harm shows that I own my own body	-1	0

No comments were made on statement 16 by participants, considering this and it's relatively neutral positioning across the factors, the function of self-harm as a way of demonstrating ownership over one's body did not strongly resonate with participants.

Theme 2: Self-harm in relation to others

Communicating to others

Statement	Factor 1 position	Factor 2 position
4. Self-harm is a way of showing other people how bad I feel	+1	0
5. Self-harm makes other people take notice of me	-1	-1

From the positioning of its statements, self-harm as a way of communicating with others did not appear to be strongly significant for participants. Self-harm as a way of showing others how bad one feels (statement 4) was positioned in a relatively neutral position for both factors.

> **"***Sounds like attention seeking…The statements to do with others- I don't do it to get anyone involved, it's why I don't use voluntary support services, I don't blame others for it that would be selfish. It's my thing and has nothing to do with anyone else…I get apprehensive about help, I only go to the hospital if it needs hospitalisation."* QS 20

The statements' relatively central position may also be expressing ambivalence and/or contradictory opinions towards self-harm serving to communicate to others; as described by one participant:

> *"Sometimes I want people to know but I don't at the same time." QS3*

Impact on others

Statement	Factor 1 position	Factor 2 position
8. Self-harm allows me to create a strong emotional reaction in others	-1	-3

The function of self-harm creating a strong emotional reaction in others (statement 8) was disagreed with. The two point difference between factors, although not statistically different, may point to differences between factors in relation to interpersonal influences, explored further in section 3.4. Participants' responses to this statement described the secretive and hidden nature of self-harm and not wanting other people to know about it.

Pleasing a powerful other

Statement	Factor 1 position	Factor 2 position
39. I self-harm to please a powerful other	-4	-3

In accordance with general disagreement on functions related to others, self-harm to please a powerful other (statement 39) was also disagreed with but more strongly so by both factors. This item allowed participants to imbue their own meaning on it. For example, one participant understood the statement to be referring to a god-like other; others took a powerful other to refer to people who had

hurt them in the past. Either way, participants' responses to this illustrated how at the moment of self-harm other people (or entities) were not in the forefront for participants' considerations.

> *"What kind of 'other' if they had any power would require such an act of cruelty to be pleased!? If there is an 'other' (and there is not) then at the moment of self-harming I was not in the least bit interested in pleasing it." QS14*

Protection from others

Statement	Factor 1 position	Factor 2 position
31: Self-harm makes me less attractive to others and so protects me	-1	-1

Self-harm as a way of protecting oneself from others was not commented on by participants and was disagreed with but less strongly so by participants.

Connection to those that have hurt me

Statement	Factor 1 position	Factor 2 position
37. Self-harm allows me to talk to those who have hurt me	-2	-1
38. Self-harm allows me to feel close to those who have hurt me	-1	-2

Similarly, no comments were made by participants to statements 37 and 38 and thus may not have resonated strongly for participants.

Nonetheless, these statements' position in disagreement by both factors also point to the emerging shared viewpoint of the interpersonal realm being less significant as functions of self-harm in this sample.

Theme 3: Self-harm in relation to suicide

Statement	Factor 1 position	Factor 2 position
14. Self-harm helps me control the urge to kill myself	0	+1
42. Self-harm is practice to get used to the idea of killing myself	-3	-2

Self-harm as a way of coping with suicidal ideation (statement 14) was a consensus item and so did not statistically differentiate between the two factors. However, it is positioned in a relatively neutral position. This neutrality may reflect low significance for participants or ambivalence around life/death (for example, varying degrees of suicidal urges present during different occasions of self-harm). Nonetheless, one participant described self-harm as clear way of managing suicidal ideation.

"...stops the thoughts of killing myself immediately…Self-harm stops me doing that i.e. dying. It manages the urge to die" QS1

Theme 4: Self-harm in relation to sexual feelings

Statement	Factor 1 position	Factor 2 position
17. I find self-harm arousing/ sexually exciting	-4	-4
18. Self-harm allows me to reduce my sexual feelings	-3	-4

Statements related to self-harm serving any sexual function were strongly disagreed with by both factors. Participants' comments on statement 17 illustrate the shared unanimous viewpoint of self-harm being far removed from any sexual association.

"Self-harm has the total opposite effect- I find it in no way sexual."QS3

Nonetheless, a few participants made a connection between sexual feelings and the generation of other physical sensations that self-harm can create.

*"I find self-harm exciting (because it makes me feel *something*) but definitely not in a sexual way- it is an entirely different feeling." QS13*

"I have never had any sexual links between my cutting or feelings in my body and although I get an adrenaline rush it is not in a sexual way." QS16

Some participants gave some further context around their disagreement with self-harm in relation to sexual feelings.

"Because of my abusive past, sexual feelings are not something I experience very often." QS16

"I feel this is the complete opposite to my experience of self-harm. One reason is a complete phobia of intimacy/ sexual feelings being acted on, and if anything I feel as though these sexual feelings need to increase, so my self- harm has nothing to do with decreasing sexual feelings." QS13

Summary of shared viewpoints

Across factors participants viewed self-harm as serving to control internal cognitive-emotional functions in particular self-harm controls intense emotion and to some participants was a reminder of control. To a lesser extent self-harm was seen as a way to punish oneself.

Functions that were ranked relatively neutrally (along -1,0 and +1 position) included self-harm as a way of demonstrating strength, an opportunity to provide care for oneself, a way to communicate with others, protection from others and preventing suicide. These neutral statements tended to have fewer comments in response to them and while neutral positions can indicate conflict and/or ambivalence. The lack of comments suggests these functions having little resonance for the participants.

Both factors strongly disagreed with self-harm serving any sexual function and to a lesser degree participants disagreed that self-harm creates strong emotions in others or is a way to get used to suicide.

Despite still being statistically indistinguishable between factors, some statements had noticeable ranked differences between the factors. For example, statements 1, 11, 8 all showed two point differences between Factor 1 and 2. This may be related to the size of the P-set and less variance being split by a two factor solution. Nonetheless, some of these differences in item rankings may become meaningful in relation to each factor's holistic interpretation of the functions of self-harm as considered in Section 3.4.

Due to the high degree of overlap between the two factors it is a challenge to know which consensus statements most reliably reflect shared viewpoints. To help with this, PQ Method produces a table called the descending array of differences between factors. This table compared each statement's Z-scores across Factor 1 and 2. As it uses Z-scores (rather than the position rankings of items) it allows for a finer appreciation of items positions. The ten statements that showed the smallest Z-score difference between the two factors (and thus greater consensus between them) are shown in table 3.2.

Table 3.2 Z-score differences in consensus statements

Statement number	Statement	Z-score difference	F1 Z-score	F2 Z-score
23	Self-harm reminds me that I don't need to rely on others as I can control what I do to myself	0.050	0.220	0.169
26	I self-harm to see how far I can stand the pain	-0.067	-0.497	-0.430
40	Self-harm switches off thoughts	-0.078	1.466	1.544
25	Self-harm creates a physical reminder that I am strong and powerful	0.095	0.038	-0.057
22	Self-harm reminds me I have control because I chose how, when and where I self-harm	-0.103	0.825	0.928
31	Self-harm makes me less attractive to others and so protects me	-0.106	-0.553	-0.448
5	Self-harm makes other people take notice of me	0.106	-0.359	-0.465
18	Self-harm allows me to reduce my sexual feelings	-0.113	-1.771	-1.657
2	Self-harm helps me control my emotions	-0.143	1.513	1.656
17	I find self-harm arousing/ sexually exciting	0.226	-2.029	-2.256

Using these statements the themes that more reliably received shared agreement were around self-harm controlling thought and emotion and self-harm being a reminder of control. Themes more reliable in their shared strong disagreement were in relation to self-harm and sexual feelings. Disagreement was also found but to a lesser extent for self-harm as a way of getting noticed by others and protecting oneself from others.

3.4. Interpretation of Factor 1 and Factor 2

This section focuses on the interpretation of the functions of self-harm that were distinct between Factors 1 and 2.

Six Q-sorts (Q-sorts 13-18) were collected as part of the FReSH START study. This study used the same Q set but did not collect information on whether the participant had ever sought help for self-harm and whether they wanted to stop self-harming.

The factor arrays for Factor 1 and Factor 2 are presented in table 3.1 and represented pictorially as reconstructed Q sorts in figures 3.1 (for Factor 1) and 3.2 (for Factor 2) as if they were constructed onto a Q-sort grid. The figures allow for a visual presentation of the statement positions for each factor. The relative positioning of the statements on the factor array (table 3.1 and figures 3.1 and 3.2) form the basis of each factor's interpretation as they illustrate the holistic configuration of statements/items that characterise that factor's viewpoint.

Additionally, PQ Method calculates statements that are statistically distinguishable (at $p<0.01$) between the two factors. This calculation is based on Z-scores and illustrates the statements that were ranked differently between the factors. This provides a basis for understanding each factor's differing viewpoint on the functions of self-harm. Participant's comments in quotes were also used to evidence the narrative account of each factor's interpretation presented next.

Similarly to the Q-set development, Braun & Clarke's (2006) guidelines and principles of using thematic analysis were used. This involved identifying themes and patterns within the data. After becoming familiar with the data (namely the arrays and participant comments) codes were created from the data. These codes were reviewed and linked to the Q-set and participant commentary before defining and naming them.

Table 3.3 Distinguishing statements across factors 1 and 2.

STATEMENT	FACTOR 1 Q-SORT POSITION	FACTOR 2 Q-SORT POSITION
3. Self-harm is a way of showing others I need care and help.	+1	0
6.Self-harm means people leave me alone	0	-3
7. Self-harm means I avoid what I would rather not do	-3	+2
10. Self-harm is a way of proving to myself how worthless or bad I am	0	+3
13.Self-harm makes me feel alive or real again when I have been feeling disconnected and unreal	0	+1
15.Self-harm makes me feel that my body is separate and distinct	0	-1

19. Self-harm gives me a way to care for myself (such as caring for the wound or injury)	+1	-2
21. Self-harm gives me a sense of warmth, calm and comfort.	+4	0
24. Self-harm shows me I am strong as I can take the physical pain	0	-2
27.Self-harm allows me to feel less alone as I belong with those who self-harm	0	-2
28. I self-harm because it has become a part of who I am (self-identity)	+1	-1
29.Self-harm creates a physical reminder for important memories	+2	0
30. Self-harm is a personal language that I cannot express in words	+3	+1
32.Self-harm prevents me from being hurt by others in a worse way	-2	0
33. Self-harm stops me from hurting someone else	-3	+1
34. Self-harm protects others as I do not have to burden them with my problems	0	+2
35. Self-harm helps me get feelings of pleasure	+1	-1
36. Self-harm gives me feelings of excitement	+1	-3
41.Self-harm switches off memories	+1	+2
43. When I self-harm I am washing away all that is bad	-2	+2
44. When I self-harm I am killing off a part of myself	-2	+1
45.Self-harm reminds me that my pain is real and understandable	+3	+1
46. I self-harm because I want to die	-2	0

Significance at $p < 0.01$

Figure 3.1

FACTOR 1 ARRAY

3.4.1 Factor 1 interpretation

Factor 1: Increasing the positive

Self-harm as a way to generate positive feelings, sooth, validate and express distress

Seven exemplar Q-sorts loaded significantly onto Factor 1 (table 3.4). The mean age of the participants was 39 (age range 23-57); 3 were female and 4 were male. The mean age at which they started to self-harm was 12.5 (range 9-15). Together, their Q sorts explained 24% of the study's variance (rotated Eigenvalue= 4.8). What follows is a narrative description and interpretation if factor 1's viewpoint aided by exemplar quotes.

Table 3.4 Demographic and characteristics of Factor 1 exemplars

Q-sort	Age	Gender	Ethnicity	Age first self-harmed	Last time self-harmed	Times self-harmed in life	Method	Ever sought help?	Want to stop self-harm?
03	29	F	White	15	4 months ago	So many lost count	Cutting, picking skin	Yes	Undecided
04	57	M	White	9	Few weeks ago	So many lost count	Cutting	Yes	Yes with hesitation
07	50	M	White	14	3 years ago	So many lost count	Cutting, overdosing and controlling food intake	Yes	Undecided
11	46	M	White	12	1 week ago	So many lost count	Cutting, overdosing	Yes	Yes
13	23	F	White	*No data	Within last 6 months	4 times or more	Cutting, overdosing	*No data	*No data
14	41	M	White	*No data	Within last 6 months	4 times or more	Cutting, putting bleach in scars and punching walls	*No data	*No data
15	30	F	White	*No data	More than a year ago	4 times or more	Cut, burned or someway injured body	*No data	*No data

*No data as collected from FReSH START

Positive functions of self-harm

While Factor 1 viewed self-harm as a way of disconnecting from intense emotion (+4; item 12 *'self-harm allows me to disconnect from the intensity of my emotions'*), it also saw self-harm as an important way of generating positive feelings and sensations. Self-harm providing sensations of warmth, calm and comfort was strongly agreed with by factor 1 (+4; statement 21). Exemplars described self-harm as soothing, a source of comfort and receiving a sense of achievement from self-harm.

"The endorphins at work…nothing, still nothing can compare with that warm, enveloping sense of calm and stillness inside."QS14

"…it served as a great source of comfort to me"QS17

The creation of other positive sensations including pleasure and excitement were also endorsed positively in Factor 1 (+1; statements 35 and 36 *'self-harm gives me feelings of excitement'* and *'self-harm gives me feelings of pleasure'*).

One exemplar, on commenting on their disagreement with sexual functions made a connection between how sex and self-harm can generate similar feelings of intimacy and warmth.

"*Sex is/was the opposite and often the antidote to it (the urge/need to harm) (when it was available). Perhaps the lack of intimacy was a reason for seeking the warmth of self-harm. Maybe the feelings are similar after all?"QS14*

This exemplar also described how the physical objects associated with self-harm can act as extensions and reminders of these positive sensations and a sense of safety that was generated from self-harm.

"The things used to harm, blades, bleach and the wounds used to mop up afterwards stay as a reminder of that comfort but also the ability to return to cutting etc when the need arose."QS14

Positive functions were also evidenced by exemplars endorsing self-harm being a way to care for oneself (+1; statement 19 *'self-harm gives me a way to care for myself such as caring for the wound or injury'*) which was disagreed with (-2) by factor 2. One exemplar commented on how self-harm provided them with a positive experience and was a way of caring for themselves:

"*When I cut, which I refer to as my "ritual" because I do this 4-5 times a week, I do go into a bit of a focused "zone" and if I get a proper cut (at least 4 per night) with a*

good bleed, I feel as though … all is good in the world. 'SH gives me a way to care for myself'- it does in a way that I haven't really thought about which as the 'clean up' is part of the ritual, I will give it a bit more thought." QS4

Validate and express: creating a private record and memorial to pain

In keeping with the strong agreement with the positive sensations from self-harm, Factor 1 also endorsed more validating functions; particularly self-harm validating emotional pain as real and understandable (+3; statement 45 *'self-harm reminds me that my pain is real and understandable'*). Self-harm and the results of self-harm acted as reminders of important emotional memories as they "documented" and validated emotional pain (+2; statement 29 *'self-harm creates a physical reminder for important memories'*).

"The quality or result of the scars has meaning to me." QS4

"They are not reminders of individual memories, instead memories of certain periods of time. Because I feel it's hard to express these times both to myself and to others, the physical reminder is comforting, in some ways to document that I ever felt this way, since I am unlikely to express it or have it validated in any other way... It was interesting to see that the statements that resonated most with me were to do with reminders." QS13

Self-harm being a personal language (+3; statement 30 *'self-harm is a personal language that I cannot express in words'*) was linked explicitly by some exemplars to how self-harm can not only validate emotional pain but also allows it to be processed, understood and expressed to oneself; an alternative personal language. Exemplar participants described self-harm and the physical results as a substitute for language; to recall and validate the pain that they overcame.

"One of my main reasons I think I have turned to self-harm so much in the past is that I feel "numb", or feel generally 'bad' but find it hard to describe my emotions. For this reason, I find leaving a physical mark to be helpful as it shows that I do legitimately feel bad, so much so that I want to hurt myself. It's not that I want others to pick up on this and think that 'my pain is real and understandable' – rather that I want to prove this to myself. I think showing pain as understandable links to not being able to put words to feelings- the self-harm is something I can understand."QS13

"It's hard for me to express some emotions or even validate them in my own head, self-harm gives me an alternative language to get them out and "shows" the pain" QS3

This idea of self-harm being a private record of pain is further evidenced by an exemplar's communication to the researcher:

"Writing puts words to feelings and vague ideas which had until now been unvoiced and unheard. Even after not self-harming for a number of years speaking in this way about it, even with a cloak of anonymity, feels deeply personal and I wish that you treat my words as a record of a deeply private and instrumental experience but also that my harm and pain can help others to avoid the same hurt, in some way, years later." QS14

Strengthening the self

In keeping with Factor 1's perspective of self-harm having positive and emotionally validating functions, self-harm was also seen as part of one's identity (+1; statement 28 '*I self-harm because it has become a part of who I am (self-identity)'*). This is described by one exemplar linking identity and the sense of agency self-harm affords them.

"When I cut it is the one part of my life I can control. My scars are a part of who I am." QS7

The self-validating function of self-harm compliments this factor's disagreement with the items expressing self-harm as a way of killing off parts of the self (-2; statement 44 *'When I self-harm I am killing off a part of myself'*) and cleansing (-2; statement 43 *'When I self-harm I am washing away all that is bad'*) which is in contrast with factor 2.

However, in contrast to this emerging theme of self-harm as self-validating, statement 10 ('*self-harm is a way of proving to myself that I am worthless and bad'*) was placed in 0. This may reflect neutrality, indifference or this function only occasionally being relevant or context dependent. However, statement 9 (*'Self-harm is a way of punishing myself'*) was a consensus statement and agreed with by Factor 1; yet no exemplar commented on either statement 9 or 10. This is discussed further in section 3.4.3 on the comparison between factors.

Wanting help

Overall, exemplars for Factor 1 agreed with more of an interpersonal communication function in self-harm than Factor 2; however these functions were still relatively lower on the agreed with continuum. Aside from the consensus statements, the first distinguishing interpersonally themed statement was related to showing others the need for help and care (+1; statement 3 *'Self-harm is a way of showing others I need care and help'*).

"Mostly it was a reaction to desperation and being trapped in emotional pain and mental illness. It was also a way to show others how much I was suffering, although I was always alone when I did it, and didn't really "show off" the wounds. I didn't fully hide them either though. I was desperate for help"QS15

This exemplar highlights how the interpersonal influence was part of them eventually stopping self-harming.

"I feel that self-harm is more of a burden for others- I never fully hid my cuts from loved ones and it upset them when they saw them…It was actually seeing the sadness that my current partner felt when he saw my cuts that helped me to stop (I wasn't able to stop for myself but I could manage to stop for him). He didn't put pressure on me but supported me to do so" QS15

Although participants believed self-harm can communicate distress to others as a way to get help, it disagreed with self-harm having a negative impact on others.

"I have never had any thoughts of hurting anyone else only myself" QS11

Not consciously wanting to die

Suicide themed statements including wanting to die (-2; statement 46 *'I self-harm because I want to die'*) and getting used to suicide (-3; statement 42 '*Self-harm is practice to get used to the idea of dying'*) were disagreed with by Factor 1. This concurs with its agreement with the positive and validating functions of self-harm. This factor appears to reflect an opinion of self-harm as a way of attempting to strengthen and preserve the self rather than wanting to destroy it.

"'I SH because I want to die'- yes, there is the risk as myself harm cutting also includes the bloodletting to lower my Hb count, but I never think that I will die from cutting."QS4

Summary of Factor 1

In Factor 1, self-harm is viewed as way of not only disconnecting from intense negative emotion but also a way to generate positive, soothing experiences and feelings. The removal of negative affect plays as much of a role as self-harm creating positive and validating internal states where self-harm allows for personal expression and recording of emotional experiences. Viewpoints on the sexual functions of self-harm are disagreed with by this viewpoint as well as functions associated with cleansing and suicide.

Statements ranked higher (by PQ Method at p <.01)

Statements ranked lower (by PQ Method at p <.01

Figure 3.2

FACTOR 2 ARRAY

-4	-3	-2	-1	0	+1	+2	+3	+4
18. SH allows me to reduce my sexual feelings	6. SH means people leave me alone	42. SH is practice to get used to the idea of killing myself	5. SH makes other people notice me	3. SH is a way of showing others I need care and help	13. SH makes me feel real/ alive when I have been feeling unreal/disconnected	22. SH reminds me that I have control as I chose how, when and where I SH	9. SH is a way of punishing myself	1. SH helps as physical pain is easier to deal with than emotional pain
17. I find SH arousing/ sexually exciting	8. SH allows me to create a strong emotional reaction in others	38. SH allows me to feel close to those who have hurt me	31. SH makes me less attractive to others and so protects me	26. I SH to see how far I can stand the pain	45. SH reminds me that my pain is real and understandable	7. SH means I avoid what I would rather not do	2. SH helps me control my emotions	12. SH allows me to disconnect from the intensity of my emotions
	36. SH gives me a feeling of excitement	24. SH shows me I am strong as I can take the physical pain	37. SH allows me to talk to those who have hurt me	46. I SH because I want to die	30. SH is a personal language I can't express in words	43. When I SH I am washing away all that is bad	10. SH is a way of proving to myself how worthless/bad I am	
	39. I SH to please a powerful other	27. SH helps me feel less alone as I belong with other people who SH	28. I SH because it has become part of who I am (self-identity)	16. SH shows that I own my own body	14. SH helps control the urge to kill myself	34. SH protects others as I don't have to burden them with my problems	40. SH switches off thoughts	
		19. SH gives me a way to care for myself (e.g. caring for the wound)	20. SH is satisfying as I can care for myself afterwards	25. SH creates a physical reminder that I am strong and powerful	44. When I SH I am killing off a part of myself	41. SH switches off memories		
			35. SH helps me get feelings of pleasure	4. SH is a way of showing other people how bad I feel	33. SH stops me from hurting someone else			
			15. SH makes me feel that my body is separate/ distinct to anyone else	32. SH prevents me from being hurt in a worse way	23. SH reminds me that I don't need to rely on others as I control what I do to			
				21. SH gives me a sense of warmth, calm and comfort				
				11. SH makes me feel unreal/ disconnected from myself / the world				
				29. SH creates a physical reminder of important memories				

3.4.2 Factor 2 interpretation

Self-harm: Removing the negative

Six exemplar participants loaded significantly onto Factor 2 (table 3.5). The mean age of the Q-sorters was 32 (age range 23-41); 5 were female and 1 was male. The mean age at which the exemplars started to self-harm was 20 (range 10-35). Together they explained 21% of the study's variance (rotated EV= 4.2). Quotes from the 6 exemplars were used to aid the interpretation of factor 2's viewpoint.

Table 3.5 Demographic and characteristics of Factor 2 exemplars

Q-sort	Age	Gender	Ethnicity	Age first self-harmed	Last time self-harmed	Times self-harmed in life	Method	Ever sought help?	Want to stop self-harm?
02	41	F	White	10	1 day ago	So many lost count	Cutting	No	No
08	27	F	Mixed ethnicity	13	4 months ago	So many lost count	Cutting	No	Undecided
12	24	F	White	22	2 weeks ago	5-20 times	Cutting, overdosing	Yes	Yes
16	41	F	White	*No data	Within last month	4 times or more	Cut, burned or in some way injured body	*No data	*No data
18	23	F	White	*No data	Within last month	4 times or more	Cut, burned or in some way injured body and poisoned self and poisoned self and ligatures and food/fluid restrictions	*No data	*No data
19	35	M	White	35	6 months ago	1 off	Cutting	No	Yes

*No data as collected from FReSH START

Removing the negative

Factor 2's viewpoint strongly endorsed self-harm serving to manage intense negative emotion and cognition; as reflected in the top five agreed with statements. Although these five statements were

also consensus statements their positioning gives some indication of their strong relevance as functions of self-harm.

Factor 2 agreed more strongly with self-harm demonstrating to oneself that one is bad and worthless (+3; statement 10 *'self-harm is a way of proving to myself how worthless or bad I am'*). This illustrates a perspective with a greater negative and critical view of the self which some participants spoke about explicitly.

"When someone asked me what I'm proud of I couldn't think of a single thing."QS19

"I am a worthless, evil person, sometimes I self-harm to show myself how much I hate myself…. I like to see the blood; it means I have done damage." QS2

Alongside proving that the self is worthless, Factor 2 also endorsed self-harm serving a cleansing function (+2; statement 43 *'when I self-harm I am washing away all that is bad'*). This may be seen as a way of killing off unworthy parts of the self (+1; statement 44 *'When I self-harm I am killing off a part of myself'*) or as a way of managing/ removing/ cleansing aversive internal experiences that may have become internalised as part of the self. Correspondingly, statement 41 of self-harm serving to switch off memories (+2) was also positively endorsed. This may be related to more exemplars in Factor 2 commented on having had abusive experiences.

"Because of my abusive past sexual feelings are not something I experience very often"QS16

"Because you feel that all the bad is gone. When you hurt yourself you want the pain inside to go away… Sexual abuse flashbacks; Self harm to stop flashback memories."QS12

Unlike Factor 1, only the removal of negative aversive states without the generation of positive states (such as comfort or achievement) was described by Factor 2 exemplars. Statement 21 (*'self-harm gives me a sense of warmth, calm and comfort'*) was positioned at 0. Statement 36 (*'self-harm gives me feelings of excitement'*) was at -3 and statement 35 (*'self-harm helps me get feelings of pleasure'*) was at -1. In their comments, Factor 2 exemplars were explicit about the absence of positive sensations in self-harm and only described the removal of strong negative emotions.

"It is not a treat or an enjoyable experience" QS19

"Self-harm isn't pleasurable. All my feelings associated with self-harm are negative- I hate it and wish I'd never resorted to it" QS18

In line with managing intense negative internal states, Factor 2 agreed with self-harm terminating depersonalisation (+1; Statement 13 *'Self-harm makes me feel alive again when I have*

been feeling disconnected and unreal'), unlike Factor 1 which positioned it at 0. One exemplar described their experience with depersonalisation:

"I should feel something like happiness sometimes but I don't… I'm not sure of anything I feel …now I just pick hidden scabs so I can feel pain whenever I need to, or drink so that I can be emotional."QS19

The counterpart item of creating depersonalisation (statement 11 '*self-harm makes me feel unreal or disconnected from myself or the world'*) was positioned in the neutral 0 position. Two exemplars positioned it at either extreme, despite both participants loading onto Factor 2 (partly explaining its 0 positioning in the array for Factor 2).

"For me it's about regaining control and removing negative strong emotions" QS8
(+4 position)

"Self-harm for me comes from a place of despair; that nothing I do matters or counts. It is not a treat or an enjoyable experience." QS19
(-4 position)

The Q-sorter who positioned creating depersonalisation at -4 also positioned the function of terminating depersonalisation at (statement 13) at the +4 position. Therefore, for this Q-sorter terminating and creating were not compatible. Although statement 11 was not statistically distinguishable between the factors, a more nuanced look from comments and its positioning in relation to creating depersonalisation highlights differences between the factors which may be clinically significant for individuals and/or may have been statistically distinguishable in a larger P-set.

Factor 2's viewpoint of removing negative internal states can also be extended to its configuration of suicide themed statements. Statement 46 *'I self-harm because I want to die'* was positioned at 0 and statistically distinguishable from Factor 1 positioning it at -2. In contrast to Factor 1's earlier exemplar comment of no conscious suicidal intent, a Factor 2 exemplar is clearer about the presence of suicidal urges.

"Self-harm often feels like the lesser of two evils. For me personally, self-harm was never about killing myself but trying to ease feelings of suicidal ideation" QS18

Statement 7 (*'Self-harm means I avoid what I would rather not do'*) was placed at +2. Unfortunately there were no comments made by participants in response to this item so it is difficult

to know how it was understood and why it was agreed with by Q-sorters. This statement was linked to ideas in the literature of avoiding tasks and demands from others.

A personal shame

Factor 2's first and second highest ranking interpersonally themed statements were related to not hurting others (+1; statement 33 *'self-harm stops me from hurting someone else')* and not burdening others with problems (+2; statement 34 *'self-harm protects others as I do not have to burden them with my problems'*). Therefore, the function of protecting others rather than communicating to others was endorsed more strongly by Factor 2.

"I don't think people need to self-harm for attention or help"QS12

The positioning of interpersonal themes further away from the agree end of the array may also be related to the presence of greater comments around self-criticism and shame. Exemplars described self-harm as a private and negative burden to bear only by the person who self-harms.

"I should feel something like happiness sometimes but I don't. I feel shame for all the advantages I had and when someone asked me what I'm proud of I couldn't think of a single thing…The statements about other people's knowing that I self-harm are not really applicable as I never intended anyone to find out. I am further ashamed that anyone found out that I did it." QS19

One exemplar discussed how they use self-harm to cope with feelings of guilt and shame about how they manage interpersonal situations. This may also link with the self-punishing function and seeing the self as worthless which was more evident in Factor 2.

"Sometimes I self-harm cos I didn't deal with a situation and didn't say how I feel and sometimes I lash out and self-harm cos of guilt" QS2

"Sometimes I feel I deserve the physical pain. For example, I feel huge guilt for putting my family through hell when I was majorly depressed, sectioned and very suicidal/ risky, so I hurt myself to try and ease the immense guilt. It hurts that I hurt (although unintentionally) my family, so I feel I deserve pain" QS18

Summary of factor 2

Factor 2 views self-harm as a means of managing negative internal states, with greater explicit connections made to negative opinions about the self, depersonalisation, abuse, interpersonal shame and suicidal urges. Self-harm is a way of removing and being cleansed of these aversive

psychological states. The interpersonal realm is less important in self-harm for Factor 2 as well as any positive or validating experiences self-harm may create.

3.4.3 Comparison between factors

The two factors that were statistically identified and interpreted above are based on the statements that were distinguishable between Factors 1 and 2 (Table 3.3). This table also allow for an observation of what functions the two factors disagreed with most which shall be described next. PQ Method produces a table called the descending array of differences between factors which uses items Z-scores from both factors to show the largest and smallest differences between the item rankings of Factor 1 and 2 (Watts & Stenner, 2012). The items with the largest differences between the factors shall be considered in the following section comparing Factors 1 and 2; illustrating the functions which were the most divisive and conflicting between Factors 1 and 2.

Statements 21 ('*Self-harm gives me a sense of warmth, calm and comfort'*) and 36 ('*Self-harm gives me feelings of excitement'*) were the two statements with the largest differences (in Z-scores) between the two factors; with Factor 1 agreeing to a greater extent with self-harm generating soothing and positive feelings. Although Factor 2 showed neutrality in self-harm generating warm, calm and comforting feelings, this view disagreed more strongly with self-harm creating feelings of excitement. In accordance with engendering positive feelings and sensations, self-harm was also seen by Factor 1 as a way to care for oneself unlike Factor 2 which disagreed with this function. These statement's position make sense in light of Factor 1's viewpoint of self-harm having more positive and validating functions and Factor 2 expressing these functions as less important.

Factor 1 more strongly agreed with self-harm being a personal language and a way to document distress than Factor 2. This coincides with no Factor 2 exemplars making any comment on this statement yet rich descriptions were prompted by statements 30 and 29 (*'self-harm is a personal language that I cannot express in words'* and *'self-harm creates a physical reminder of important memories'*) for Factor 1 exemplars. Self-harm serving to show that one is strong as one can take the physical pain (statement 24) was disagreed with by Factor 2 which accords with the more negative and self-critical views expressed by this factor (as described above). In contrast Factor 1 viewed this function as neutral which may be an expression of low significance, ambivalence or the statement being context dependent.

The statement associated with avoidance (statement 7) was disagreed with strongly by Factor 1 but agreed with by Factor 2. This may be related to self-harm being seen as a more negative and self-invalidating experience in Factor 2 compared to Factor 1; which fits with the self-critical comments made by Factor 2 exemplars. However, there were no comments on this statement to support how the Q-sorters interpreted and understood this statement

Factor 2 strongly agreed with self-harm as a way of proving to the self that one is worthless and bad (Statements 10, '*'Self-harm is a way of proving to myself how worthless or bad I am'*) yet Factor 1 positions this in a 0 position which may reflect this statement not resonating much with exemplars, ambivalence or this function being occasionally relevant. However, these positions are consistent with the positioning of other positive and validating functions as they were more endorsed by Factor 1. Similarly, cleansing and killing-off functions were also agreed with by Factor 2 but not by Factor 1. This accords with the pattern of Factor 2 exemplars expressing more critical and invalidating comments about themselves and greater agreement with removing negative internal states without any of the associated validating and positive sensations this may generate.

In contrast, Factor 1 disagrees with any cleansing function; this may link with its greater endorsement of positive or self-affirming statements such as self-harm being taken on as part of one's identity (statement 28) as nothing about the self needs to be cleansed or sanitised.

Factor 1 positioned switching off memories at +1 and terminating depersonalisation at 0, positions which were statistically lower than in Factor 2. Although more Factor 2 exemplars described emotional experiences that closely approximated depersonalisation and dissociation, it cannot be said that participants loading onto Factor 1 do not; as one Factor 1 exemplar described feeling "numb" and wanting to feel "*something*". Nonetheless, these differences may point to differences in the type, frequency and/or intensity of aversive internal states experienced between the factors. This may explain its 0 position in Factor 1 which may be a reflection of this function sometimes being relevant, as illustrated below by a confound Q-sorter describing how self-harm is not always related to managing emotional states.

"*Just cos I am spaced out; sometimes it's not an emotional one"QS20*

The theme of protecting others was a clear function for Factor 2 (Statement 33 *'self-harm stops me from hurting someone else*' and statement 34 '*self-harm protects others as I do not have to burden them with my problems'*). In comparison, Factor 1 exemplars strongly disagreed with self-harm as a way of stopping them from hurting others. This may be related to Factor 2's viewpoint of self-harm being associated less with interpersonal themes and self-harm being viewed to a greater extent as a negative internal and personal experience.

Factor 1 was more neutral about self-harm not burdening others (statement 34) which coincides with this factor's view of self-harm serving to show others how bad one feels and needs help (+1 statement 3 *'self-harm is a way of showing others I need care and help'*). If Factor 1 agrees with self-harm as a way to communicate with others it is understandable that it would disagree with self-harm being a way to prevent being hurt by others (statement 32 '*Self-harm prevents me from*

being hurt by others in a worse way'). In contrast Factor 2 was neutral about this which may also be linked to more of Factor 2's exemplars commenting on abusive experiences from others.

The poorer endorsement of positive functions may also go some way to explaining Factor 2's ambivalence towards suicide (Statement 46 '*I self-harm because I want to die'*) which it placed at 0. For Factor 1 self-harm's association with suicide was disagreed with and connects to an exemplar's description of suicide being further from one's mind. These different positions may illustrate differences in this statement resonating to different degrees or frequency and intensity of suicidal urges between Factors 1 and 2.

Conclusions on comparison between factors

Overall, the functions of self-harm viewed by Factor 1 were more likely to be positive ones with agreement of self-harm serving to generate positive feelings of excitement, warmth, calm and comfort (statements 36 and 21) as well as being a way to care for oneself (statement 19) . It also agreed with self-harm being a part of an individual's identity and a way to demonstrate one's own strength (statement 28 and 24). Factor 1 was also in greater agreement with self-harm serving as a personal language and a way of documenting important emotional memories (statement 29 and 30).

In contrast to Factor 1, Factor 2 was much more in agreement with the self-harm serving to cleanse, self-punishing and proving oneself as worthless (statement 43, 44, 10). Self-harm was also seen as having an avoidance function and protecting others (statement 7, 33, 34). Additionally, Factor 2 agreed to a greater extent with self-harm serving to switch off memories (statement 41).

3. 5 Other findings

As part of the post Q sort questions, participants were also asked to comment on the process of completing the Q sorts and on any functions of self-harm that were not included. Participants' comments on these shall be presented next.

Comments on the process of Q-sorting

Some participants commented that the statements they placed in the 0 (neutral) pile they agreed with some of the time and that these functions tended to be dependent on antecedent circumstances. However, participants agreed that it was easier to pick those statements they most agreed and disagreed with and place them on the (-4 and +4) ends of the grid.

Missing functions of self-harm

Despite the Q-set being developed with input from two service user groups, some participants commented on other reasons for self-harm. For example, when asked what was missing from the Q-

set some participants were explicit about the content of their distressing emotions such as anger, despair, shame. Although these may not be about function they may point towards certain emotional experiences/ antecedents having a greater relevance to different functions.

Some participants also commented on the addictive aspect of self-harm which was not covered in the Q-set. Alcohol's relation to self-harm was commented on by a few participants. One participant described the sensations that drinking and self-harm create in combination and linked doing both to a changing response to risk. This may also be a missing function to self-harm too.

"Self-medication with alcohol. If I have cut I'll have a drink as well (only if I have a drink in the house); its impulsive…I am scared of doing it and scared to stop. It gives me a hazy feeling if I drink while I cut. Alcohol chills you out to do it or it can go the other way and scare you, it's a lottery".

3.6 Summary of Results

Factor analysis of the study's data found two statistically robust factors. Additionally, much overlap and consensus was found between participants on the functions of self-harm. This consensus revealed a strong shared agreement with self-harm serving to manage internal negative emotional and cognitive states and to a lesser extent self-harm being a reminder of control. In contrast, self-harm as related to sexual functions was strongly disagreed with by participants. Interpersonal influence themes were more neutral or less strongly agreed with.

Interpretation of the two factors revealed viewpoints that differentially emphasised and deemphasised different functions. Factor 1 agreed with the positive feelings generated from self-harm to a greater extent than Factor 2. Greater emphasis of self-harm as a personal language that validates pain as real and understandable were also apparent functions in Factor 1; compared to Factor 2 where such functions were neutrally or negatively endorsed by exemplars. In contrast, Factor 2 agreed with self-harm serving as cleansing and self-punishing functions. Factor 2 also expressed greater endorsement for self-harm managing distressing memories and depersonalisation. Self-harm protecting others was seen as important in Factor 2 but disagreed with by Factor 1.

The varying degree of shared and distinct viewpoints between the two factors on the functions of self-harm has clear implications for clinical services in the assessment and treatment of self-harm. These shall be discussed next alongside an appraisal of the study's strengths and weaknesses.

4. DISCUSSION

4.1 Introduction

This final section will summarise the main findings from this Q-methodology study. It will outline the study's contribution to knowledge on the functions of self-harm in the academic literature and to the area of self-harm research generally. The clinical and research implications of these findings will be discussed as well as the study's strengths, limitations and further questions raised by the study.

4.2 Main findings and contributions

This study aimed to explore different viewpoints that may exist on the functions of self-harm by people who self-harm; where these viewpoints are shared and where they are distinct. Through the process of Q's factor analysis and interpretation using participants' comments, two statistically robust factors were identified, representing the viewpoints of this sample of 20 people who self-harm.

4.2.1 Two factor findings

One important finding from the study was the presence of varying but distinct degrees of endorsement of the positive functions of self-harm between the two factors. The constellation of statements connoting self-harm as a positive and validating experience had greater agreement in Factor 1. Factor 1, which accounted for the greatest variance of the two factors, agreed to a greater extent with self-harm generating warmth, calm and comfort than self-harm serving to switch off thoughts or control emotions. This may allude to a more considerable presence of positive functions that does not currently match the theoretical and academic literature on functions of self-harm where affect regulation predominates. The presence of positive functions links to wider theoretical understandings of functional processes such as Nock's (2009) integrated theoretical model where intrapersonal positive reinforcement processes can maintain repeated self-harm.

The ranking of these positive functions may also point towards what Suyemoto (1998) described as ego-syntonic. This is a psychoanalytic concept that describes behaviours (and/or values and feelings) that are in harmony and consistent with an individual's needs and self-image. In light of the differences in positive and validating functions between the factors this may suggest self-harm is experienced as ego-syntonic for the exemplars in Factor 1 compared to Factor 2 which saw self-harm as a way of removing and cleansing negative emotional experiences and was not associated with self-identity.

Likewise, although self-harm serving a self-punishing function was a consensus statement, there were subtle differences between the two factors on self-harm as a way of proving the self as bad and worthless. Klonsky (2007) discusses self-punishment "…as an expression of anger and hatred towards the self. The act is experienced as ego-syntonic due to punishing, abusive and invalidating early experiences." (p.230). For the current study the presence of negative early experiences was not measured and so linking self-punishment with these experiences cannot be drawn validly or reliably. Nonetheless, the extent to which self-harm reinforced the idea that one was bad/ worthless varied across the factors; which may point towards varying levels of an internalised view of the self as bad. Despite the little evidence of early childhood adversity and abusive early experiences, Factor 2 exemplars more explicitly commented on abusive experiences, a sense of shame and self-criticism and significantly agreed more with self-harm managing depersonalisation (a psychic coping strategy believed to have developed in childhood as a response to abuse or neglect, Sutton, 2007). This echoes Suyemoto's (1998) environmental model where self-harm is an attempt at self-care that was initially mediated by the social environment during developmental years. Aspects of Suyemoto's affect regulation model (based on Ego and psychoanalytic traditions) explain that over time it is not the other (caregiver) that is hated for abandoning/ neglecting/abusing it is the self that is hated "…for both the anger and the need" (Suyemoto, 1998 p.544).

Suyemoto (1998) also described how the use of language and difficulties in managing emotion are related for people who self-harm. Suyemoto explains that difficulty in using symbols (i.e. language) to express emotion is by-passed or remedied by self-harm as it acts as a substitute for language and expression. Self-harm expresses and communicates feeling to the self (and others) and in the process it controls the emotional experience through distancing and externalising. Participants in Factor 1 clearly echoed Suyemoto's description of self-harm as a language to validate, release and express emotional pain, mainly to themelves.

Overall, the interpersonal functions were less strongly endorsed by both factors. Therefore, if using Nock's (2009) model, the interpersonal reinforcement processes appear less relevant than the intrapersonal reinforcement processes for the current study's sample of 20 participants. This also links to Klonsky's (2007) assertion that clinical settings often over-emphasise the interpersonal function of self-harm. The current study's results found interpersonal themes only became evident at the +1 ranking (for Factor 1). The first interpersonal theme in Factor 2 was at +1 ranking yet this function was related to protecting others and coincides with this factor's description of self-harm being a hidden, private, shameful and secretive act far removed from the function of influencing or communicating to others. Such a result may point to the need for clinical, research and academic understandings of self-harm to line up with the understandings held by people who self-harm; a process key to effective collaboration and partnership for services that support people who self-harm.

However, although self-harm may not strongly serve many interpersonal functions this does not mean that it is not a response to or provoked by interpersonal situations as illustrated by a few participants.

Nonetheless, Factor 1 still endorsed self-harm as a communicative and expressive function (most strongly to oneself but to others too) to a greater extent than Factor 2. Some of the descriptions and comments by participants about self-harm as soothing, validating and positive in Factor 1 are akin to descriptions of a safe-base as outlined in Attachment Theory. Bowlby (1988) defines a secure base as a place "…from which a child can make sorties into the outside world and to which he can return knowing for sure that he will be welcomed, nourished physically and emotionally comforted if distressed, reassured if frightened. In essence this role is one of being available, ready to respond when called upon to encourage and perhaps assist, but to intervene actively only when necessary" (p.11). This description is reminiscent of some of Factor 1's exemplar's quotes and personification metaphors (e.g. self-harm "being there for you" and "catching you"). Therefore, self-harm for Factor 1 may be a way of replicating some of the functions and conditions suggestive of descriptions of secure attachment in childhood. Additionally, the interpersonal realm was commented on by some participants alluding to the importance of interpersonal circumstances in stopping self-harm and allowing emotional processing (e.g. in therapy).

Both factors were clear in their shared view of self-harm being a way to manage suicidal urges. Factor 2 was more contradictory in its opinion of self-harm and suicide as it positioned wanting to die at 0. This may reflect Suyemoto's (1998) description of both life and death drives being associated with self-harm. Further investigation or interviewing of the exemplars would have shed light on the nature of this difference; as this may be associated with degree or frequency of suicidal urges and/or differences between episodes of self-harm. Nonetheless, the findings show that the presence of a will to live in self-harm does not negate the existence of suicidal urges. This makes some terminology like NSSI misleading and does not accord with what might be experienced by an individual who self-harms.

Although the function of managing internal states dominated the shared viewpoints between both factors, there were differences in these items between Factors 1 and 2. Statistically, the functions of self-harm switching off memories and terminating depersonalisation/ dissociation were agreed with more strongly by factor 2's viewpoint. Both these functions may be related to dissociation; a phenomenon believed to have developed to cope with adverse and potentially traumatic early developmental experiences such as abuse and neglect.

As an example, Sutton (2007) describes 'two common pathways of self-injury' where self-harm in an effective tool for managing overwhelmingly intense emotional experiences and managing experiences of disconnection from emotion and oneself or the world. This links with the over-

deterministic nature of self-harm and that subtle differences in the catch-all theme of 'affect regulation' are important to capture in research contexts which ultimately have implications for clinical contexts. In this study differences in dissociation were clear between the two factors in a relatively small participant sample of 20. As described, managing emotions, thoughts and memories feature frequently in the research and academic literature yet these are broad/umbrella descriptions within which several different functions exist; and in this study some of these different functions were endorsed differentially between the two factors.

Rayner & Warner (2003) similarly completed a Q-study on participant's "explanation" for self-harm. It was a challenge to compare the current study to Rayner & Warner's (as outlined in the introduction). Nonetheless, the findings of the current study are consistent with Rayner & Warner's findings of self-harm managing internal aversive experiences.

4.2.2 Consensus viewpoint findings

In this sample of 20 participants, there was much overlap between participants on what functions of self-harm were agreed and disagreed with. The results showed much homogeneity in the consensus statements which may point to a high level of overlap in perspectives on the functions of self-harm in people who self-harm. Self-harm serving to manage internal emotional and cognitive events was the theme that received most shared agreement by both factor's viewpoint. This is consistent with what is already described in the literature with self-harm being an externalised expression of diffuse intrinsic distress (Sinclair & Green, 2005) and echoes the literatures' pre-dominance of functions under the umbrella term 'affect regulation' (e.g. Nock (2009), Klonsky (2007)). Therefore, the consensus viewpoints are likely to be representative of the wider population of people who self-harm.

Functions associated with sex were unanimously disagreed with by both factors. This replicates the removal of Suyemoto's (1998) sexual model in Klonsky's (2007) seven functional models of self-harm. However, Klonsky did not present a rationale for the removal of the sexual function model. Nonetheless, in this study some participants commented on self-harm's parallels to sexual intimacy and physical sensations yet collectively participants disagreed with self-harm serving any sexual function.

Findings on the shared and distinct viewpoints on the functions of self-harm have important clinical implications in terms of assessment and intervention for people who self-harm which shall be discussed next. Implications for further research shall also be considered.

4.3. Implications

4.3.1 Clinical implications and applications

Q-sorting provides an innovative and original way of bridging research and clinical practice, as a useful clinical tool and Q-methodology studies having clinically meaningful results. The multiple, complex, contradictory and difficult to articulate nature of functions of self-harm is apparent in research contexts and is reflected in clinical services.

A clear clinical application for Q-sorting is in psychotherapy (Schneider, Pruetzel-Thomas, & Midgley, 2009). Q-sets can be tailored for individual therapeutic assessment with the addition of blank statements for personal expression or idiographic functions. This can enable a shared language in therapy to allow client and therapist to agree a focus in therapy. A clinical formulation of the client's self-reported functions of self-harm can be a useful addition to a therapists' toolkit to help guide a collaborative clinical assessments. Despite the research context of this study's Q-sorting procedure, some participants commented on the reflective nature of the procedure. For example, one participant stated they would give some of the statements "further thought". Another participant noted that the statements around reminders appeared to resonate most for them. This goes some way to illustrate the reflective and exploratory nature of Q-sorting in understanding the personal values that the functions of self-harm may serve. This can potentially open up conversations of how other activities may similarly serve important functions that self-harm currently serves for people who seek to change or reduce their self-harming. Current NICE treatment guidance (2013) recommends repeated self-harm to be managed by Community Mental Health Teams (CMHTs) and liaison psychiatry teams without the need for specialist services. A therapeutic assessment tool similar to Q-sorting can aid setting therapeutic goals and inform risk management.

In addition, the two factor findings from the study can provide clinicians with a heuristic or framework during the early stages of psychotherapy. An acknowledgement that some people may view self-harm as increasing the positive and for others self-harm may remove the negative can focus an intervention's goals and inform clinicians what therapeutic approach may best be placed. These goals also acknowledge that other consensus functions exist and so allows for the flexible and person-centred nature of psychotherapy. A discussion and exploration of the main functions of self-harm can enable the articulation of goals and focuses of therapy which may integrate a number of different therapeutic approaches dependent on a person's agreement with their personal functions of self-harm.

The study found some differences in opinion on interpersonal functions between the two factors. These differences can have potential clinical implications as psychotherapy is ultimately an interpersonal endeavour. For example, Factor 2 felt more strongly about the importance of protecting others, not burdening others with problems and seeing the self as unworthy. Such positioning of interpersonal themes can also have implications for how ready or worthy someone may feel in an interpersonal therapeutic context. Moreover, Factor 2's viewpoint of self-harm being a shameful,

hidden and secretive function has implications for the traditional nature of psychotherapy as a face to face process. Furthermore, exemplars in Factor 1 were clearer in their understanding of self-harm serving as a personal language. A function that has similar implications for therapy as it heavily relies on language and communication of affect interpersonally.

Such considerations open up possibilities for different means of achieving therapeutic change whether in interpersonal contexts or otherwise. For example, certain therapeutic modalities such as in Cognitive Behavioural Therapy traditions clearly delineate cognitive and emotional processes. Therefore a collaborative assessment of functions of self-harm may also aid in choosing a fitting therapeutic modality.

Current evidence for treatment of self-harm tends to focus on self-harm as symptomatic of a disorder (e.g. Borderline Personality Disorder) and thus the most current robust evidence-based treatment (e.g. using Randomised Control Trials) favours therapies designed for personality disorders which understands self-harm as an expression of difficulties in affect regulation/ underlying distress. Based on the current study's findings for the greater involvement of positive functions of self-harm, therapies based on functional principles such as Behavioural Activation (BA), Acceptance and Commitment Therapy (ACT) and Psychodynamic Interpersonal Therapy (PIT) may also be effective for people that wish to stop or reduce self-harming. Without an acknowledgement of the range of and personal relevance of functions of self-harm during clinical assessment and treatment there may be a risk in assuming self-harm is only about regulating emotion and thus narrowing an exploration of other avenues for therapeutic change.

4.3.2. Research implications and suggestions

This study sought the viewpoints of people who self-harm. Yet extending the study to explore the viewpoints of other related groups (such as service providers, family and friends) may shed light on whether the emerging viewpoints are similar and/or distinct to those expressed by people who self-harm. This may further an understanding on the attitudes and perspectives others around the person who self-harms have about the functions of self-harm. Previous research has shown that there is a discrepancy between understandings of self-harm held by professionals and service users (Freidman et al. 2006 and Rasmussen et al. 2015). Such discrepant findings have clinical implications for focussing on individual or systemic approaches for therapeutic change.

In light of current treatment evidence for self-harm being linked with the diagnosis of Borderline Personality Disorder, the current study could be applied with people who share this diagnosis. Findings may potentially reveal a greater shared variance on the functions of self-harm or different functional factors between the participants who share the diagnosis. Any possible findings could further our knowledge on the clinical and theoretical advantages of this psychiatric diagnosis for people who self-harm.

4.4. Methodological considerations/ critical appraisal of the study

The current study's clinical and research implications need to be considered in light of a critical appraisal of the study's strengths and weaknesses which shall be discussed next.

4.4.1 Strengths of the study

An advantage of Q-methodological studies is that people (or at least their Q sorts) are correlated instead of individual variables (i.e. items or statements). This means that whole viewpoints are examined for association and the variables (in this case the different functions of self-harm) are not considered in isolation of each other. It also allows the nature of self-harm serving a number of functions simultaneously (over-deterministic) to be incorporated and explored. The study's method builds on the existing literature of the functions of self-harm and has found certain distinct and shared subjective viewpoints on the functions of self-harm by those who self-harm.

Diversity is a guiding principle in Q-methodology both in its Q-set and P-set. The participants in the study were recruited from various sources: online, support group and ALPS. This adds to the diversity of the sample which is important in allowing for greater coverage of perspectives in the emerging viewpoints. Diversity was also captured in the Q-set which was developed from a concourse featuring studies and reviews using different research methodologies, clinical and academic measures and functional models published since the 1970s.

4.4.2 Limitations

Limitations in the current study are discussed next these concern the Q-set, P-set and interpretation of the factors.

The concourse/ Q set

Q methodology advocates for statements to be worded to allow participants to impart their own understandings and points of view. In this study the statements attempted to encourage participants to offer their opinion on the functions of self-harm. This may be of greater use when subsequently interviewing participants as more data is gathered on item's positioning, relatedness and personal meaning. However, in the current study only 2 of the 20 participants completed the Q-sort in person with the researcher. Therefore, potentially richer data may have been obtained if more participants completed the study with support from a researcher. Nonetheless, completing the Q-sort privately (i.e. the postal Q-sorts) would also allow for advantages such as less time constraints and greater anonymity to express one's viewpoint.

Some participants commented on some functions that may have been missed in the Q-set; for example, the addictive aspect of self-harm. The idea of self-harm as an addictive behaviour points towards similar functional overlaps as addictive behaviour similarly serves to stave off the negative

and bring about the positive. Such connections have previously been discussed in the literature particularly self-harm being associated with alcohol and drug use and food binging and purging (Favazza, 2011).

The conditions of instruction for Q-sorting asked participants for a general view of which functions each participant most agreed and disagreed with. However, what is salient in the mind of the Q-sorters may be the functions that are most frequent across episodes, the most emotive functions or the functions associated with the most recent episode as all three options may be most readily recalled. However, Q methodology is not too concerned with this as in line with other qualitative methods it assumes that participants will narrate functions most readily available to them at the time; the method does not seek to identify types of people rather it seeks to find a shared understanding of explanations for self-harm. Moreover, as the study was exploring self-reported attitudes about behaviour rather than the behaviour per se this could also be argued as a limitation of previous qualitative and quantitative studies on self-harm.

Nonetheless, the influence of the passing of time may be a factor in people's recollection and attitudes towards their functions of self-harm. Some participants' comments expanded on the influence of context and hindsight on the importance of certain functions; as well as certain functions being in the foreground and background during any given episode of self-harm. This links to the temporal interplay of thoughts, feelings, behaviour and events in hours, days, weeks and months leading to self-harm (e.g. Townsend et al. 2016). Such considerations are also key in understanding self-harm as a dynamic phenomenon that is known to change over time (e.g. in method, severity and frequency).

This links to the current Integrated Motivational Volitional model of suicidal behaviour (O'Connor, 2011). This model appraises self-harm and suicidal behaviour following three phases from a pre-motivational stage, to a motivational phase and then to a volitional/ enactment phase. The motivational phase appears to be connected to the academic literature on the functions of self-harm. In this motivational/ intentional phase, O'Connor (2011) outlines the concept of entrapment and self-harm's intention to seek relief/ escape from feeling trapped (e.g. by life circumstances and feelings of defeat and humiliation). This appears to closely relate to the current study's statements of controlling and switching off emotion and thought (statements 1, 2, 40 and 41). However, the language of escape and being trapped ties more closely to current academic models and thus may have been a useful addition to the Q-set.

The P-Set: sample size and recruitment

One clear limitation of the study was the relatively smaller sample size, although still within the size considered sufficient for a Q-methodology study (Watts & Stenner, 2012). This smaller P-set

may have resulted in greater overlap (i.e. consensus statements) as only a two factor solution was sufficiently robust. In the current sample of 20 Q-sorts there was a trade-off between having more distinguishing statements (and thus separation between factors) and having fewer purer exemplars loading significantly on factors which limits interpretability of the factors' viewpoints. The smaller sample size was due in part by delays in recruitment due to unforeseen delays in the various NHS governance processes.

One important consideration is where the participants were recruited from as this may have had an impact on the findings. The majority of the P-set was recruited from online forums and the 3rd sector support group (Battle Scars) with only one participant being recruited from the NHS. This may have influenced the greater overlap found in the study as participants in a support group may have already shared a similar point of view on self-harm. Despite the one NHS participant being a confound Q-sort, more participants from the NHS may have differentiated factors to a greater degree if more diversity in recruitment sources was sought.

Factor interpretation

Factor interpretation, although grounded in the statistical output and participants' comments, is the most subjective part of the analysis. An important consideration in interpretation of each factor's array is to have some idea of the boundary between where the agree-neutral-disagree statements lie on the Q-sort grid based on the exemplar's boundaries. For some participants, statements positioned in neutral may be interpreted as relevant sometimes or that the statement meant nothing to them. Additionally, only a small number of functions may have been agreed with for some individuals resulting in some neutral or disagreed with statements being placed on the + end of the continuum. Doing the Q-sorting task in person would have elucidated each participant's agree-disagree boundary which would have gone some way to allowing these insights to be carried over into interpretation of each factor. However, unfortunately only two Q-sorts were carried out in person with the researcher.

Such limitations are important in appraising the current study and can help inform changes when approaching future Q-methodology studies on self-harm.

4.5 Conclusions

The academic and research literature on the functions of self-harm reflect the complex, varied, occasionally contradictory and nuanced nature of this behaviour. A number of descriptive reviews and models have attempted to synthesise and integrate this body of academic knowledge (e.g. Suyemoto, 1998; Klonsky, 2007 and Edmondson et al., 2016). The current study adds to this

knowledge on the functions of self-harm as it asked people who self-harm to bring their subjective viewpoints to bear on this existent body of knowledge.

Findings revealed much overlap on the functions of self-harm for the study's sample of 20 participants; with some functional statements being more strongly agreed and disagreed with and other statements appearing less significant in participants' viewpoint on why they self-harm. Unanimous agreement was found for self-harm managing negative emotional and cognitive intrapersonal events. Unanimous disagreement was found for self-harm serving any sexual functions.

Despite this consensus, two statistically robust and distinct viewpoints were apparent. These two factors allow for an appreciation of differences in degree of agreement and disagreement on the holistic interpretation of functions of self-harm. These differences in viewpoint were apparent in relation to the positive and validating functions with Factor 1('increasing the positive') statistically endorsing these functions to a greater extent than Factor 2. In contrast, Factor 2 ('removing the negative') appeared to view the cleansing and self-punishment functions as more relevant than Factor 1. Additionally, Factor 2 also saw self-harm as a greater way to switch off memories, terminating depersonalisation and these participants expressed more ambivalence around self-harm and suicide. Such findings have clear implications in the assessment and treatment with people who wish to change, reduce or stop their self-harm. Implications are also evident for future research and our theoretical and academic understanding of the functions of self-harm.

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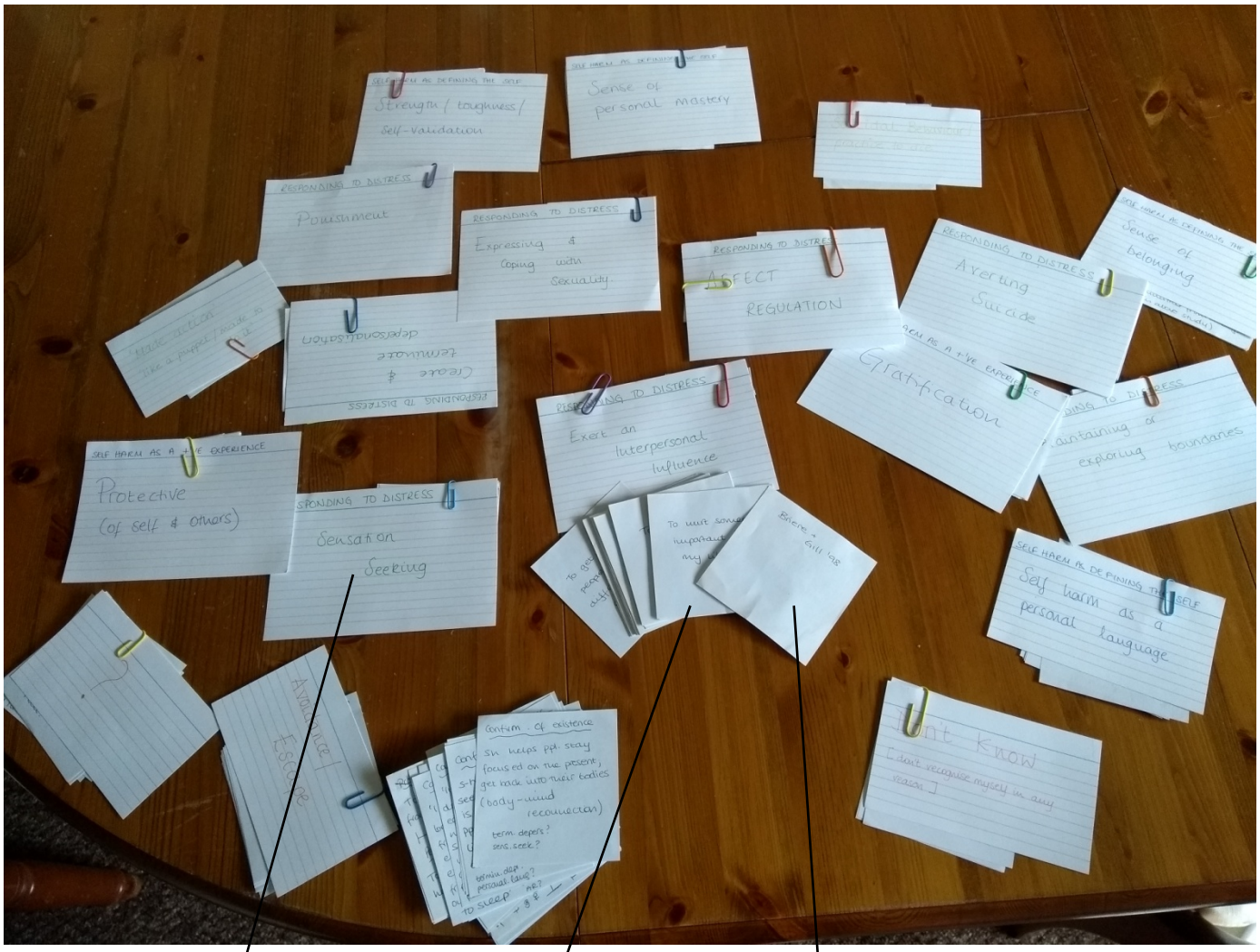
APPENDICES

APPENDIX 1: PHOTO OF Q-SET DEVELOPMENT

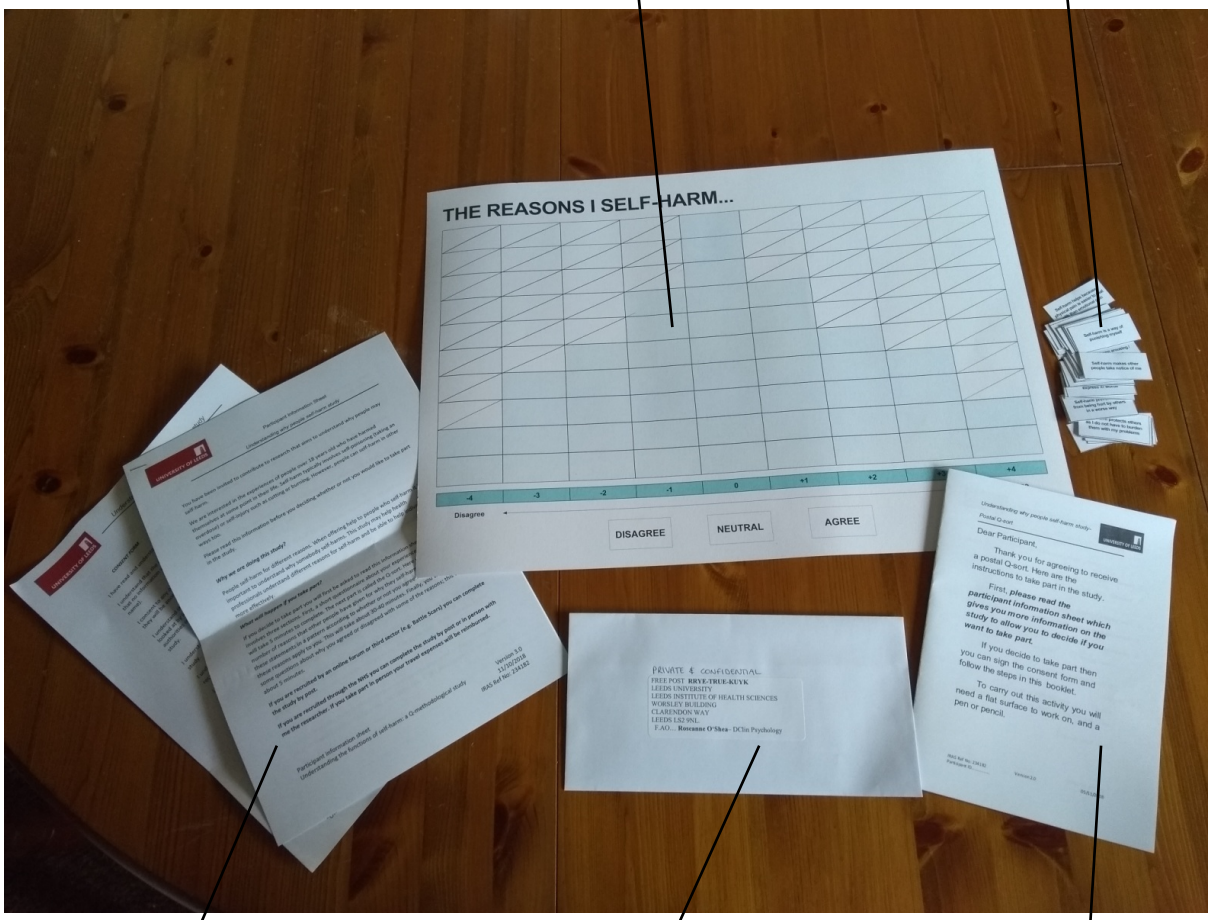


Theme/ category

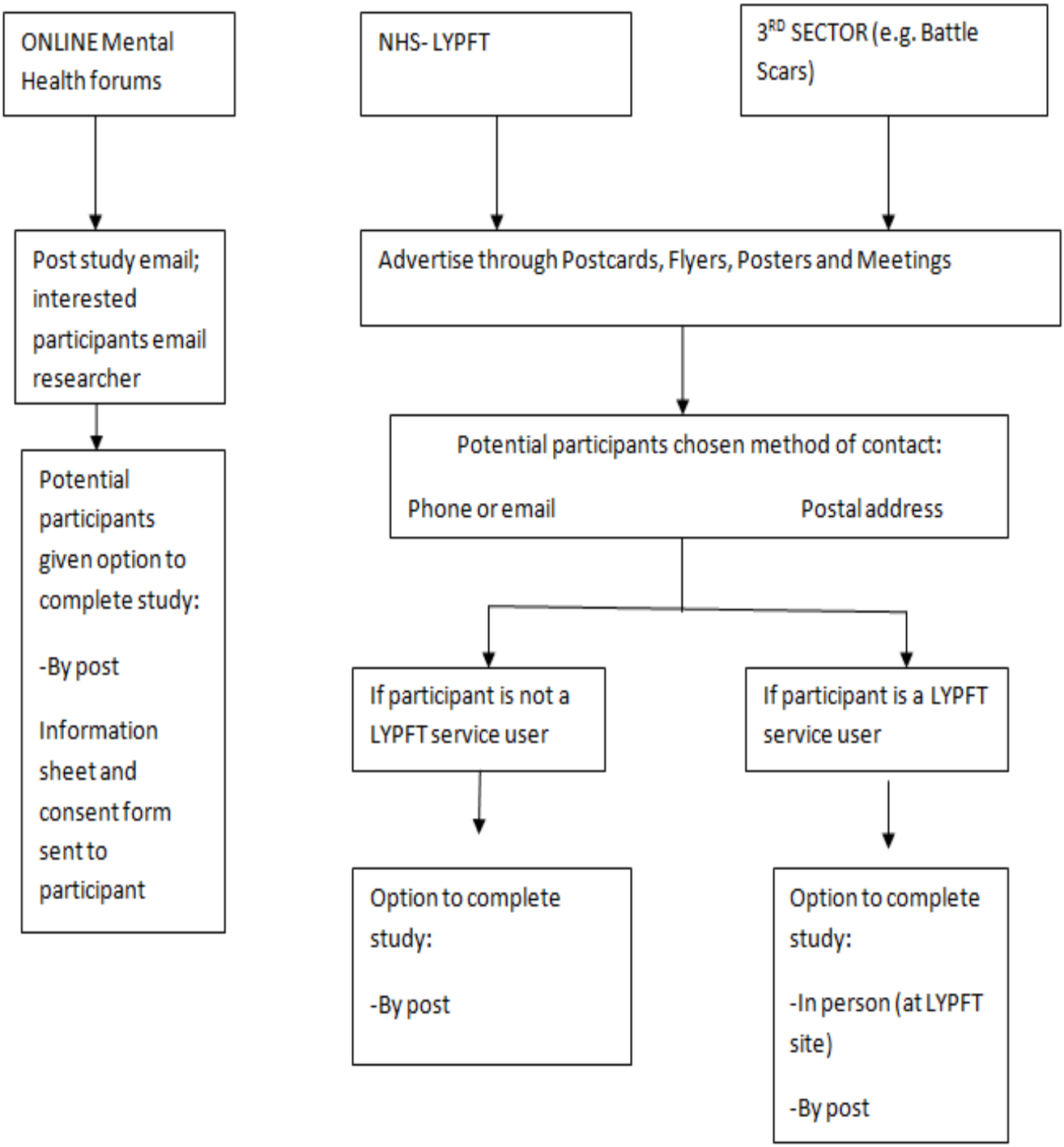
Code

Code's reference on reverse of code

APPENDIX 2: PHOTO OF A Q-SORT PACK



APPENDIX 3: Recruitment Flow chart



APPENDIX 4: Ethical approval letter

Health Research Authority

Yorkshire & The Humber - South Yorkshire Research Ethics Committee

NHSBT Newcastle Blood Donor Centre

Holland Drive Newcastle upon Tyne

NE2 4NQ

Telephone: 0207 1048091

Please note: This is the favourable opinion of the REC only and does not allow

16 October 2018

Professor Allan House

Leeds Institute of Health Sciences Worsley Building

Clarendon Way, Leeds LS2 9NL

Dear Professor House

Study title:	Understanding the functions of self-harm: a Q-methodological study
REC reference:	18/YH/0352

Protocol number:	N/A
IRAS project ID:	234182

Thank you for your letter of 15 October 2018, responding to the Committee's 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.

We plan to publish your research summary wording for the above study on the HRA website, together with your contact details. Publication will be no earlier than three months from the date of this opinion letter. Should you wish to provide a substitute contact point, require further information, or wish to make a request to postpone publication, please contact hra.studyregistration@nhs.net outlining the reasons for your request.

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.

Conditions of the favourable opinion

The REC favourable opinion is subject to the following conditions being met prior to the start of the study.

Management permission must be obtained from each host organisation prior to the start of the study at the site concerned.

Management permission 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, at www.hra.nhs.uk or at http://www.rdforum.nhs.uk.

Where a NHS organisation's role in the study is limited to identifying and referring potential participants to research sites ("participant identification centre"), guidance should be sought from the R&D office on the information it requires to give permission for this activity.

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 clinical trials (defined as the first four categories on the IRAS filter page) must be registered on a publically accessible database within 6 weeks of recruitment of the first participant (for medical device studies, within the timeline determined by the current registration and publication trees).

There is no requirement to separately notify the REC but you should do so at the earliest opportunity e.g. when submitting an amendment. We will audit the registration details as part of the annual progress reporting process.

To ensure transparency in research, we strongly recommend that all research is registered but for non-clinical trials this is not currently mandatory.

If a sponsor wishes to request a deferral for study registration within the required timeframe, they should contact hra.studyregistration@nhs.net. The expectation is that all clinical trials will be registered, however, in exceptional circumstances non registration may be permissible with prior agreement from the HRA. Guidance on where to register is provided on the HRA website.

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).

Ethical review of research sites NHS sites

The favourable opinion applies to all NHS sites taking part in the study, subject to management permission being obtained from the NHS/HSC R&D office prior to the start of the study (see "Conditions of the favourable opinion" below).

Approved documents

The final list of documents reviewed and approved by the Committee is as follows:

Document	*Version*	*Date*
Copies of advertisement materials for research participants [Advert for NHS and 3rd sector]	1	10 August 2018
Copies of advertisement materials for research participants [Advert for online forums]	1	10 August 2018
Evidence of Sponsor insurance or indemnity (non NHS Sponsors only) [Confirmation of Liability Insurance Letter]		10 August 2018
Interview schedules or topic guides for participants [Post Q-Sort Questions]	1	10 August 2018
IRAS Application Form [IRAS_Form_12102018]		12 October 2018
IRAS Checklist XML [Checklist_12102018]		12 October 2018
Letters of invitation to participant [Postcard recruitment]	1	10 August 2018
Non-validated questionnaire [Instructions for participants]	1	10 August 2018
Non-validated questionnaire [Pre Q-Sort Questions]	1	10 August 2018
Other [Email for recruitment]	1	10 August 2018
Other [Q- Sort grid]	1	10 August 2018
Other [Q sort Statements]	1	10 August 2018
Other [University of Leeds low risk assessment]	1	10 August 2018

Other [Information letter about Trainee Clinical Psychology]	1	10 August 2018
Other [Research Panel Constitution]	1	10 August 2018
Other [Risk Protocol]	1	10 August 2018
Other [Covering Letter for REC response]	V1	12 October 2018
Participant consent form	1	10 August 2018
Participant information sheet (PIS)	V2	11 October 2018
Research protocol or project proposal [Research Protocol]	V2	11 October 2018
Summary CV for Chief Investigator (CI) [CV Allan House]		10 August 2018
Summary CV for student [Student/ Trainee CV]		10 August 2018
Summary CV for supervisor (student research) [Supervisor's CV]		10 August 2018

APPENDIX 5: PARTICIPANT INFORMATION SHEET

Participant Information Sheet

Understanding why people self-harm study

You have been invited to contribute to research that aims to understand why people may self-harm.

We are interested in the experiences of people over 18 years old who have harmed themselves at some point in their life. Self-harm typically involves self-poisoning (taking an overdose) or self-injury such as cutting or burning. However, people can self-harm in other ways too.

Please read this information before you deciding whether or not you would like to take part in the study.

Why we are doing this study?

People self-harm for different reasons. When offering help to people who self-harm it is important to understand why somebody self-harms. This study may help health professionals understand different reasons for self-harm and be able to help individuals more effectively.

What will happen if you take part?

If you decide to take part you will first be asked to read this information sheet. The study involves three sections. First, a short questionnaire about your experience of self-harm that will take 5 minutes to complete. The next part is called the Q-sort. Here you will read a number of reasons that other people have given for why they self-harm. You will arrange these statements in a pattern according to whether or not you agree and disagree that these reasons apply to you. This will take about 30-40 minutes. Finally, you will be asked some questions about why you agreed or disagreed with some of the reasons; this will take about 5 minutes.

If you are recruited by an online forum or third sector (e.g. Battle Scars) you can complete the study by post.

If you are recruited through the NHS you can complete the study by post or in person with me the researcher. If you take part in person your travel expenses will be reimbursed.

Your private information will be kept securely at the University of Leeds until the end of my studies at which point it will be destroyed. The answers you give will be kept for up to five years.

Do you have to take part?

No. If you do not want to take part, you can ignore this invitation. If you decide not to take part you do not have to tell me why.

Not taking part will not have any effect upon the care you receive.

If you choose to take part in the study, the information you provide in the study will be kept confidential, and your name will not be stored with the information about your reasons for self-harm.

If you decide to take part in the study in person with the researcher or by post you can ask that your responses are removed by 29th March 2019 time by emailing the researcher. They will then not be used in the study.

Potential benefits to those who take part

Some people like the opportunity to reflect on their reasons for self-harm. The study allows you to do this. We also hope that results from the study may help improve services for people who self-harm.

If you take part and would like a summary of the results please contact me by email selfharmstudy@leeds.ac.uk.

If you take part and would like to receive a summary of the results of the study, please let me know you are interested by email: selfharmstudy@leeds.ac.uk

Potential disadvantages of taking part

Self-harm can be a sensitive and personal topic for people to think about. You may find thinking about your reasons or other people's reasons for self-harm upsetting. If you feel you do not wish to carry on with the study you can stop at any time. If you continue to feel upset you may want to seek out your usual sources of support. Also, below are some contact details for further sources of support.

If you complete the study in person with me and become distressed or disclose any risk I will talk to you about options to keep you and others safe. If this does happen, in some circumstances I will have to let someone else know (for example, the crisis team) to keep you and others safe. If I do this I will talk to you about this.

Transparency information

The University of Leeds is the sponsor for this study based in the United Kingdom. We will be using information from you in order to undertake this study and will act as the data controller for this study. This means that we are responsible for looking after your information and using it properly. The University of Leeds will use your name and contact details to contact you about the research study. The University of Leeds will keep your identifiable information for 3 years after the study has finished.

Your right to access, change or move your information are limited, as we need to manage your information in specific ways in order for the research to be reliable and accurate. If you withdraw from the study, we will keep the information about you that we have already obtained. To safeguard your rights, we will use the minimum personally-identifiable information possible.

You can find out more about how we use your information at: http://www.leeds.ac.uk/secretariat/data_protection.html.

NHS Participants

Leeds York Partnership Foundation NHS Trust (LYPFT) will collect information from you for this research study in accordance with our instructions.

The University of Leeds will use your name and contact details to contact you about the research study, and make sure that relevant information about the study is recorded for your care, and to oversee the quality of the study. Individuals from the University of Leeds and regulatory organisations may look at your medical and research records to check the accuracy of the research study.

(LYPFT) will use your name and contact details to contact you about the research study, and make sure that relevant information about the study is recorded for your care, and to oversee the quality of the study.

Individuals from the University of Leeds and regulatory organisations may look at your medical and research records to check the accuracy of the research study.

LYPFT will pass these details to the University of Leeds along with the information collected from you. The only people in the University of Leeds who will have access to information that identifies you will be people who need to contact you offer you to take part in the study.

The people who analyse the information will not be able to identify you and will not be able to find out your name or contact details. LYPFT will not keep any identifiable information after the study has finished.

Non-NHS participants (if you were recruited online or through a support group)

When you agree to take part in a research study, the information you provide may be provided to researchers running other research studies in this organisation and in other organisations. This information will not identify you and will not be combined with other information in a way that could identify you. The information will only be used for the purpose of health and care research, and cannot be used to contact you or to affect your care. It will not be used to make decisions about future services available to you, such as insurance.

What if you are unhappy about the study in some way?

If you are unhappy about the study then please contact me at: selfharmstudy@leeds.ac.uk

If you are still unhappy then please contact my supervisor, Professor Allan House, Leeds Institute of Health Sciences, Worsley Building, University of Leeds, Clarendon Way, Leeds LS2 9NL.

What should you do now?

If you are interested and to continue with the study by post you can now sign the consent form and then follow the instructions. If you would like to continue with the study with the researcher contact me on selfharmstudy@leeds.ac.uk

Thank you,

Roseanne O'Shea

Trainee Clinical Psychologist

Email: selfharmstudy@leeds.ac.uk

SOURCES OF SUPPORT

Your GP is available by appointment.

LYPFT:

If you are a service user for Leeds York Partnership NHS Foundation Trust the 24/7 crisis team on - 0300 300 1485.

MindWell:

For non-urgent support the MindWell website combines NHS and non-NHS services. The MindWell link below connects to their page with all the contact details for different support services (NHS and third sector).

https://www.mindwell-leeds.org.uk/i-need-help-now#/i-want-to-talk-to-someone

Samaritans:

Samaritans is available 24 hours a day for anyone struggling to cope and provide a safe place to talk where calls are completely confidential.

Phone: 116 123

Email: jo@samaritans.org

HopelineUK

Freephone: 0800 068 41 41

HopelineUK is a confidential support and advice service for young people under the age of 35 who may be having thoughts of suicide.

https://www.papyrus-uk.org/help-advice/about-hopelineuk

Mind Infoline

0300 123 3393 Text 86463

info@mind.org.uk

The Mind team can provide information on a range of topics such as different mental health problems, where to get help (including support in your own area), medication and alternative treatments and advocacy.

https://www.mind.org.uk/information-support/helplines/

Appendix 6: Q-SORT Booklet

Dear Participant,

Thank you for agreeing to receive a postal Q-sort. Here are the instructions to take part in the study.

First, *please read the participant information sheet which gives you more information on the study to allow you to decide if you want to take part.*

If you decide to take part then you can sign the consent form and follow the steps in this booklet.

To carry out this activity you will need a flat surface to work on, and a pen or pencil.

STEP 1: First, complete these questions:

1.Gender? _____

2. Age now? _____

3. How old were you when you first self-harmed? Years_____

4. When was the last time you self-harmed? _____

5. How many times have you self-harmed in your life?

It was a one-off ☐ Fewer than 5 ☐ 5-20 ☐

So many I have lost count ☐

6. Ethnicity

White ☐ Mixed/ Multiple Ethnic Groups ☐

Asian/ Asian British ☐ Black/ African/ Caribbean/ Black British ☐

Other Ethnic Group ☐

7. Method of self-harm

People harm themselves in different ways for example, cutting, burning or overdosing/ taking tablets. We also know that people harm themselves in other ways. What do you do mainly?

Cutting ☐ Burning ☐ Overdosing/ taking tablets ☐

Something else_____

8. Have you every sought help for self-harm?

YES ☐ NO ☐

If yes, what type of help? _____

9. Do you want to stop self-harming?

YES ☐ NO ☐ Undecided ☐

STEP 2: Complete the Q-sort

Enclosed are a set of 46 statements. These statements express what some people say are reasons for self-harming. I want you to consider whether you agree or disagree with the statements according to the reasons you self-harm. Your reasons may change between the times you self-harm or your reasons may have changed over time. I want you to consider the reasons that apply to you most of the time.

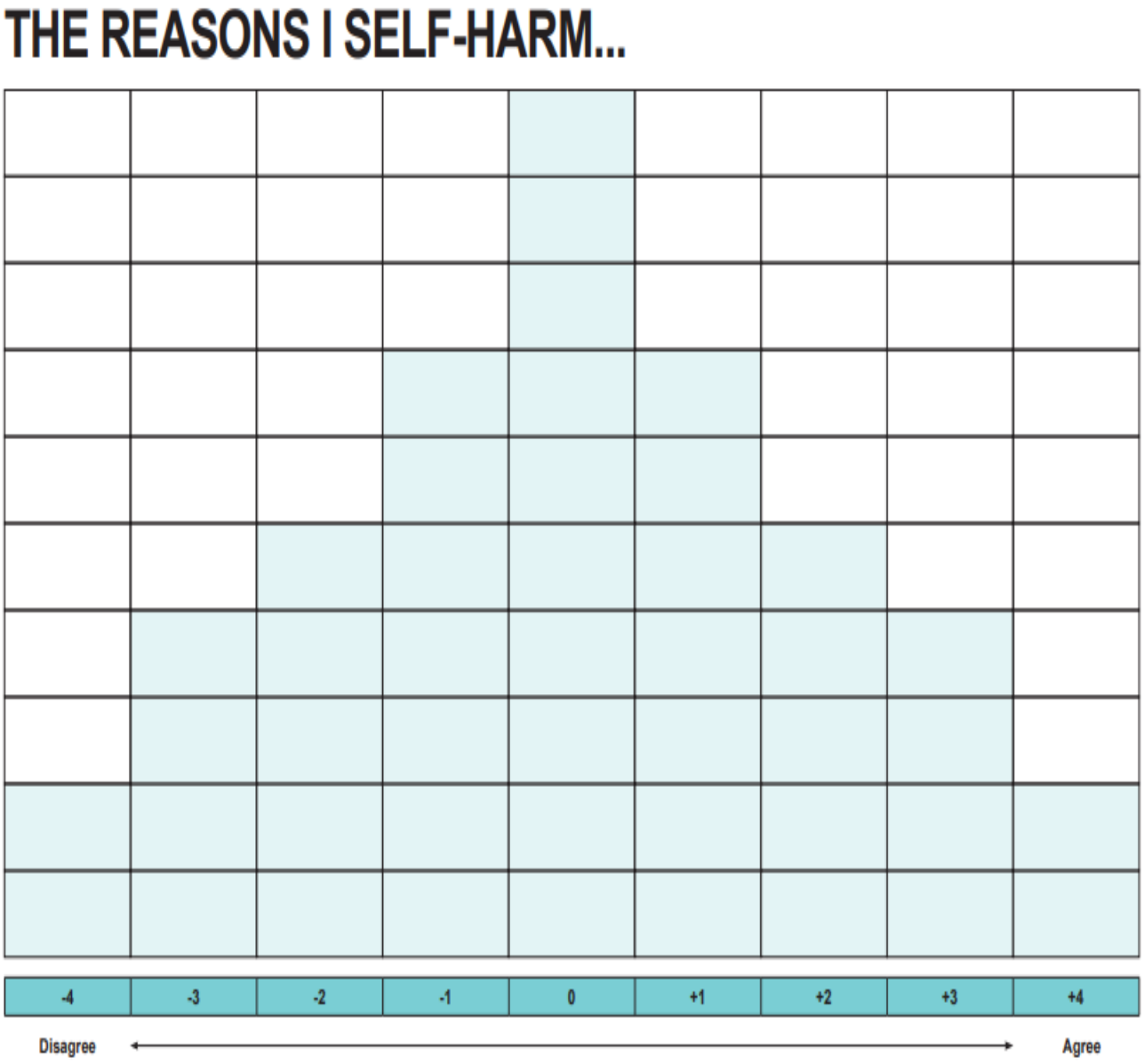
1. First, read each statement and place them in one of the piles:
    - Agree (this is like my reason)
    - Neutral (this reason does not mean anything to me)
    - Disagree (this is not like my reasons)

Enclosed are also three cards (Agree, Neutral and Disagree) to help you to sort the statements into three piles.

2. Next, take the pile of 'Agree' statements and find the 2 statements you most agree with. Place these two in the far right column of the big A3 Q-sort grid, in position +4. The order you place them in by rows does not matter, only the columns matter.
3. Next, consider the next 4 statements you most agree with and place them in the second column from the right (+3 position).
4. Next, consider the next 5 statements you most agree with and place them in the third column from the right (+2 position).
5. Now take the statements in your 'Disagree' pile. Do the same for these statements. So, position the 2 statements you most disagree with in the far left column (-4 position). Place the statements you next most agree with along the position -3 and then -2. Work towards the middle of the grid until you run out of disagree statements.
6. Return to your agree pile and place the remaining cards in the positions according to how much you agree with them, working to the middle of the grid until you run out of agree statements.
7. Finally, take the neutral pile and place them in the empty spaces that are left according to how much you agree with the statement (further to the right) or disagree (further to the left).
8. Look at your grid and move the position of any of the statements if needed until you are happy with where they are placed.

STEP 3: Fill in the numbers

Each statement has a number on the back of it. Write down the number of each statement in the grey boxes below according to the position of the statement in the grid you have just created. This helps me know which statement you positioned on the grid.



STEP 4: Fill out these questions after you have done the Q-sort:

Can you say a little more about the statement(s) you put in the far right (+4 position) of the grid? What is it about these statements that make you strongly agree?

Can you say a little more about the statement(s) you put in the far left (-4 position) of the grid? What is it about these statements that make you strongly disagree?

Did you have difficulty placing any items? If so, which ones and why?

Was anything missing from the Q sort? For example are there reasons that you self-harm that weren't in the statements?

STEP 5: Thank you very much for completing the study. Please send the following back in the pre-paid envelope:

Your signed consent form

This booklet with your answers

Please return at your earliest convenience and before 1st April 2019

You may keep or get rid of the statements and larger Q sort grid.

Thank you very much for taking part

APPENDIX 7: Consent Form

CONSENT FORM *Please tick*

I have read and understood the participant information sheet. ☐

I understand that the information I give will be used in published research but that no information will be included which could identify me (for instance my name). ☐

I consent to any of my direct quotes being used in publications on the condition they will be anonymised and not have identifying features. ☐

I understand that relevant sections of data collected during the study, may be looked at by individuals from the University of Leeds, from regulatory authorities or from the NHS Trust, where it is relevant to my taking part in this study. ☐

I understand that I can ask questions about the study at any point during the study. ☐

I understand that taking part in this study will not have any effect upon the care I receive. ☐

I understand that I am free to withdraw from the study and for my answers to be removed from the study by 31st January 2019. If I withdraw my care will not be affected in any way. ☐

I consent to being part of this study ☐

PARTICIPANTRESEARCHER

Name_____ Name_____

Signed_____ Signed_____

Date_____ Date_____

APPENDIX 8: Risk Protocol

RISK PROTOCOL

All participants will be given the contact details for agencies whom they can contact should they feel at risk. These include:

A reminder that they can contact their GP

Samaritans- available 24 hours a day for anyone struggling to cope and provide a safe place to talk where calls are completely confidential. Phone: 116 123. Email: jo@samaritans.org

HopelineUK- is a confidential support and advice service for young people under the age of 35 who may be having thoughts of suicide. Freephone 0800 068 41 41. https://www.papyrus-uk.org/help-advice/about-hopelineuk.

Mind Infoline- The Mind team can provide information on a range of topics such as different mental health problems, where to get help (including support in your own area), medication and alternative treatments and advocacy. 0300 123 3393 Text 86463. info@mind.org.uk https://www.mind.org.uk/information-support/helplines/

In-person Q-sorts (recruited via LYPFT)

Participants recruited via LYPFT are able to access the referral pathways to other professionals, if required (for example, to the Crisis team).

Confidentiality and disclosure are discussed at the outset of the in-person Q-sort by going over the participant information sheet and consent form. This ensures the participant is aware of what the researcher's responsibility is with regards to disclosure of serious risk to self.

Action Plan around distress and disclosure:

If the participant becomes visibly distressed during the Q-sort, the researcher will ask the participant if they want to stop or break for a while. The researcher will enquire about the participant's wellbeing and ask whether they would like to stop the Q-sort. The researcher shall remind the participant they can stop at any point during the Q-sort. Regardless of the participant's decision to continue or not the researcher shall go over the sources of support.

If disclosure of self-harm ideas/ urges is expressed by the participant, the researcher will ascertain if these urges are imminent.

If these urges are not imminent/ immediate the researcher will discuss with the participant the options for sources of support (contact agencies as above and the MindWell resource for LYPFT users). If the participant reports that there is no immediate risk and they are able to keep themselves safe, the researcher shall still ensure the participant knows what they can do should this change (i.e. contact their GP, care coordinator, key worker or the team's duty worker).

If the participant expresses self-harm ideas and the level of distress is higher and/ or urges are more imminent the researcher will encourage the participant to seek help and attempt to draw up a plan with them. The researcher will ask the participant if they want the researcher to contact the following:

- Connect Helpline (between 6pm-2am):
  - Telephone 0808 800 12 12 (*freephone from landline/mobile*)
  - Or follow link to Connect Online at http://www.lslcs.org.uk/services/connect-helpline/
- Leeds & York NHS Crisis Team - 0300 300 1485
- Dial House - Call 0113 260 9328 or text 07922 249 452 between 6pm and 7pm to visit that evening (Dial House is open between 6pm-2am)
- Accident and Emergency (LGI or St James' Hospital)
- Mindwell: for up to date information of local and national services offering support:www.mindwell-leeds.org.uk
- In immediate danger? Contact 999 for Police or Ambulance (*freephone from landline/mobile*)

If the participant discloses serious self-harm or suicidal ideation or the researcher is wondering to contact somebody without the participant's consent (e.g. capacity in question) the researcher will have telephone number(s) available to call for advice, namely any of the above numbers.

If the participant leaves before establishing a 'plan' for managing their risk and the researcher believes the risk to be high, the researcher will call the SPA team for advice.

If the researcher wants to debrief the researcher can also contact their supervisors (for non-urgent cases).

APPENDIX 9: Recruitment options

Mental Health and Self-harm forums and emails contacted:

Harmless.org.uk (info@harmless.org.uk)

Recoveryourlife.com

Lifesigns (hello@lifesigns.org.uk)

Selfharm UK (inof@selfharm.co.uk)

London-based self-harm support group (info@bowhave.org.uk)

Lake district based self-harm support group (info@safa-sefharm.com)

Beyond the scars support group in Warrington (mlewis@beyondthescars.co.uk)

Manchester based self-harm group SHARE (selfhelpselfharmgroup@googlemail.com)

InSUGhts- Newcastle based support group (launchpadncl@aol.com)

Edinburgh self-harm support group (thehive@samh.org.uk)

National Self Harm Network Forum (http://nshn.co.uk/forum/index.php

APPENDIX 10: Watts & Stenner's (2012) Factor Interpretation crib sheet

Watts & Stenner's (2012) Factor Interpretation crib sheet

For the rotated factor arrays

Items Ranked at +4

Items Ranked Higher in Factor X Array than in Other Factor Arrays

Items Ranked Lower in Factor X Array than in Other Factor Arrays

Items Ranked at -4

Appendix 11: Summary of the 4 factor arrays

Each factor's positioning of the statements (+4 to -4). Consensus items highlighted in purple.

STATEMENT	FACTOR 1	FACTOR 2	FACTOR 3	FACTOR 4
1. Self-harm helps because physical pain is easier to deal with than emotional pain	+2	+4	+1	+4
2. Self-harm helps me control my emotions	+3	+2	+1	+1
3. Self-harm is a way of showing others I need care and help	-2	0	-2	3
4. Self-harm is a way of showing other people how bad I feel	-1	1	0	3
5.Self-harm makes other people take notice of me	-1	-2	-3	1
6. Self-harm means people leave me alone	0	0	-4	0
7. Self-harm means I avoid what I would rather not do	1	0	4	-1
8. Self-harm allows me to create a strong emotional reaction in others	-3	-3	0	0
9. Self-harm is a way of punishing myself	2	4	2	2
10. Self-harm is a way of proving to myself how worthless or bad I am	0	3	1	1
11. Self-harm makes me feel unreal or disconnected from myself or the world	2	-3	1	-2
12. Self-harm allows me to disconnect from the intensity of my emotions	4	3	2	4
13. Self-harm makes me feel alive or real again when I have been feeling disconnected and unreal	3	1	0	-3
14. Self-harm helps me control the urge to kill myself	+2	+1	+2	+1
15. Self-harm makes me feel that my body is separate and distinct to anyone else	-1	0	-4	0
16. Self-harm shows that I own my own body	0	0	-3	-2
17. I find self-harm arousing/ sexually exciting	-4	-4	-2	-1
18. Self-harm allows me to reduce my sexual feelings	0	-4	1	-3
19. Self-harm gives me a way to care for myself (such as caring for the wound or injury)	0	0	-2	2
20. Self-harm is satisfying because I can care for myself afterwards	0	0	-3	0
21. Self-harm gives me a sense of warmth, calm and comfort.	3	0	-1	0
22. Self-harm reminds me I have control because I chose how, when and where I self-harm	4	2	-1	-2
23. Self-harm reminds me that I don't need to rely on others as I can control what I do	1	1	-2	-2

to myself				
24. Self-harm shows me I am strong as I can take the physical pain	-1	-2	-2	2
25. Self-harm creates a physical reminder that I am strong and powerful	-1	-1	0	0
26. I self-harm to see how far I can stand the pain	0	-2	3	1
27. Self-harm allows me to feel less alone as I belong with other people who self harm	-2	-3	0	0
28. I self-harm because it has become a part of who I am (self-identity)	0	-1	-1	0
29. Self-harm creates a physical reminder for important memories	-1	0	0	2
30. Self-harm is a personal language that I cannot express	1	2	2	2
31. Self-harm makes me less attractive to others and so protects me	-2	1	-1	-1
32. Self-harm prevents me from being hurt by others in a worse way	-2	1	0	0
33. Self-harm stops me from hurting someone else	-3	-1	3	-3
34. Self-harm protects others as I do not have to burden them with my problems	2	3	0	-4
35. Self-harm helps me get feelings of pleasure	1	-3	2	-1
36. Self-harm gives me feelings of excitement	0	-1	-3	0
37. Self-harm allows me to talk to those who have hurt me	-3	-1	-1	1
38. Self-harm allows me to feel close to those who have hurt me	-2	-2	0	1
39. I self-harm to please a powerful other	-4	-1	-1	-4
40. Self-harm switches off thoughts	3	2	3	3
41. Self-harm switches off memories	1	3	3	-1
42. Self-harm is practice to get used to the idea of killing	0	-2	-1	-3
43. When I self-harm I am washing away all that is bad	-3	1	4	-2
44. When I self-harm I am killing off a part of myself	-1	0	1	-1
45. Self-harm reminds me that my pain is real and understandable	1	2	0	3
46. I self-harm because I want to die	1	-1	1	-1