An Ecological Momentary Assessment of the Impact of Diet Culture Exposure and Self-Compassion on Moment-To-Moment Body Image Satisfaction.

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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

Introduction: 'Diet culture' is a phenomenon by which Westernized body image ideals (e.g., 'thinness', 'muscularity') are highly valued and are equated with health and moral virtue. It is thought that our interactions with others (e.g., family, peers) and with the media drives this phenomenon, often leading to harmful consequences (e.g., body image dissatisfaction). This thesis investigates the impact of 'diet culture' on body image satisfaction and explores self-compassion as a potential mediator. It situates the research within the broader literature, examining the harmful effects of diet culture within conversations and media, and the protective role of self-compassion.

Method: A two-phase observational design was used, with a baseline phase and an Ecological Momentary Assessment (EMA) phase. Data were collected on experiences of diet culture, alongside state-based measures (i.e., Body Image State Scale; BISS and State Self-Compassion Scale – Short Form; SSCS-SF) in daily life among the general population. 43 participants from diverse socio-demographic backgrounds participated in both phases of the study for seven days, answering five surveys a day. Data were analysed descriptively and using multilevel modelling (MLM).

Results: Participants were mostly identified as women (74.4%) aged between 16 and 75. They were mainly White (86%) and of 'healthy' weight status (46.5%). Diet culture exposures were relatively common for participants over the course of a week. Conversations between friends and family and social media were the most common exposures. MLM analyses revealed that diet culture exposure moderately predicted poorer moment-to-moment body image satisfaction. Higher self-compassion significantly predicted better body image satisfaction. However, there was unsubstantial evidence to suggest it acted as a mediator between diet culture exposure and body image satisfaction. There was an indication of a

cumulative impact of a higher number of diet culture exposures on weekly averages of both self-compassion and body image satisfaction, but the differences were non-significant. **Discussion:** The results are considered in the context of previous research on diet culture, weight stigma, and sociocultural influences on body image, as well as the protective role of self-compassion. Clinical areas of practice focusing on recognising and resisting diet culture, developing self-compassion, and influencing public health policy are discussed, and areas for future research are considered.

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Glossary

Anti-diet: A movement which is strategizing ways of challenging and countering dieting norms (Jovanovski et al., 2022)

Body (dis)satisfaction: The affective and evaluative component of body image associated with our satisfaction or dissatisfaction of our body (Cash, 2010).

Body Positivity movement: discourses that challenge Westernised body image ideals by encouraging weight and shape inclusivity and highlighting the functionality of bodies, to promote body acceptance.

Body-talk: Conversations that are centred on bodies and are influenced by sociocultural body image ideals.

Diet culture: A set of beliefs that values thinness or muscular physique and equates this with health and morality (Harrison., 2019, p.7).

Diet culture conversations: Conversations that perpetuate diet culture beliefs and norms.

Diet culture media: Media, either traditional (e.g., magazines, tv) or social media (e.g., Facebook, Instagram) that perpetuates and promotes diet culture beliefs and norms.

Fat phobia: being exposed to negative attitudes and behaviours towards themselves as a result of being fat (Puhl & Brownell, 2003).

Fat-talk: Conversation involving negative self-statements or complaints about one's larger physical appearance and weight (Jones et al., 2014).

Health at Every Size®: a specific body positivity movement which advocates for weight neutrality as an alternative to BMI-centric and stigmatising ways of viewing health (Gutin, 2021).

Healthism: the belief that health is the most important pursuit in one's life and that it is solely within the person's control

Internalised weight stigma: The process by which Westernised body image ideals and health rhetoric are internalised by the individual (Durso & Latner, 2008).

Intuitive eating: An 'anti-diet' approach that encourages individuals to pay attention to their *internal* hunger and satiety cues, rather than relying upon *external* cues that either restrict or promote eating (Bacon et al., 2005).

Moralisation of eating and exercise practices: socially constructed taboo around 'good' or 'bad' dietary or exercise practices (Delaney & McCarthy, 2014).

Self-compassion: Engaging in a healthy way of relating to oneself in times of suffering (e.g., when we face failure, perceived inadequacy, or general life problems). Engagement with one's suffering (i.e., with kindness, mindful awareness and holding a sense of the common humanity in the experience) and taking action to alleviate our suffering are important processes in practicing self-compassion (Neff et al., 2020).

Weight Bias: A negative perception of someone or negative behaviours towards people with a higher weight status.

Weight discrimination: when someone receives poorer treatment than others based on their body weight.

Weight stigma: Discrimination, stereotyping, and social exclusion based on a person's weight (The Lancet Public Health, 2019).

Abbreviations

ACT: Acceptance and Commitment Therapy

BISS: Body Image State Scale

BMI: Body Mass Index

CBT: Cognitive Behavioural Therapy

CFT: Compassion-Focused Therapy

EBE: Expert by Experience

EMA: Ecological Momentary Assessment

ICC: Intra-Class Correlation

MAR: Missing at Random

MLM: Multi-Level Modelling

REML: Restricted Maximum Likelihood

SATAQ-4: The Sociocultural Attitudes Towards Appearance Questionnaire–Version 4

SCS-SF: Self-Compassion Scale – Short Form

SSCS- SF: State Self-Compassion Scale – Short Form

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Chapter One: Introduction

This thesis explores the impact of diet culture on individuals' body image and investigates the role of self-compassion as a potential mediator, using Ecological Momentary Assessment (EMA). This chapter situates the research within the wider literature and provides a rationale for the study. It begins by presenting the search strategy used in the literature review. The term ‘diet culture’ is defined and relevant concepts are introduced. Sociocultural theory (Schaefer et al., 2015) serves as a framework to explore the harms of diet culture conversations and media. The literature on self-compassion is presented, exploring its role as a potential protective factor against these harms. Psychological interventions addressing diet culture are reviewed to highlight clinical and systemic approaches to improving body image. Studies utilising EMA are evaluated to understand the real-time impact of diet culture and related constructs, on body image and to identify gaps in the literature that justify this thesis.

1.1 Search Strategy in Literature Review

The literature review for the present thesis aimed to explore and analyse the following constructs: diet culture, exposure-type (e.g., friend, family, media, and acquaintances), body image satisfaction and self-compassion. The specific terms that were used within the literature search can be found in Appendix 1.

1.2 Diet Culture

The term ‘diet culture’ has been popularised within online communities and describes the phenomena by which Westernised culture perpetuates body image ideals (i.e., ‘thinness’, ‘muscularity’ or a specific body shape) and creates a sociocultural pressure to conform to these standards. Furthermore, diet culture equates body image ideals, such as thinness and athleticism, with health and moral virtue (Harrison, 2019, p.7). Some of the predominant

idealistic diet culture beliefs centre on: valuing and pursuing thinness or athleticism, the promotion of fat loss and the moralisation/condemnation of certain foods. The pressure to conform to ideals is reinforced by our social groups (e.g., friends, family members and other members of our community) and throughout wider society. It is also heavily influenced by the media (e.g., social media, televised media, and journalism) and our socio-political climate (e.g., anti-obesity campaigning, calories being displayed on menus). The term diet culture has been used by activist communities (e.g., 'fat activists' and 'anti-diet' communities; Jovanovski & Jaeger, 2022) and is rooted in a feminist critique of body policing (Jovanovski, 2017). It has not been widely adopted within the academic literature as it has been ill-defined. However, it is associated with concepts that appear in academic literature, such as weight stigma and weight bias and thin ideal internalisation.

Weight stigma is defined as "discrimination, stereotyping, and social exclusion based on a person's weight" (The Lancet Public Health, 2019). Weight stigma can be experienced both directly (e.g., harsh, or critical comments about one's body) or indirectly (e.g., exposure to weight loss media). Furthermore, weight stigma can be experienced externally (i.e. from other individuals or from society in general) or it can be internalised within the person (e.g., devaluing oneself owing to one's own weight status or perceived deviation from body image ideals). Internalised weight stigma is the process by which Westernised body image ideals and health rhetoric are internalised by the individual (Durso & Latner, 2008). This leads people to apply negative stereotypes and direct negative attitudes towards themselves. Furthermore, many people within society, especially people with obesity[1], are subject to weight bias and 'fat phobia'; that is, being exposed to negative attitudes and behaviours towards themselves as a result of their higher weight status and/or appearance (Puhl &

[1] The "people first" movement aims to use language as a means of working to eliminate weight bias and labelling for people with a variety of stigmatising health conditions and physical characteristics. Within this thesis, this language will be used to describe "people with larger bodies" or "people with obesity".

Brownell, 2003). This can lead to experiences of weight discrimination (Puhl & Brownell, 2003), such as being treated less courteously due to their weight. There is a common misconception that weight discrimination behaviours and policies can lead to encouragement of weight loss. However, there is growing evidence to suggest that it is more likely to promote behaviours that lead to weight gain (e.g., avoidance of physical activity; Jackson et al., 2014).

People whose physical characteristics align more closely to Westernised societal body image ideals (e.g., thin, athletic individuals) may also hold greater social power and privilege (i.e., thin privilege). This is even more likely if they hold a number of other societal privileges such as identifying as being cis-gendered, White and heterosexual (van Amsterdam, 2013). As such, weight bias affords people with slender bodies privileges such as being treated with more courtesy, receiving preferential health treatment, or even having access to more work opportunities (Puhl & Brownell, 2003). Slender bodies are overwhelmingly represented throughout the media, which adds to the false perception that this body type is the norm (van Amsterdam, 2013). In contrast, people with larger bodies or a higher weight status hold less power and privilege in society. Within the context of the NHS healthcare system in the UK, people are likely to experience more judgement from others and may be viewed as a risk not only to themselves, but to society due to being seen as an increasing 'burden' to the healthcare system. Judgements may include negative stereotypes associated with being overweight, such as being unhealthy, lazy, having a lack of self-discipline and being unmotivated to become healthier (Puhl & Brownell, 2003).

Direct discrimination in the form of weight-based bullying and teasing has long been recognised as a highly prevalent consequence of weight stigma, especially in children and adolescents (Puhl & Lessard, 2020). These experiences place victims of bullying and teasing

at increased risk of adverse health outcomes, such as disordered eating (i.e., irregular, or abnormal eating habits that do not meet the threshold for an eating disorder), increased weight gain and reduced physical activity. Experiences of weight discrimination and bullying in adults has been less well documented in the research literature. However, qualitative research has explored this phenomenon within adult samples of people living with obesity (Gerend et al., 2022). Gerend et al., (2002) highlighted the nature of weight discrimination that people experienced (e.g., receiving offensive comments, unwanted attention, and social rejection). They also highlighted the intersection between other social identities such as gender, race, and sexual orientation. In particular, comments were made about the imbalance of body image ideals placed upon women and amongst gay men, due to the focus on physical attractiveness.

Diet culture also exerts harmful consequences for people that are considered to have a lower weight status (or a BMI of less than 25). For instance, Thompson et al (2018) found college students who have high levels of internalised thin-ideal were found to be more likely to experience body-image disturbances, which meant that they were at higher risk of developing eating disorders. Thin-ideal internalisation is a core feature of many eating disorder presentations (e.g., disordered eating and anorexia nervosa; Schaefer et al., 2019) and treatments often aim to reduce thin-ideal internalisation to promote a healthier relationship with one's body.

1.2.1 Sociocultural Theory

Sociocultural theory suggests that diet culture ideals are perpetuated via two main avenues: via interpersonal processes (i.e., interactions with family and peers) and cultural processes within the media (e.g., social media and traditional media; Schaefer et al., 2015). According to Schaefer et al (2015) sociocultural theory exerts its influence on body image through a tri-

partite model of influence: through our interactions with *peers* and *family* (See section: 1.5 Diet Culture Conversations), and exposure to media (which will be explored in the subsequent section title: *'diet culture media')*. According to sociocultural theory the greater exposure to diet culture within conversations and media, the greater impact onto individuals' body dissatisfaction and further harmful outcomes. This chapter will explore the growing evidence that diet culture has a harmful impact on our perception of body image and other harmful outcomes (e.g., disordered eating, mood).

1.2.2 Variations in Body Image Ideals

Historically, much of the research looking into body image disturbances has solely focused on the experience of women. There has been comparatively scant research evaluating body image disturbances in males and gender non-conforming people (Brennan et al., 2010). Though, the evidence tends to suggest that women are exposed to a higher volume of media portraying unattainable female body image ideals, research is emerging to suggest that media portrayals of male body image ideals (e.g., muscular, lean aesthetic) are becoming just as unattainable as those aimed at women (Brennan et al., 2010). Whilst it is important to recognise that body image ideals affect people of all genders, research still indicates that people who identify as women suffer from comparatively higher rates of body image dissatisfaction (Brennan et al., 2010).

Research by Galupo et al (2021) highlights the limitations within mainstream research which does not capture the nuanced complexities of body image ideals that may be held by trans and non-binary people. Their thematic analysis highlighted alternative body image ideals, such as the 'androgynous' or 'blank slate' body image ideals. They highlight the importance of this body image type as a 'survival strategy' for gender non-conforming people as an outward expression of their identity. This research highlights the reductionist nature of many clinical

and research assessment protocols which fail to capture the different body image pressures faced by individuals who experience gender dysphoria or gender non-conformity.

Ethnicity is also a key consideration to consider in the discourses surrounding weight equating to health and wellbeing. Research has suggested that there is a larger discrepancy between actual and ideal body size identified amongst White women, as opposed to Black or Hispanic women (Fitzgibbon et al., 2000). This suggests that with regards to the 'thin-ideal' body image standard, Black and Hispanic women were less impacted in this study. However, rather than viewing this evidence as suggesting that Black or Hispanic women have fewer body image issues, evidence within the body image literature has indicated that women from ethnically diverse groups may have different body image ideals to White people, therefore encountering different body image concerns (Watson et al., 2019). For instance, Black women tend to have a heavier body image ideal, and a curvier or 'thick' figure is valued (Burk., 2015). Though Hesse-Biber (2010) showed that Black women are not immune to the impact of the 'thin-ideal'. They found that greater identification with White peers corresponded to greater influence of the 'thin-ideal' body image standards. Findings highlighted the diversity of the experiences of Black women with regards to their body image and the impact of Westernised cultural ideals. Taken together, this evidence suggests that there are different cultural connotations associated with body shape and size, which may influence how individuals feel about themselves and how they are viewed as by others from a socio-cultural lens (Fitzgibbon et al., 2000).

1.3 Diet Culture Discourses in Society

There are many dominant discourses in society related to diet culture, which reinforce and promote its underlying values and beliefs. National Eating Disorder Association (NEDA; Chastain, 2019) issued an informative blog post summarising ways of recognising and

resisting diet culture discourses. A recent thesis by Davidson (2020) worked to develop a 'Diet Culture Beliefs Scale' to categorise some of the common beliefs that perpetuate diet culture within discourse. The reliability and validity of this measure has recently been established (Hogan, 2022), but it is yet to be grounded in empirical literature around the subject. Next, this section will review the evidence base for the discourses described above: w*eight equates to health and wellbeing; moralization of food and exercise; rules about eating (what, when, how much?)* and promoting *exercise to prevent fatness.*

1.3.1 Weight Equates to Health and Wellbeing:

Equating people's appearance, weight and shape to their health and wellbeing is one discourse perpetuated through diet culture that may be harmful. Within this discourse, people who have a higher BMI or who inhabit larger bodies are pathologized by society (Gutin, 2021) and may be perceived as a greater health risk and more burdensome to society. In contrast, thinness is generally equated to being healthy, having a good sense of wellbeing and being increased happiness (Rodgers, 2016).

Conflating size with health is a reductionist concept and can be problematic for many reasons. For instance, Body Mass Index (BMI) is a metric commonly used in clinical practice to classify weight status (e.g., underweight; 'normal' or 'healthy' weight; obese etc.). It is often used as a key indicator of clinical risk and is widely perceived within society as an indicator of current health status. However, it is a lesser-known fact that BMI is merely a probabilistic indicator of risk and it does not consider other important factors which are more strongly associated with health risk (e.g., body fat distribution). This makes BMI an imperfect biomarker of health (Nuttall, 2015). There is a complacency surrounding the use of BMI as a measure of health within the medical and health research field, which has inflated the measures' validity. The cut-off points on the BMI scale are arbitrary (Gutin, 2021) and

the perceived difference in being within a one-point difference of being ‘overweight’ and ‘obese’ can be stark, due to the stigmatising nature of ‘obesity’.

Gutin (2021) suggests that pre-existing assumptions and biases surrounding weight and shape may be a contributing factor towards this dominant discourse. Conflating weight with health can confer many challenging consequences for individuals. For example, in countries such as the USA where people do not have access to free healthcare, insurance companies may increase their premiums as high BMI can be viewed as a ‘pre-existing condition’. This can privilege people who have a ‘healthy’ BMI, even though they may lead a comparatively less healthy lifestyle compared to their counterparts with a BMI in the ‘unhealthy’ range.

Another relevant concept to consider regarding weight and shape equating to health is theories that acknowledge the inherent diversity of weight and shape among human populations. There has been some evidence to suggest that there may be a biologically pre-determined ‘set point’ which regulates an individual’s body weight (Harris, 1990). Research, into body weight regulation that has progressed beyond the notion of a ‘set point’ has suggested that a ‘settling point’ may be a more accurate descriptor, which considers the influence of genetics, environmental and socioeconomic factors in weight regulation (Keijer et al., 2014). Both ‘set-point’ and ‘settling point’ theories account for the natural diversity in body shape and size inherent in all humans, which makes the thin-ideal more-or-less attainable depending on where the individual’s natural weight range exists on a continuum.

1.3.2 Moralisation of Food and Exercise

Across different cultures, food and exercise practices are subject to socially constructed taboos regarding what is considered to be ‘good’ or ‘bad’ practices (Delaney & McCarthy, 2014). For example, in Westernised culture, ‘healthism’ is a common discourse which

assigns a significant level of personal responsibility and importance on encouraging the individual to align themselves with 'healthy' eating and exercising practices (Crawford, 1980). Within this framework, lifestyle choices such as eating specific foods with higher a fat or sugar content, are viewed as being 'bad' for us. Phrases such as 'bad', 'dirty' or 'sinful' position this form of eating behaviour as being a morally laden choice, rather than an individual preference. Moralisation discourses around food and exercise exist within our social interactions and media, which has the potential to impact people irrespective of an individual's weight status or body size.

People with larger bodies can be the target of increased exposure to moralisation discourses about their bodies and eating behaviour, which can be perceived as psychologically threatening (Mulder et al., 2015). Furthermore, research suggests that the effect of moralisation messages for this cohort may have a counterproductive impact on their health behaviours. For instance, Mulder et al (2015) found that when participants defined as either having a 'low' or 'high' BMI read, well-intentioned yet moralising, messages prior to making food choices, their BMI status moderated their behaviour. That is, participants with a higher BMI were more likely to make food choices labelled 'unhealthy' by the researcher after reading moralising messages. This research captures one of the challenges that people with obesity face whilst living in a society where diet culture discourses are widely prevalent. According to this evidence, diet culture discourses may in fact increase the likelihood by which people with a higher weight status make poorer health choices, potentially because of a defensive self-regulatory process (Mulder et al., 2015). Thus, diet culture creates a vicious cycle for people with obesity as they are considered 'immoral' in the eyes of society by merit of their weight status, yet diet culture messaging may be increasing their likelihood to make 'unhealthier' choices.

On the other hand, people who have slender bodies or those who have lost weight, may be subject to discourses that sanction or congratulate their eating and exercise practices (Delaney & McCarthy, 2014). Individuals that can maintain a slender body or 'achieve' weight loss confer greater social capital, even if the means of achieving this physical appearance are unknown. As a result, 'healthism' confers a risk of reinforcing disordered eating patterns for some individuals. For example, 'Orthorexia' is a term coined within the medical literature, derived from the Latin 'ortho-', meaning 'correct' or 'proper', describing a problematic eating pattern relating to an obsession with eating foods which are labelled as 'healthy' (Ross Arguedas, 2020).

1.2.3 Rules About Eating (What, When, How Much):

The moralisation of diet culture ideals has led there to be commonly held socially constructed rules surrounding eating well (e.g., primarily eating 'healthy' foods; having unhealthy foods only on 'cheat days'; women eating smaller portion-sizes in public). Indeed, some rules and social norms for eating serve an adaptive function (i.e., knowledge around edible and toxic foods, identifying food that is good to eat which provides enough energy; Brunstrom, 2007). However, some implicit eating rules within diet culture norms may have a more antagonistic impact for some individuals. Cialdini et al (1990) made the distinction between both descriptive norms (e.g., what people do) and injunctive norms (e.g., what other people endorse). Both social processes can influence what people do and how they feel about themselves as a result. It is thought that following social norms around eating may serve the function of enhancing affiliation with peers (Higgs, 2015). For instance, Western society often frowns upon overeating, while consuming a 'healthy' diet in moderation is considered the acceptable norm. Perceived or actual social judgments and disapproval are more likely outcomes in this scenario due to the association of overeating with obesity (Vartanian et al,

2008). This may lead to feelings of alienation and shame for the individual that felt judged (Higgs, 2015). Furthermore, there are many barriers to 'healthy eating practices' that people may face that are beyond their control. For example, being able to stick to a 'healthy diet' may be challenging due to factors such as convenience and the comparative cost of 'unhealthier' alternative foods (Ashton et al., 2017). For this reason, 'healthism' privileges people from higher socioeconomic groups. Rules for eating may also have gendered influences. For instance, the notion of consuming smaller portions is often associated with projecting a more feminine image (Pliner & Chaiken, 1990).

A mixed-method design, cross-sectional analysis by Faw (2021) found that many participants held a variety of commonly held rules and beliefs about foods which should be eaten and which should be avoided. Participants appeared to experience some level of cognitive dissonance surrounding such rules and beliefs, and often these restrictions were self-imposed rather than directed towards others (e.g., peers). Participants also spoke about having 'conditional rights' to be able to eat certain foods (e.g., being "willing to work out if you want to eat freely"). Faw (2021) highlighted the difficulties that may arise when individuals attempt to develop body positive beliefs, and yet struggle to translate this into more body positive practices, such as intuitive eating. The cognitive dissonance that people experience led them to experience feelings of failure, which may increase their likelihood to resort to diet culture influenced beliefs and rule-bound dietary practices.

1.2.4 Exercise to Prevent Fatness

Another dominant discourse which diet culture promotes is the discourse around using exercise as a prevention of fatness or as a form of punishment for being fat. Weight stigma experiences have been associated with an increased desire to withdraw from exercise (Vartanian & Shaprow, 2008), which was an effect that was present even when BMI and

body dissatisfaction were controlled for. This research adds to our understanding of how diet culture discourses surrounding weight may be counterproductive in promoting weight-management, which may be emotionally damaging for individuals. Withdrawal from exercise has also been cited as a potential consequence of appearance-related outcomes not being attained in middle-aged women (Segar et al., 2006). Ryan and Deci (2000) explain using Self-Determination Theory, that if individuals are influenced by attaining socio-cultural body image ideals, this could be perceived as generating an internal conflict, which could be associated with less intrinsic motivation to exercise and sub-optimal self-regulation. This may be counterproductive, as their self-regulation is derived from an avoidance of anxiety and guilt, which is externally contingent and is dependent on meeting a set of narrow body image standards.

1.4 Weight Stigma and Body Image Dissatisfaction

One significant element of diet culture that has been widely researched in the psychological research literature is weight stigma. This section will continue to explore some of the literature around the harmful impact of weight stigma on psychological distress and body image dissatisfaction. A recent review of weight stigma literature found that both weight stigma from others and self-stigma are associated with psychological distress, such as depression and anxiety (Alimoradi et al, 2020). Furthermore, Durso and Latner (2008) found that self-directed weight-related stigma is associated with negative affective states such as shame and low self-esteem; negative self-evaluative thoughts and increased binge eating.

One of the most cited harms of diet culture that has been researched within the literature is body dissatisfaction. In a large-scale cross-sectional study, Jung et al. (2017) found that in the face of both weight-based discrimination and internalised weight stigma, being younger, having a higher weight status and attempting to lose weight were all factors associated with

having greater body image dissatisfaction. This suggests that greater awareness of social and self-directed pressure to conform to Western body ideals to be thin could have a significant impact on one's body image perception.

Body image dissatisfaction can lead to a range of psychological consequences such as increased shame/ self-criticism and alterations in mood and a plethora of harmful coping behaviours individuals use to cope with this (e.g., disordered eating). Furthermore, individuals across a range of weights, shapes and sizes may experience a devaluation of self-worth based upon their perceived body image (Bauer et al., 2013). Higher levels of internalised weight stigma is associated with more disordered eating (Marshall et al., 2019). Furthermore, it was found that higher body image avoidance and a greater drive for thinness mediated this relationship. In a large-scale study by Himmelstein et al., (2018) experienced- and internalised- weight stigma was found to be indirectly associated with depressive symptoms, lower psychological wellbeing and lower self-esteem. Maladaptive eating mediated this relationship. This study also found that weight stigma is associated with a range of harmful coping behaviours, such as increased dieting frequency, exercise avoidance and maladaptive eating.

Research suggests that weight stigma can impact anyone, regardless of sex, gender, ethnicity, or race. A large scale, cross-sectional study by Himmelstein et al., (2017) found that weight stigma was equally present across racial groups. However, the ways in which different groups internalize and deal with stigma varies. For example, White participants were more likely to internalise weight stigma than Black participants. Interestingly, this study found that Hispanic women were more likely to cope with weight stigma using disordered eating than their counterparts in other ethnic groups. In terms of gender, Himmelstein et al., (2017) found that overall, women reported greater weight bias internalisation. There were also gender based

differences amongst different ethnic groups in how weight stigma was dealt with, e.g., Black males were more likely to cope with weight stigma via increased eating. In terms of age, this study found that younger participants were more likely to experience internalised weight bias. Despite the apparent differences described above, Himmelstein et al., (2017) found that there were no statistically significant differences in both experienced and internalised weight stigma as a function of either race or gender. Though, as previously mentioned, it is recognised that some different ethnic groups have their own appearance ideals (e.g., drive for thinness) which may not have been accurately captured in this assessment of internalised weight stigma.

Other individual factors, such as weight and shape status have also been identified in the literature as important factors that can exacerbate the impact of diet culture. Corroborated by Himmelstein et al (2017), Marshall et al., (2020) found that people with a higher BMI had greater levels of internalised weight stigma. The latter was conducted across an ethnically diverse sample; therefore, this effect may have greater potential generalisability. Although people with a higher BMI appear to be more likely to experience internalised weight stigma, it is important to note that people across a whole range of different weight-ranges seem to experience this phenomenon, which highlights the permeability of diet culture ideals.

1.5 Diet Culture Conversations

Research suggests that diet-culture reinforcing conversations around weight and shape are habitual and routinized in Western society, especially amongst young women (Arroyo et al., 2017). Body-related co-rumination (i.e., repeated and detailed problem discussions with emphasis on the negative aspects of the problem) has been found to be associated with increased body dissatisfaction (Faw et al., 2021), disordered eating (Faw et al., 2021; Rudiger & Winstead, 2013) and less intuitive eating (Faw et al., 2021). The impact of body-related

co-rumination was found to impact body dissatisfaction regardless of the relationship quality amongst young adult women (Faw et al., 2021). It is also thought that diet culture conversations may have varying impacts dependent on who people interact with. This section will explore some of the evidence to date which has investigated the impact of diet culture-reinforcing conversations *within families, amongst friends* and *amongst acquaintances or strangers*.

Waring and Kelly (2020) have proposed the concept of *relational body image* in their investigation of how body image perception differs when people are in the presence of significant others. They found that when participants were in the presence of people that were less preoccupied with their bodies and appearance and had a more accepting stance, then participants reported eating patterns defined as 'adaptive' by the researchers and better body image. They also found that being more similar in shape and size to one's significant other meant that people reported more adaptive and accepting body image views. This study highlights how responding to others may account for within-person variance in body image satisfaction.

Evidence suggests that there may also be a difference in the impact of engaging in versus overhearing 'fat-talk'. In a naturalistic study by Jones et al., (2014), 'fat-talk' is described as a "highly ritualized conversation involving negative self-statements, complaints about physical appearance, and weight management". This may involve critical self-statements about one's physical appearance or statements about needing to diet or exercise to change their body's appearance. Young women who engaged in 'fat-talk' experienced more potentially harmful behavioural outcomes, such as increasing body checking. It is also suggested that participating in a conversation about weight and shape may be a more salient experience than overhearing a conversation, as it involves a deeper level of cognitive processing.

1.5.1 Within Families

The family environment is the first in which children develop a relationship with their bodies, attitudes towards weight and shape and learn healthy behaviours (Dailey et al., 2014). Parents who discuss weight and shape concerns with a young person, tread a fine line between promoting healthy eating behaviours and reinforcing unhelpful societal ideals around needing to have a specific body weight/shape (Dailey et al., 2014). In a study looking into the outcomes of girls whose mothers engage in conversations about their weight and shape, more frequent talk of this nature was significantly associated with lower self-worth and higher levels of depression (Bauer et al., 2013). Chow and Tan (2018) expanded this by investigating the dyadic dynamics of engaging in talk about weight and shape in mother daughter relationships. They found that when daughters engaged in 'fat-talk' with their mothers, they reported greater depressive symptoms than when their mothers engaged in 'fat-talk' alone. This suggests that the interpersonal dynamic between mothers and daughters may be an important influence on psychological outcomes. Furthermore, adolescents that are encouraged to diet by their parents tend to engage in what was defined in the study as 'unhealthy dieting practices' and may have poorer health outcomes, such as disordered eating (Neumark-Sztainer et al., 2008). Furthermore, Rogers et al., (2019) found that college-aged women who recalled early critical/restrictive messages about eating from their parents engaged in more self-related fat-talk in the presence of family, which was thought to be related to internalisation of weight stigma.

Interestingly, Berge et al., (2015) found differences in the prevalence of parent-adolescent conversations around food, activity and weight. Fathers reported having more weight-focused conversations with their sons and in contrast, mothers had more with their daughters. This study recruited participants from a diverse sample and found differences in the number of

weight-focused conversations between parents and adolescents from different socio-economic backgrounds (i.e., Hispanic/Latinx, Asian/Hmong and families from lower Socioeconomic Status groups engaged in more weight-focused conversations). Children with higher BMI statuses were also subject to more weight-focused conversations from both parents. However, it is important to note that data from many of the studies cited so far have been cross-sectional; therefore, longitudinal associations cannot be ascertained (e.g., making causal inferences about a child's weight status and weight-related conversations).

Chow and Tan (2018) found that the reciprocation of fat-talk within mother-daughter dyads was positively associated with eating disorder symptomology compared to listening to maternal fat-talk alone. This suggests that self-related fat-talk may be specifically harmful for body image and eating behaviour. Quiles Marcos et al., (2013) supported the notion that maternal influences on eating and shape concerns may be via a more indirect process, such as self-evaluation. Fear of negative evaluation, alongside negative self-talk, has also been suggested as a potential mediator of the indirect association between family body-related talk and eating disorder attitudes (Barbeau et al., 2022).

Most of the family-based research that has been conducted to date has focused on investigating the impact of mother-daughter conversations about weight and shape. Dailey et al., (2014) focused on exploring 'weight management communication' between mothers and adolescents using 'Confirmation Theory' as a theoretical framework (Dailey, 2010). Confirmation Theory explains that the style of communication (i.e., either *accepting* or *challenging)* used to attain desired outcomes (e.g., weight loss) is important (Dailey, 2010). In the context of weight management, an accepting style focuses on communicating positive regard and warmth during interactions about weight and shape. Conversely, a challenging stance involves pushing someone towards a health goal. In their study, Dailey et al., (2014)

found that acceptance-based conversations were more motivating for mothers with low health motivation and for adolescents with high health motivation to change their eating habits. Challenge conversations were more helpful to motivate adolescents who were more sensitive about talking about weight issues, but this style of communication was associated with exercising less when adolescents lacked health motivation. Both acceptance and challenge-based conversations were positively associated with how motivating participants found their family member when they were attempting to enact healthier behaviours. This research highlights how both acceptance and challenge within family dialogues about weight management behaviours may play different roles.

In a study investigating the role of close others in promoting weight management and body image, Arroyo et al., (2020) found that maternal communication was a consistent predictor of body image outcomes. They found that greater perceived acceptance (as conceptualised in Confirmation Theory; Dailey., 2010), was associated with what they labelled as 'healthy eating' and body image satisfaction. Greater challenge was associated with more physical activity, and it was not strongly associated with 'healthier eating' or body image outcomes. It is thought that greater challenge may help people achieve healthier behaviours, but it may be associated with more negative self-views (e.g., body dissatisfaction). This research further highlights the importance of the mother-daughter relationship in achieving favourable body-image related outcomes.

1.5.2 Amongst Peers

In a meta-analysis on peer and family influences on eating disorders, peer interactions were found to have a direct influence on girls' eating and shape-related concerns (Quiles Marcos et al., 2013). It is thought that peers may become a primary source of social comparison in adolescence due to their similarity in age and developmental stage, which may make them

more likely to influence their eating behaviours (Quiles Marcos et al., 2013). In relation to eating disorder attitudes, Barbeau et al., (2022) suggest that negative body-talk may impact girls' eating disorder attitudes via both direct and indirect routes. They found that social evaluative concerns (i.e., fear of negative evaluation) and self-derogation mediated the relationship between negative body-talk and eating disorder attitudes. In contrast to this finding, Arroyo et al., (2017) found that friends' communication was not related to weight management or body image outcomes. An alternative explanation for this apparent contradiction was that co-rumination within friendships may serve a prosocial purpose, such as responding to a friend's self-deprecating comments with self-deprecation to show solidarity, which may have influenced the relationship between weight management outcomes.

Interestingly, Barbeau et al., (2022) found that receiving more positive body comments from peers was associated with an increase in eating disorder symptomology. It is suggested that when positive comments are made about one's body, this may reinforce the need to self-monitor one's appearance, which may lead to an increase in harmful eating disorder behaviours.

1.5.3 Amongst Acquaintances or Strangers

There is little research which directly explores the impact of engaging in diet culture conversations with acquaintances or strangers. A study by Gapinski et al., (2003) examined the impact of overhearing stranger's fat-talk whilst they were in objectifying situations. They had participants overhear an actor engaging in fat-talk whilst trying on a swimsuit, compared to a control trying on a jumper. As predicted, when participants were in a more objectifying condition, they experienced more negative emotions. Jones et al., (2014) reported that merely overhearing fat-talk did not lead to as many negative outcomes as participating in fat-talk.

They suggest that fat-talk is such a common experience for Western women to be exposed to, this potentially impacts their response.

1.6 Diet Culture Media

The mass media has long been identified as a key reinforcer of social norms and attitudes around weight, shape and appearance (Puhl & Brownell, 2003). A systematic review by Kite et al., (2022) investigated some of the harmful impacts associated with weight stigma in the mass media. Weight stigma was prevalent across a variety of media forms, both traditional and modern, such as social media. They found that greater exposure to stigmatising narratives in the media influenced attitudes towards people who were overweight or living with obesity.

In their article addressing the "social psychology of women, thinness and culture", Hesse-Biber et al., (2006) identify some of the key historical moments throughout traditional media history that influenced women's body image and outcomes. For example, the 1920's was characterised by a slender, 'flapper-girl' look, which has later been associated with increased incidence of anorectic behaviours. In later decades, there was a leap from the 1950's hour-glass ideal towards the super-thin ideal in the 1960's, which was popularised by models such as Twiggy Lawson. Throughout the 1970's the slim ideal persisted and throughout the 1980's the emphasis changed from thinness to the need for 'tonedness' and athleticism. Celebrities like Jane Fonda reinforced diet culture narratives around needing to exercise to stay in shape. At the end of the 1990's ultra-thin models such as Kate Moss were present in the media and a new fashion trend gave rise to 'heroin chic' (i.e., ultra-thin models with pallid skin).

The rise of the internet in the 2000's gave rise to harmful online content based upon 'thinspiration' and 'fitspiration' trends which, in some cases, lead to eating disorders such as anorexia (Curry & Ray, 2010). The advent of social networking sites, like Facebook,

Instagram and Tik Tok created a shift, whereby everyday people started to share images, or ‘selfies’ of themselves online amongst their peers and across the wider internet (Vandenbosch et al., 2022). These images are frequently created, selected and digitally edited to put forward the ‘best’ image of oneself that can be presented, which is suggested to perpetuate unrealistic appearance and body image ideals and is associated with harmful impacts on body image (Vandenbosch et al., 2022).

Evidence suggests that the thin/athletic body ideal is over-represented throughout the media which contributes to this standard being normalised and rewarded in society (Grabe et al., 2008). In the meta-analysis by Grabe et al., (2008) media imagery exposure to the normative thin-ideal is associated with body image dissatisfaction, internalisation of the thin-ideal and eating behaviours. The effect sizes reported were small to moderate; however, interestingly, effects grew stronger as the year of publication increased (i.e., 2000s stronger than 1990s). One could speculate that there may have been an increase in objectifying imagery in the media throughout the latter years. However, there could be other factors that may have accounted for this shift. Furthermore, the impact of diet culture-reinforcing media may confer specific risks for people who are either overweight or living with obesity (Flint et al., 2018). Media portrayals of people with obesity are often stigmatising and inaccurate, which can lead to a range of negative health outcomes for overweight and obese people. Furthermore, weight loss is often praised and reinforced within celebrity culture and the media (Brown & Tiggemann, 2022). For example, the title “'Have to admit James has smashed it': Ola Jordan gushes about her husband's weight loss after the duo shed a 6.5 stone between them” was taken from a journalistic article in the Daily Mail last year (2023).

This section will explore some of the research literature that has been conducted on the impacts of both *traditional media* (e.g., televised, radio and journalism) and *social media* on people's body-image concerns and health outcomes.

1.6.1 Traditional Media

This section will review the literature that investigates the role of 'traditional media' (i.e., non-digital media like television, radio, and journalism) in perpetuating diet culture ideals and the impact on health and wellbeing outcomes.

Media, plays a vital role in shaping our attitudes and beliefs which contribute towards perpetuating weight stigma and diet culture ideals. Selensky and Carels (2021) explored the impact of weight stigma and the media by investigating the impact of advertising campaigns that either support or diverge from diet culture ideals. They found that advertisements promoting diet culture ideals (e.g., thin body) increased people's dislike for heavier individuals. They also impacted people's self-esteem and mood, whereas campaigns such as Dove's 'Real Beauty' campaign which promoted body positivity and acceptance had the opposite effect. A study by Ambwani et al., (2021) found that media framing has the potential to impact people's attitudes towards anti-weight discrimination policies. When participants were exposed to media that promoted a negative attitude towards fatness, then they were less likely to support anti-weight discrimination policy. This suggests that the media plays an important role in shaping our attitudes towards weight and shape, which has repercussions for anti-discriminatory policy change.

There has been a call to action in recent years to reduce weight stigmatization and discrimination that has occurred within journalistic media (Flint et al., 2018). Firstly, there is a greater propensity within the mass media to attribute individual blame for the prevalence of

obesity, whilst overlooking systemic factors that contribute to this (Kite et al., 2022). Secondly, pejorative, and stigmatising articles written about people who are overweight or obese within journalism are still common and are viewed as acceptable by some media companies, which serves to reinforce and encourage negative stereotypes about weight and shape within societal discourses. Policies have aimed to reduce stigma within journalistic media which have included recommendations such as using person-first language (e.g., 'people with obesity') avoiding using combative language (e.g., "fight against obesity"). However, there has been a reluctance on behalf of the media to take on board these recommendations (Flint et al., 2018).

1.6.2 Social Media

Social media sites such as Instagram, Facebook and Tik Tok have become widely popular outlets for social interaction and entertainment. Research suggests that they may have become harmful public forums by which diet culture ideals are perpetuated, such as making/receiving body-focused comments on images (Walker et al., 2015). Clark et al., (2021) highlight the potential for social media to be both a negative and positive agent of health outcomes relating to weight, shape, and body image. Compared to traditional forms of media, social media has become more widely accessible, and users have increased the frequency and intensity of how much media they consume on these platforms. Furthermore, biased algorithms serve to exacerbate the influence of weight stigma by increasing the amount of exposure to potentially harmful body-focused content, because of consuming this type of media before.

Negative influences of social media are thought to have additional layers of influence to those permeated by traditional media (i.e., structural weight stigma and intrapersonal responses to media); there is also an additional interpersonal component. Social media sites (e.g.,

Facebook, Instagram) are interactional in nature. A systematic review (Holland & Tiggemann, 2016) found that social networking is positively associated with body image concerns and disordered eating. Furthermore, engaging in photo-based activities (i.e., viewing images of people who represent thin-body image ideals) on social media may be especially salient in leading to adverse body image outcomes. When interacting with others around photo-based activity, this may strengthen internalised body image ideals and attitudes based on Social Reinforcement Theory (Tiggemann et al., 2018).

The increased level of anonymity that social media affords may lead to an increase in interpersonal processes such as direct discrimination based upon weight and shape (Clark et al., 2021). It is thought that the influence of subjective norms and normative beliefs around bullying and teasing may be lessened, giving rise to 'cyberbullying' (Anderson et al., 2014). Experiences of weight-based cyberbullying have been associated with higher levels of stress and poor perceived health in adolescents (Lessard et al., 2022). It is unknown as to the extent or impact of this form of bullying in adulthood due to a lack of research.

The ever-evolving nature of social media has suggested that video-based media, such as TikTok has become increasingly popular, especially amongst people from a younger generation. Research by Fiuza & Rodgers (2023) explored experimentally the effects of video-based media platforms on body image concerns. They randomly assigned participants to consecutive TikTok video content which was either diet culture, anti-diet or neutral content. They found that diet culture promoting content was more predictive of body image dissatisfaction. Interestingly, they found that social media-related rumination and thin-ideal internalisation were significant moderators of these effects.

With regards to the intrapersonal impact of social media on body image outcomes, Walker et al., (2015) found that the intensity of social media may lead to increases in harmful outcomes,

such as disordered eating. Furthermore, behaviours such as judging physical appearance online and engaging in online fat-talk were significantly associated with disordered eating. Research has also found that engaging with photo-based social media activity is associated with an increase in behaviours such as body surveillance, which subsequently lead to increases in body shame (Wang et al; 2020). This evidence is in line with 'Objectification Theory' which suggests that habitually monitoring one's body can lead to increased shame as a result of trying to obtain unattainable ideal body-image standards (Fredrickson & Roberts, 1997).

1.7 Self-Compassion as a Protective Factor

There is a growing evidence base to suggest the self-compassion may be an important protective factor related to improving body image outcomes (Braun et al., 2016). According to Neff et al., (2020, pp.121), self-compassion is "a healthy way of relating to oneself in times of suffering, and applies to situations of failure, perceived inadequacy, or general life difficulties". Neff et al., (2020) specifies that an engagement with one's suffering and taking action to alleviate it is an importance process in practicing self-compassion. There are three core components to developing self-compassion according to Neff et al., (2020): namely, engaging in *self-kindness* (as opposed to self-judgement or criticism); having a *mindful awareness* of thoughts and feelings that may be critical or aversive and recognising the *common humanity* in one's experience (rather than viewing this as isolative and separate).

There has been emerging evidence that self-compassion may act as a protective buffer against poor body image outcomes (Braun et al., 2016; Rodgers et al., 2017); however, the mechanisms are thus far unclear. In the context of disordered eating, a literature review by Braun et al., (2016) found that self-compassion may act as a protective buffer against eating disorder pathology by directly reducing disordered eating and interacting with other risk

factors (e.g., drive for thinness) in order to disrupt the negative impact. Within this review, self-compassion has been associated with reduced felt pressure from both the media and in an interpersonal context. Daye et al., (2014) found that having higher levels of self-compassion was associated with fewer body surveillance behaviours, having lower levels of body shame and fewer negative eating attitudes. Furthermore, when participants recollected more exposures to restrictive and critical messages about eating from caregivers, lower levels of self-compassion were reported. This suggests that low self-compassion could be linked to diet culture exposure from family, though causal inferences about the directionality of this finding as the study was cross-sectional in nature. Self-compassion has been identified as a buffer between thin-ideal related pressures (i.e., from friends, family, partners and media) and harmful outcomes such as thin-ideal internalisation and disordered eating (Tylka et al., 2015).

Greater self-compassion has been cited within the literature as being a potential moderator and mediator variable within the process of leading to more favourable body image outcomes (Braun et al., 2016). A study by Wang et al., (2020), self-compassion was found to moderate an association between online body-talk and body shame. This research highlights the potential value in increasing self-compassion to reduce harmful body image outcomes.

An experimental study by (Rutter et al., 2023) explored the impact of viewing social media content which was either in line with Westernised body image ideals (e.g., 'fitspiration' posts), body positivity or neutral stimuli on state self-compassion, using trait self-compassion as a moderator variable. They found that exposure to 'fitspiration' content lowered individuals' state self-compassion, especially amongst those with lower trait self-compassion and those that scored highly on disordered eating. This research highlights the role of self-compassion as a relevant outcome measure and moderator variable in relation to body focused media.

Three studies within the Braun et al., (2016) review explored self-compassion as a mediator variable in relation to risk factors associated with disordered eating pathology. One such study explored the link between external shame and drive for thinness in a Portuguese sample (Ferreira et al., 2013). Within this study, self-compassion was found to partially mediate the effect of external shame and the drive for thinness, amongst females with eating disorders (Ferreira et al., 2013). Another study explored the impact of weight stigma on psychosocial factors in people who were overweight or living with obesity (Forbes & Donovan, 2019). They found that self-compassion mediated this relationship, finding that the greater weight stigma that was experienced led to lower self-compassion, which caused greater psychological distress.

Rodgers et al., (2017) examined the three dimensions of self-compassion *(self-kindness, mindfulness and common humanity)* as moderators of a mediated relationship between perceived weight status (e.g., overweight), comparisons of appearance and appearance-related self-esteem. The study recruited from a mixed gender sample and found that there were gender differences in the protective mechanisms of self-compassion, in that using mindfulness skills and holding in mind a sense of common humanity moderated perceived weight status to appearance comparisons mediation pathway. They suggest that having an outlook that is accepting of the common humanity (i.e. in relation to suffering) and having a mindful awareness (i.e. to aversive thoughts and feelings) may serve to decrease one's focus on the self, which can protect against body image concerns. However, this relationship was only found in the sample of males. Interestingly, baseline levels of self-compassion tended to be higher in males than for females. It is suggested that due to the generally lower levels of self-compassion amongst the females within the sample, this may not have allowed for moderating effects to have emerged.

The findings above suggest that having greater self-compassion may have a buffering effect against being exposed to diet culture. One such explanation of this suggests that in times of adversity (e.g., high levels of external diet culture exposure), people that have high levels of self-compassion show kindness to themselves, are mindful of their distress, and they recognised that imperfection is all part of being human. It is thought that this process helps individuals to handle these adverse experiences better, which reduces the likelihood of this impacting them in a harmful way (e.g., experiencing a state of poor body image or engaging in harmful eating behaviours). However, it is to be noted that many of the studies cited within this review were conducted on samples of White, female undergraduates and relatively fewer explored the role of self-compassion and body image outcomes in men and people from minoritized backgrounds, so the generalisability of these studies is questionable.

1.8 Addressing Weight Stigma: Opposition to Diet Culture

Developing a greater understanding of the impact of diet culture and weight stigma can help inform interventions which target some of the key maladaptive processes leading to poorer health outcomes. This section will review some of the key approaches that have been evaluated in the literature to date to oppose the deleterious impact of diet culture.

1.8.1 Counter-Moralisation of Body Image and Diet Culture Practices

The moralisation of food, dieting and exercise practices have been identified as a predominant discourse associated with poor health outcomes (as discussed in *Diet Culture Discourses in Society*). One study by Mulder et al., (2015), explored the impact of providing people with a higher BMI with counter-moralising messages (e.g., actively stating that there is nothing ‘immoral’ about being overweight) whilst making food choices. They found that counter-moralising messages were associated with making ‘healthier’ food choices. It is

thought that this approach may have helped prevent individuals acting based upon defensive self-regulatory responses that are evoked by feelings of guilt and shame which were more common when moralising messages were used. One potential implication of this finding would be for group leaders (e.g., weight-loss programs) or clinicians to make explicit attempts to discourage people to speak about weight, shape, or specific dieting practices in moral terms to decrease the level of blame, guilt, and shame that this may illicit (Mulder et al., 2015).

1.8.2 Body Positivity and Health at Every Size® Movement:

'Body positivity' is an emerging discourse which aims to counteract harmful diet culture discourses. Body positive media challenges Westernised body image ideals (e.g., encouraging weight and shape inclusivity; highlighting the functionality of bodies and encourages body acceptance. There has been growing evidence to suggest that this alternative philosophy could be associated with better health outcomes. For instance, Barbeau et al., (2022) found that individuals who engaged in self-accepting positive body-talk fostered self-compassion and body positive talk towards themselves, which was associated with fewer eating disorder attitudes. Social media has been identified as one of the key platforms for promoting the 'body positivity' movement (Cohen et al., 2021). A scoping review by Rodgers et al., (2021) found that which portrayed images of people who diverge from appearance ideals was helpful for improving body image. However, there was not a robust association between body acceptance statements on social media sites and body satisfaction. Furthermore, they suggest that media which was not appearance-focused was the most helpful content in promoting better body image outcomes.

Clark et al., (2021) highlights positive movements such as 'Health at Every Size', which may lessen the impact of weight stigma on individuals. Health at Every Size® (HAES®) is a

movement which prescribes weight neutrality as an alternative to BMI-centric, stigmatising ways of viewing health (Gutin, 2021). There has been evidence to suggest that weight-focused interventions can be ineffective in promoting weight loss, as they can be perceived psychologically threatening overweight individuals, thus perpetuating weight-related compensatory behaviours (e.g., overeating, not participating in exercise; Vartanian & Shaprow, 2008). This alternative approach attempts to diverge from harmful diet culture narratives and promote weight inclusivity and a self-care-centric discourse around health behaviour promotion (Bombak et al., 2019). This model utilises interventions such as 'intuitive eating' as tools to help individuals self-regulate their eating behaviour. This approach encourages individuals to pay attention to *internal* cues of hunger and satiety, rather than relying upon *external* cues to either restrict or promote eating behaviours (Bacon et al., 2005). In a sample of female, chronic dieters with obesity, individuals who engaged in a HAES® intervention maintained their weight and had better psychological outcomes (e.g., self-esteem, depression and body image satisfaction). In contrast, the control group, who engaged in a dieting intervention, lost weight, and then regained this after one year. The dieting group also exhibited poorer sustained outcomes in psychological factors, such as self-esteem at one year follow-up. This research highlights the sustained benefits of changing one's philosophy with regards to weight and shape perceptions, suggesting that acceptance may lead to healthier health and psychological outcomes.

Another study by Faw et al., (2021) investigated the role of intuitive eating in relation to body-focused co-rumination practices amongst peer groups. They suggest that intuitive eating may be an important intervention to buffer against the negative outcomes associated with interpersonal diet culture processes. They found that intuitive eating partially mediated the relationship between body-focused co-rumination and body dissatisfaction. Furthermore, there was a significant relationship between the quality of peer relationships and engagement

with intuitive eating, which may suggest that good quality relationships act as a pre-cursor to adoptive intuitive eating practices. However, as this research is cross-sectional in nature, causal relationships remain uncertain.

Media-based Stigma Reduction Interventions

A recent review by Kite et al., (2022) identified several studies looking into how to tackle media stigmatisation and weight bias. One such study was a pilot RCT looking into the impact of anti-stigma, educational films that target trainee health professionals (Swift et al., 2013). This study highlighted significant improvements in weight bias, measuring both implicit and explicit attitudes, as well as beliefs relating to the persons' individual agency for being obese. This suggests that media-based interventions have potential to reduce stigmatising attitudes towards people living with obesity amongst medical professionals, which has the potential to improve healthcare access amongst this population. The second study that was cited within this review looked into the impact of media campaigns that increase the public awareness of childhood obesity and tested the impact on weight-based stigma (Barry et al., 2014). The study found that these media campaigns did not significantly decrease weight-based stigma. Recommendations are made to ensure that communication efforts aimed at weight reduction also ensure that they do not inadvertently increase weight-based stigma before they are launched. Re-framing narratives within health journalism around obesity is another way of addressing weight stigma in the media (Flint et al., 2018). Traditional journalism relating to obesity often includes pessimism and unpleasantness. More of a focus on the wider determinants of health may gradually improve health outcomes for people with obesity (Flint et al., 2018).

Rathbone et al., (2022) investigated health campaigns which utilised weight-inclusive and size acceptance messages and compared them to weight-neutral materials. In their

experimental study, they found that public health messages exerted differential effects on people's wellbeing and health behaviours depending on the participant's BMI or perceived weight status. For instance, they observed that people with a higher weight status had increased motivation to engage in 'healthy behaviours', when they viewed weight inclusive messages. Interestingly, they did not find any positive effects of body positive commercial advertising campaigns on weight stigma attitudes, which suggests that one-off media campaigns may have a limited impact on influencing deep systemic issues, such as weight stigma attitudes.

Research has also begun to explore preventative interventions aimed at protecting body image in the face of harmful social media content (Vandenbosch et al., 2022). Micro-interventions such as including 'disclaimers' drawing the viewers' attention to unrealistic body image ideal standards have been investigated (Tiggemann, 2022); however, the subsequent impact on body image is as of yet unclear. A recent study by Davies et al., (2024) interviewed Instagram users with the aim to make recommendations for future social media micro-interventions to address body image dissatisfaction related to social media. Some of the recommendations included "Reframing attitudes towards online appearance ideals", "encouraging unity among women to help them feel less isolated by appearance pressures" and interventions aimed at modelling 'positive body image narratives'.

1.8.3 Public health initiatives

Research has also investigated the role of public health initiatives and how changes to these may influence weight stigma in relation to healthcare outcomes. For example, community psychology research has highlighted the scope for improving obesity care through advancing medical education (Scott, 2016). By taking an ecological perspective and engaging in participatory action research Scott (2016) used focus group to explore experiences of people

living with obesity and their health care preferences. The evidence highlighted the importance of language in conversations (e.g., third person framing in broaching sensitive topics; “Do you have a family or friend who sees the doctor because of weight-related problems?”) and intersectionality (e.g., religion and race; “I leave my weight up to God.”).

1.9 Psychological Interventions for Body Image

This section explores psychological interventions that aim to reduce the impact of diet culture on peoples’ body image. Both, *Cognitive-Behavioural Interventions* and *Self-Compassion Interventions* are discussed in relation to their effectiveness in promoting better body image and increased wellbeing on different psychological measures.

1.9.1 Cognitive-Behavioural Interventions:

Cognitive-behavioural interventions have been identified in the literature that may help reduce internalised weight stigma and the negative associated consequences (e.g., body image dissatisfaction; disordered eating). Psychotherapeutic interventions such as Cognitive Behavioural Therapy for Eating Disorders (CBT-E; Byrne et al, 2011) and Acceptance and Commitment Therapy (ACT; Hayes et al., 2006) have been identified as potentially useful in reducing the impact of diet culture (e.g., addressing internalised weight bias). One of the aims of CBT-E interventions is to challenge negative weight-based stereotypes and encourage body acceptance (e.g., CBT for Eating Disorders; CBT-E; (Byrne et al., 2011). This study reported significant improvements in both eating disorder compensatory behaviours and general affective symptoms (e.g., depression and anxiety). ACT interventions aim to help individuals’ foster body acceptance and practice cognitive defusion (i.e., distinguishing thoughts from facts and achieving more distance from thoughts; (Palmeira et al., 2019). A study by Palmeira et al., (2019) explored the efficacy of an ACT group for women in larger

bodies, categorised by researchers as ‘overweight’, struggling with internalised weight stigma and what was characterised by researchers as ‘unhealthy eating patterns’. They found positive changes across many domains including reductions in weight self-stigma, levels of self-criticism, health-related quality of life, weight-related experiential avoidance exercise frequency.

1.9.2 Self-Compassion Interventions

In a review by Braun et al., (2016), four self-compassion intervention studies were identified and synthesised to provide insight into the potential protective role of self-compassion. Two of the studies included clinical samples (people with eating disorders) and there was evidence to suggest that fostering greater self-compassion reduced eating disorder outcomes directly. Interestingly, those who scored high in fear of self-compassion did not engage as well with such interventions. In non-clinical samples, self-compassion training was associated with more adaptive body image outcomes (e.g., greater body appreciation, less shame and better self-worth).

Albertson et al., (2015) conducted a randomised controlled trial (RCT) of a 3-week self-compassion intervention using mindfulness skills in a non-clinical sample of women. The intervention aimed to improve participants’ body image. Improvements were observed in levels of body satisfaction, body shame and generalised increases in self-compassion, which were sustained at 3-month follow-up. However, high levels of attrition (48%) were reported, which could suggest that this form of intervention lacks acceptability amongst some women. Toole and Craighead (2016) used a similar compassion-focused mindfulness intervention but reduced the training period to one week. Although the rates of attrition were lower (indicating greater acceptability), they did not observe significant improvements in self-compassion scores, which could have been due to the shorter training period or the power of the study

(owing to smaller sample size). Furthermore, participants were all undergraduate women, so it lacked generalisability.

Although there is emerging evidence to suggest that interventions to improve self-compassion could improve body image satisfaction; this evidence is in its infancy and further research is required to develop the evidence base.

1.10 Literature Summary

Research measuring the psychological impact of diet culture within interpersonal interactions and in consumption of media is growing. However, the moment-to-moment impact of exposures to diet culture conversations and media content on body image is under-explored. Research has suggested that having higher self-compassion may be an important factor in improving body image outcomes (Braun et al., 2016). Therefore, this research will explore how fluctuations in state self-compassion may mediate this relationship. There has been evidence to suggest that diet culture conversations occurring between significant others (e.g., family members and friends) may exert their impact on body image outcomes in different ways (Barbeau et al., 2022). There has also been some evidence to suggest that engaging directly in a conversation about diet culture may impact people differently to when these conversations are overheard (Jones et al., 2014). It is thought that social media and traditional media may influence us in different ways due to the added interactional element to social networking sites (Clark et al., 2021). Therefore, this research will capture contextual information relating to who was involved in diet culture conversations, whether people engaged in conversations and different types of media sources that people identify being exposed to diet culture on.

The evidence to date exploring the moment-to-moment impact of diet culture has provided reason to suggest that exposure to diet culture conversations has a negative impact on body

image satisfaction and eating behaviours (Fuller-Tyszkiewicz, 2019). The EMA design of this study aims to expand this area of research to assess the moment-to-moment impact of diet culture exposure that may impact body image satisfaction.

1.11 Moment-to-Moment Impact of Diet Culture Conversations and Media Exposure

Much of the research conducted to date has relied upon retrospective self-report of participants to evaluate their emotional and behavioural responses to diet culture. Assessing this phenomenon in real-world contexts and in real-time can be beneficial in minimizing recall bias and maximising ecological validity of the research (Shiffman et al., 2008). Ecological Momentary Assessment (EMA) is a research design which involves repeated sampling of emotional experiences and behaviours in real time, in participants' natural environment. Research has begun to unpick the moment-to-moment impact of engaging in 'fat' talk and appearance-based comparisons (Fuller-Tyszkiewicz, 2019). This research has highlighted the association between 'fat-talk' and a variety of compensatory behaviours such as body checking and disordered eating (Fuller-Tyszkiewicz et al., 2018; Jones et al., 2014); negative affective states (Jones et al., 2014). Furthermore, research has also suggested that participating in negative body-talk was associated with greater body image dissatisfaction than overhearing negative body-talk (Jones et al., 2014). Mills and Fuller-Tyszkiewicz (2018) explored the impact of positively intended 'fat-talk' (e.g., a friend attempting to reassure another by saying "you don't look as big as me") and found that this had an immediate and negative impact on state body image satisfaction.

The research has also investigated the varied impact of diet culture conversations, considering different trait-related factors and individual differences. For instance, women who had higher levels of trait negative body image had an increased likelihood of engaging in fat-talk (Mills & Fuller-Tyszkiewicz, 2018). In addition to this, self-compassion has been

explored as a potential buffering factor in helping individuals navigate body-focused conversations more adaptively (Kelly et al., 2016). In this study, Kelly et al., (2016) found that when female participants were able to treat themselves with more self-compassion than they would usually treat themselves with, they had healthier approaches to eating and body image after being exposed to body-focused others.

One of the key limitations of the moment-to-moment research to date is that the vast majority has been conducted on Western White, female, student participants within a healthy BMI range. This is problematic, as there has been evidence to suggest that diet culture may have a differing impact on diverse populations and people with different weight and shape statuses. Furthermore, it would be interesting to expand the moment-to-moment literature by exploring the impact of media exposure on body image outcomes and the potential differences in impact dependent on personal relationships. Therefore, this project aims to expand this research area by assessing the impact of diet culture conversations and media and the impact of self-compassion as a potential mediating factor. There is also a need for research to try to reach a wider audience and encourage participation in research so that researchers and clinicians can better understand the impact of diet culture across a range of individuals in society.

Chapter Two: Thesis Aims

The aim of this thesis is to understand the moment-to-moment impact of diet culture exposure on body image and to investigate the role of self-compassion as a potential protective factor. It is hoped that building on the current literature will have clinical implications for professionals working with people who experience body image dissatisfaction. For instance, the evidence may highlight the importance of cultivating self-compassion when faced with diet culture reinforcing experiences. Next, the specific research questions and hypotheses will be presented.

2.1 Research Questions

Based on the literature presented, the current research aims to address the following research questions and sub-questions:

1. What type of diet culture exposures are people experiencing?
2. Is there a within-person effect of diet culture exposure on day-to-day body image satisfaction?
    a. Does self-compassion mediate the within-person effect of diet culture exposure on day-to-day body image?
3. Is there a between-person effect of diet culture exposure on body image satisfaction over the course of a week?
    a. Does self-compassion mediate the between-person effect of diet culture exposure on body image over the course of a week?
    b. Do gender, weight status and socio-cultural attitudes to appearance have a covarying influence on these relationships?

2.2 Hypotheses

Hypothesis 1: There will be variation in the type of diet culture exposures (conversations and in the media) experienced by participants.

Hypothesis 2: Exposure to diet culture will reduce individuals' moment-to-moment body image satisfaction.

Hypothesis 3: Exposure to diet culture will exert its impact on moment-to-moment body image satisfaction via differences in state self-compassion, in that higher levels of self-compassion will lead to higher body image satisfaction after being exposed to diet culture.

Hypothesis 4: A greater proportion of diet culture exposures over the course of a week will have a cumulative effect of reducing people's average body image satisfaction over the course of a week. Gender, weight status and socio-cultural appearance-based pressure will have a covarying influence on this relationship, whereby being female, having a higher weight status and experiencing more socio-cultural appearance-based pressure to conform to ideals, is also associated with poorer overall body image satisfaction.

Chapter Three: Methodology

This chapter will describe the methods used to conduct this thesis with the aim to operationalise the study design. Firstly, the *epistemology* will be described, and the design of the study will be outlined. After this, *ethical considerations* will be explored, outlining any specific actions that were taken to manage issues raised and the approach to *data management* will be described. Then, aspects of the design such as the *power* considerations, *participants* sample and *recruitment* strategy are outlined. Then, the *measures* and *additional materials* will be discussed, referring to any relevant details relating to the measures (e.g., reliability, validity and scoring instructions). Next, the *procedure* for the *piloting* and two data collection phases will be described. Finally, the *data analysis* plan is reported, including the *data preparation and cleaning procedures*, *compliance analysis, descriptive analysis* and details regarding the *exposure-type analysis* and *multilevel modelling analysis*.

3.1 Epistemology

A positivist tool (i.e., quantitative design) was used to undertake this research, as existing theory and understanding of the impact of diet culture on body image was used to generate hypotheses to be tested over the course of the project. The methodology of the study is discussed within this section in a highly structured way to support the future operationalisation of the method for future researchers who wish to expand on this area of research.

3.2 Design

This study employs an observational design, across one week. Utilizing the EMA method, the study involved real-time collection of data in a naturalistic setting, capturing participants'

behaviours, experiences, and environmental conditions as they occur in their daily lives. This study compared the moment-to-moment experiences of diet culture, body image satisfaction and state self-compassion of people from the general population.

3.3 Ethical Considerations

Ethical approval was obtained through the University of Leeds School of Medicine Research Ethics Committee (MREC 22-091; see Appendix 2).

Participants were consented into the study when they filled in the baseline questionnaire. The researcher gave participants up to four weeks to download the Avicenna app and start completing this phase of the study. Up to two prompt emails were sent out during this stage to remind participants to sign up to this phase of the study if they wished to. If participants were uncertain about any aspects of the study, they were offered the chance to ask the researcher questions over email or over the telephone.

The potential for the study to be distressing was carefully considered, and several steps were taken to manage this risk. An EBE consultant was involved to evaluate the emotional impact of the study from the perspective of someone who has experienced significant body image issues and eating difficulties in the past (this will be discussed in the '*Piloting*' section later in this chapter). Hyperlinks were provided to a list of support services relating to eating difficulties and body image concerns in the Avicenna app for participants to access if needed. Also, a detailed debriefing sheet was developed based on strategies based on 'resisting diet culture'.

Participants contacted the primary investigator directly to ask to participate in the study. To maintain anonymity and confidentiality, participants created a unique identifiable username when they completed the first survey which they continued to use throughout the Ecological

Momentary Assessment phase of the research. This enabled the researcher to link data from participants across the two different survey platforms (Online Surveys and Avicenna). For this reason, I was able to identify individual participants' data. Survey data was anonymised after data collection and remaining confidential information (e.g., email addresses and associated study IDs) were kept in an encrypted Excel document and were held by the principal investigator alone.

The researcher was aware that the study could be burdensome for participants. The decision was made to offer three opportunities to win a prize draw if 80% of the surveys had been completed as a good will gesture and an incentive to adhere diligently to the study's EMA procedures. Participants were also free to withdraw from the study at any point whilst completing the baseline and EMA phases. Participants were informed of their right to withdraw from the study up to two weeks after completion of the study.

3.4 Data Management

The researcher adhered to the University of Leeds Information Protection Policy and the Leeds DClinPsychol Policies on Safeguarding Sensitive Data. All survey data was identifiable to the principal investigator as participants set up a unique identifiable username to participate and provided their email address. The principal investigator kept this information confidential and stored this on an encrypted excel spreadsheet, saved on their University of Leeds M: drive. Anonymised e-data was stored in the same location. In anticipation of the suspension of the principal investigator's IT account on the completion of their studies, data will be transferred to the programme research coordinator, who will store them in an access-controlled folder in the programme's secure storage area. Anonymised e-data (i.e., questionnaire data) will be transferred to the University of Leeds Research Data Repository (Research Data Leeds) to ensure the data can be shared, reused, and cited beyond

the end of the project. Research Data Leeds will hold the deposited data for a minimum of 10 years and datasets are associated with digital object identifiers (DOIs).

Avicenna stores all data on servers physically located in Canada. All Avicenna employees and support staff are also located in Canada; therefore, the data does not flow to any country other than Canada. Canada is considered by the EU Data Protection Commission as a country that provides adequate data protection. Online surveys (JISC) data storage is stored within Amazon Web Services (AWS), within the Republic of Ireland. All survey responses are collected over encrypted SSL (TLS) connections. JISC endeavours to ensure that all data is securely erased, and any media securely destroyed once it is no longer required for the operation of the system.

3.5 Power

In consultation with a statistician in the Leeds Institute of Health Sciences, it was advised that to obtain enough power to use multilevel analysis, the study would require 10 participants per variable. As this study is using three main variables, it was decided that the minimum required number of participants was 30.

3.6 Participants

The study was open to anyone above the age of 16 that speaks English to an adequate level to participate and aimed to recruit people from a range of different ages, genders, and ethnicities, as it was anticipated that there could be differences between these groups (i.e., different body image ideals). There were no restrictions on who or where participants were from to be eligible to participate.

3.7 Recruitment

Recruitment to this took place across two phases: Phase One – Baseline and Phase Two – EMA. Across each stage, the researcher was keen to recruit participants with a range of weight statuses, as there has been a lack of representation of research participants with a BMI above the 'healthy' range in the literature.

The initial recruitment strategy was therefore to target participants likely to be living with obesity. Recruitment used an opportunity sampling method, displaying the research poster (See Appendix 3) within specific stakeholder organisations (i.e., Slimming World) and on social media platforms (i.e., Instagram, reddit and Facebook; see Appendix 4). This initial phase of recruitment was conducted over the course of three months and was expanded after two thirds of the required minimum participants was reached. Following this, posters were displayed around the University of Leeds campus to increase participation. Social media accounts that have a stakeholder interest in the topic (e.g., dieticians, fitness instructors, nutritionists) were targeted throughout the recruitment process and additional groups which were underrepresented in the sample (e.g., underweight individuals, people from minoritised ethnic groups) were identified as the research progressed throughout the recruitment phase, which meant other stakeholders were targeted through social media (e.g., social media pages for people living with eating difficulties, body image influencers from minoritised backgrounds).

Participants signed up to the baseline phase by following a link to the initial survey on the research advertisements on social media and on posters. The link contained the participant information sheet, consent form (see Appendices 5 and 6 respectively) and baseline survey. After the baseline phase was complete, participants were invited to complete the EMA phase of the study. Participants opted into this stage by downloading and setting up the Avicenna app, then completing the surveys that they were sent throughout the week. A prize incentive was offered to people to encourage participation (the chance of winning 1 x £100 shopping

voucher and 2 x £50 shopping vouchers). Participants were informed that they would be entered into the prize draw if they completed 80% of the daily surveys.

3.8 Measures

This thesis uses four standardised outcome measures: Socio-cultural Attitudes Towards Appearance Questionnaire- version 4; Schaefer et al., 2015), Self-Compassion Scale – Short Form, (SCS-SF; Raes et al., 2011); Body Image State Scale (Cash et al., 2002) and the State Self-Compassion Scale – Short Form (SSCS-SF; Neff et al., 2020). There was also an unstandardized survey to capture '*Diet Culture Exposure'*. A copy of these measures has been included in Appendices 7-13, except for those with copyright restrictions.

The following overview has organised the measures into: Phase One - Baseline (including Demographic, Perceived Weight and Shape Status, Socio-Cultural Attitudes to Appearance and Self-Compassion) and Phase Two - Ecological Momentary Analysis (including Diet Culture Exposure, Body Image Satisfaction and Self-Compassion)

The baseline survey gathered demographic data, information about perceived weight/shape status and asked participants to complete two questionnaires.

3.8.1 Baseline phase: Demographic Data

The following pieces of demographic data were collected (see Appendix 7 for questionnaire):

Age. Participants were asked "What is your age?" and were given the option to select from the following age categories: 16-25, 26-35, 36-45, 46-55, 56-65, 66-75 and 76+.

Gender. Participants were asked "What gender do you identify with?" and were given the following options to select: male; female; non-binary and other. A free text box was provided for participants to identify which 'other' gender they identified with.

Ethnicity. Participants were asked "What is your ethnic group?" and were asked to select the option that they identified with. The following options were provided: White; Mixed / Multiple Ethnic; Asian; Black/ African/ Caribbean / Black British; Arab and Other. A free-text box was included for participants to identify their ethnicity where 'other' was identified.

3.8.2 Baseline phase: Approaches to Measuring Perceived Weight and Shape Status.

Capturing information relating to the weight and shape of participants was important due to the variable impacts of diet culture and weight-related stigma on body image within the literature. The inherently stigmatising nature of categorising oneself in relation to weight, shape and size was recognised, furthermore, it was the intention to try not to deter people from participating in the study based upon this measurement. The following methodological considerations were made as part of the process of designing the study: *BMI, Figure Rating Scales* and *Perceived Weight Status.* The following sections will describe this deliberation process with reference to research to critique each method.

Participant-Measured BMI. BMI is an estimate of adiposity which is calculated by measuring one's height and weight, then calculating one's weight in kilograms divided by the square of one's height in meters. BMI is categorised by the Centre for Disease Control and Prevention (CDC, 2022) into the following weight status ranges: underweight (<18.5); 'healthy' weight (18.5 to < 25); overweight (25 to < 30); obese (30 to <40) and severe obesity (40+). One of the benefits associated with using BMI as a measure of weight status in research is that it is widely used within the research literature, which makes data more easily comparable across studies. However, there has been increasing awareness within the research literature of the limitations of BMI as a health indicator (see previous section: "Weight equates to health and wellbeing" for a summary of these limitations). Furthermore, weighing oneself can trigger distress for some individuals (e.g., people with current or historical

disordered eating patterns; people with a higher weight status) which can affect one's mood and behaviour (Hahn et al., 2021). As it was deemed important to obtain a diverse sample of individuals in terms of weight status and to aid recruitment and prevent drop-out, participant-measured BMI was not used in the present study.

Figure Rating Scales. Another method of measuring weight/ shape status that was considered was the Stunkard's Figure Rating Scale (Stunkard et al., 1983). This measure primarily focuses on measuring individual's perceived body shape/ size, using illustrated silhouettes, corresponding to a series of either smaller or larger bodies. Both women and men tend to overestimate their figure size when using a Figure Rating Scale (Brennan et al., 2010).

Perceived Weight Status. A proxy measure of weight/ shape status was opted for due to the perceived limitations of the above measures. Participants were asked to estimate their BMI by placing themselves within one of several weight status categories: underweight; 'healthy' weight; overweight and obese. Although previous research indicates a risk of 'weight misperception' when participants self-report perceived weight status (Robinson & Oldham, 2016), other studies have identified that self-assessing oneself to a BMI category is sufficiently accurate (Brunner Huber, 2007; Luo et al., 2019; Smith, 2021). In terms of the likely error in weight estimation, previous studies have reported an average error of between 2 kg (Brunner Huber, 2007) and 0·91 kg (Luo et al., 2019). Since the present thesis aims to use BMI categories as a proxy for weight and shape status, minimizing participant distress and increasing participation were prioritized. Therefore, perceived weight status was opted for out of the above options.

3.8.3 Baseline Phase: Questionnaires

Baseline questionnaires were used to provide some context information of the participant sample for trait levels of two variables of interest: Pressures to conform to sociocultural

appearance ideals (Socio-cultural Attitudes Towards Appearance Questionnaire- version 4; Schaefer et al., 2015) and trait Self-Compassion Scale – Short Form, Raes et al., 2011; see Appendices 8 and 9 respectively for each of these measures). The SATAQ-4 is also used within the Multilevel Modelling analysis as a covariate at the between-person level (which is described in the '*Data Analysis'* sub-section '*Multilevel Modelling Analysis'*).

Socio-Cultural Attitudes Towards Appearance. The Sociocultural Attitudes Towards Appearance Questionnaire–Version 4 (SATAQ-4; Schaefer et al., 2015) is a 22-item measure that aims to assess the extent participants subscribe to Westernised cultural body image ideals and the pressure they feel to conform to these ideals. The first subset of questions addresses the individual's internalisation of different Westernised body image ideals (e.g., thinness "I want my body to look thin" and athletic physique "It is important for me to look athletic"). The second subset of questions asks participants to answer questions with relevance to their family (e.g., "I feel pressure from family members to improve my appearance"). The third subset of questions asks participants to answer questions with relevance to their peers (e.g., "I feel pressure from my peers to look in better shape"). Finally, the last subset assesses the pressures on appearance associated with media influence (e.g., "I feel pressure from the media to look thinner"). A 5-point Likert scale is used to collect participants' responses on each measure. A mean score is calculated to comprise the final SATAQ-4 score. Greater scores are associated with higher levels of Westernised ideal body image internalisation and higher levels of perceived pressure to conform to these ideals. The internal consistency of this measure was deemed to be high ($\alpha = .75$; Schaefer et al., 2015).

Trait Self-Compassion. Trait self-compassion is measured using the 12-item Self-Compassion Scale- Short Form (SCS-SF; Raes et al., 2011). Participants are asked to indicate their responses on a 5-point Likert scale (1 = Never, 2 = Rarely, 3 = Sometimes, 4 = Often, 5

= Always). This scale measures various facets of self-compassion. The positive subscales are as follows: *self-kindness judgements* (e.g., "I try to be understanding and patient towards those aspects of my personality that I personally don't like"); *common humanity thoughts* (e.g., "I try to see my failings as part of the human condition"); *mindfulness* (e.g., "when something upsets me, I try to keep my emotions in balance"). Higher scores on these scales are associated with greater self-compassion. The negative subscales are as follows: *over-identification* (e.g., "when I'm feeling down, I tend to obsess and fixate on everything that's wrong"); *self-judgement* (e.g., "I'm disapproving and judgmental about my own flaws and inadequacies"); *isolation* (e.g., "when I fail at something that's important to me, I tend to feel alone in my failure"). These items are reverse coded before calculating the mean self-compassion score. Higher scores represent greater levels of self-compassion. The internal consistency of this measure was deemed to be good ($\alpha \geq 0.86$ in all samples; Raes et al., 2011).

3.8.2 Ecological Momentary Assessment Phase: Questionnaires

The EMA survey included three non-standardised questions about participants' experiences of diet culture and two standardised state-based questionnaires. The questionnaires described within this section were repeated over the course of a week for each participant, five times a day. This EMA schedule was decided based upon reviewing similar studies in the research literature and coming up with what was felt to be a middle point of signals per day, to account for the potential burden upon participants (e.g., ten signals per day, for seven days was used in Fuller-Tyszkiewicz et al., 2019 and one signal per day for seven days in Miller et al., 2019)

Non-standardised measure of diet culture exposure. This questionnaire can be found in Appendix 10. The first question asked, *"Since the last signal, have you either engaged in or been exposed to conversations or media which has promoted diet culture?"* and participants were provided with a binary response: *yes* or *no*. This is the main variable used in the statistical analysis, with '*yes*' indicating a '*diet culture exposure*' and *'no'* indicating '*no diet culture exposure*'.

Next, participants were directed *"If you selected 'diet culture conversations', please provide the context..."* from the following options: *Talking to a family member; Overhearing a family member conversing; Talking to a friend/friend; overhearing a friend/friend conversing; talking to a colleague, acquaintance, or stranger; overhearing colleagues, acquaintances, or strangers conversing.* Next, participants were directed *"If you selected 'diet culture media', please provide the context…"* from the following options: *Browsing social media; chatting to others on social media; browsing the internet; watching television (i.e., films, tv shows, advertisements); reading a magazine or newspaper.* This data was used for contextual information and to explore Hypothesis 1, "The type of diet culture exposures (conversations and in the media) will vary between participants".

State Body Image Satisfaction. The Body Image States Scale[2] (BISS; Cash et al., 2002) is a copyrighted questionnaire, which was purchased by the researcher for the purpose of using it within this thesis. Participants are asked to reflect on how they feel in the moment ("right now I feel…") and are provided with 6-items based on the following domains: satisfaction with overall physical appearance; satisfaction with body size and shape; satisfaction with weight; feelings of physical attractiveness; current feelings about looks relative to how one usually feels; and evaluation of appearance relative to how the average person looks. Each

[2] The Body Image State Scale (Cash et al., 2002) is a copyright questionnaire. It can be accessed from http://www.body-images.com/assessments/biss.html

item is rated on a 9-point Likert scale ranging from extremely dissatisfied to extremely satisfied. The total score for the measure is calculated by taking the mean of the six items, with higher scores indicating higher satisfaction. Prior to taking the mean, the following items were reverse scored items 2, 4, and 6. This measure has high internal consistency (α = 0.83; Cash et al., 2002).

State Self-Compassion. The State Self-Compassion Scale-Short form (SSCS-SF; Neff et al., 2020; see Appendix 11) is a 6-item measure which aims to capture moment-to-moment variations of self-compassion. Participants were asked to think about their recent experience of either experiencing a diet culture exposure (e.g., the conversation or media exposure) or not, and rate each statement (e.g., "I'm giving myself the caring and tenderness I need") on a 5-point Likert scale (1-5) to capture their state self-compassion. Items 2, 4 and 6 are reverse coded to calculate the final total and greater scores are associated with higher state self-compassion. This measure had high levels of internal consistency (α = .864; Neff et al., 2020).

3.9. Additional Materials

In this section, the additional materials that supported the study will be described (e.g., 'Recognising Diet Culture' infographic, see Appendix 12) and the survey platforms (i.e., Online Surveys and Avicenna, formerly Ethica) used within this study to gather data. Two separate survey platforms were used due to the individual functionality of each platform to carry out different procedures in the study.

3.9.1 Diet Culture Infographic

An infographic about 'Diet Culture' was developed to orientate participants to the EMA phase of the study and to give examples of some of the experiences that they could be

recording on the app. The infographic was based upon literature described within the '*Diet Culture Discourses in Society'* section of this thesis (NEDA., 2019; Hogan., 2022). The infographic gave information on how to detect diet culture in our daily interactions and within different sources of media that we consume. This infographic was shared via email and participants were encouraged to read this prior to setting up the EMA phase.

3.9.2 Online Surveys

The baseline questionnaires were set up on Online Surveys version 3, which is a recent beta version of an update to the software. A hyperlink was sent out to participants to be able to access the survey platform. Potential participants were consented into the study at the start of the baseline questionnaire and the voluntary nature of participation was explained.

3.9.3 Avicenna App

The EMA phase was set up on the app-based platform Avicenna. The functionality of this platform enabled the researcher to send participants 'signals' or 'notifications' to sample real-time data throughout the day. The survey was set up with both time-triggering logics and user-triggering logics enabled, so that the EMA survey was prompted five times a day for seven days, with the capacity for users to fill in additional surveys if they missed any notifications or if they wanted to record additional experiences. Only participants that had been invited to the study could access the surveys. Participants were sent an access code that they input on their device to register for the study and they were required to enable notifications for the app to be able to proceed.

3.10 Procedure

Firstly, the piloting procedures will be outlined in this section. Next, the main procedures for this study will be broken down into the two discrete phases: obtaining *baseline questionnaires* and the *EMA phase.* Participants were expected to complete both phases of the study to participate fully. Furthermore, an incentive was provided, allowing participants who completed at least 80% of the EMA measures to enter a prize draw, with the goal of increasing compliance with the procedures.

3.10.1 Piloting

The study was soft piloted initially by two members of the research team to check for any errors or inconsistencies. After initial errors were identified and amended, two further pilot participants were recruited.

Expert by experience recruitment. It was considered that this study had an increased potential to cause distress, for those with a historical or current eating disorder. Therefore, it was thought to be important to pilot the project with someone who was an Expert by Experience (EBE). An advertisement was posted within a local eating disorder service to recruit an EBE who had previous experiences of living with an eating disorder. One pilot participant was identified from this service. A further pilot participant was recruited from the wider population that had experience of body dissatisfaction and who had an interest in the study.

Piloting feedback. The pilot participants provided detailed feedback about the experience of participating in the study and offered some suggestions for improvements. The pilot participants were both able to recount incidents of diet culture exposure that fit within the framework discussed within the literature review (i.e., conversations or media that promoted them and encouraged them to strive for a thin or muscular body, e.g., social media posts saying “how to eat a brownie with half the calories”). They reflected on the issues in

calculating BMI (e.g., putting people off participating as they don't feel comfortable weighing themselves) and they felt that self-identifying BMI from broad categories could be a suitable alternative. Pilot participants found the questionnaire somewhat repetitive, but overall, straightforward to complete. One of the pilot participants who had an eating disorder history found that as the week progressed, they had to take a break from filling in the surveys as they were struggling with their body image. They found the active process of reflecting on their body image had a negative impact (it was harder to avoid their difficult thoughts and feelings). However, they felt that taking a break from filling in the surveys helped and they were able to detach from difficult thoughts and feelings in between filling in the surveys.

There were no significant improvements suggested for the study itself (e.g., the study materials); however helpful insights into the experience of participating and suggestions to aid the process of participating were made by pilot participants. One pilot participant suggested that it would be useful to insert signposting links onto the study's homepage on the Avicenna app, which was implemented before the main trial. It was also suggested that the researcher could highlight the potential for distress in the email that is sent prior to engaging in the EMA phase to aid informed consent. This suggestion was also implemented by re-working a standardised email (e.g. highlighting burden, potential to be triggering) that would be sent out to participants before the EMA phase was undertaken. Both pilot participants gave permission for their data be used within the main analysis and write up of the study.

3.10.2 Phase One: Baseline Questionnaires

The baseline survey was sent out to participants either by clicking an embedded link to the survey on social media or by the researcher sending the potential participant the link to online surveys over email or social media. This survey comprised three components, as described above: a demographic questionnaire, the SATAQ-4 (Schaefer et al., 2015) and the SCS-SF

(Raes et al., 2011). Participants were presented with these three surveys in the above order. They were also asked to indicate their preferred email address to be sent further information about the EMA phase and to be set up with the Avicenna application.

3.10.3 Phase Two: Ecological Momentary Assessment

Prior to starting this phase of the study, participants were offered the opportunity to discuss any queries that they had with the researcher over the phone or over email. They were also sent download instructions for the Avicenna app (See Appendix 13) and the 'Recognising Diet Culture Infographic' (as previously described). One participant decided to take this up and the researcher arranged a telephone call to describe how to set up the application and the participant gave some examples of the types of diet culture experiences that they may encounter, which appeared valid and in line with the guidance in the infographic that was sent out. Other participants asked some asked some brief follow-up questions over email. During this phase participants were prompted to keep their notifications switched on and to try and avoid using 'do not disturb' or 'flight mode' on their phones where possible.

Once participants had downloaded and set up the Avicenna app, the EMA phase lasted seven days, with five signals sent out per day. At these time-points, participants were prompted to complete the survey. When participants received a signal on their phone, they were redirected to the Avicenna app. At the start of the survey, participants were provided with a reminder of what diet culture is (i.e., "Diet culture is the pervasive belief that appearance and body shape are more important than physical, psychological, and general well-being"), including some examples of common diet culture discourses (e.g., those glorifying weight loss: "you look great, have you lost weight?"). The function of this prompt was to improve ability to spot diet culture discourses to improve the accuracy of responses.

Next, participants were presented with the non-standardised diet culture exposure questions, then the state body image satisfaction and state self-compassion measures. Participants were required to fill in each measure before moving onto the next but were able to cancel filling out the survey if they no longer wished to complete the measure at that time point (registered as a cancellation). If the participant cancelled a measure within the time slot and wished to fill in a new survey at a later point, they were able to do so by completing a user-triggered survey.

Following completion of the EMA phase of the study, participants were provided with debriefing materials (including an infographic about 'resisting diet culture' derived from body positivity and Health at Every Size literature; see Appendix 14) and with the opportunity to speak with the researcher if anything difficult arose due to engaging in the study. All data responses were de-identified prior to analysis.

3.11 Data Analysis

This section outlines the strategy with respect to case inclusion / exclusions and validity checks of the data. It also presents the analysis strategy including justification of the statistical tests employed.

3.11.1 Data Preparation and Cleaning

Prior to inputting data onto IBM SPSS Statistics 23, data were downloaded from online surveys and Avicenna onto an Excel spreadsheet to be prepared for analysis. When preparing the data set for SPSS, the time-triggered and user-triggered surveys were inputted in different ways. User-triggered responses were either: substituted for missing data within the timeframe that the survey was recorded in or added as an additional survey after the time-triggered

surveys. As some participants completed all the assigned time-triggered surveys and had filled in additional user-triggered surveys, the maximum number of surveys was 37.

Prior to conducting the MLM analyses, the assumptions of MLM were tested. The random components of the model were assumed to be normally distributed with a mean of zero. The variables included in the model were checked for normality by assessing levels of skewness and kurtosis and these assumptions were met (skew and kurtosis were between -2 and 2; see Table 3). The dataset was also checked for any influential data points that may have affected the analysis (e.g., outliers). Stem and Leaf plots revealed five outliers in the body image satisfaction state average scores, as shown in Supplementary Materials (S1). These outliers were inspected further, and they fell at the higher end of the body image satisfaction scale. Z-scores were calculated for this measure and the z-scores all fell below 3 SD from the mean, with the most outlying z-score being Z = 2.96. Furthermore, the model was run with and without these outliers and it did not seem to affect the outcome of the analysis in any influential way, so these outliers were kept in the analysis.

Intra-Class Correlations (ICC) were calculated for each target variable to test for interdependence of variables at all levels (see below), which can indicate the systematic differences in the outcome variables between clusters (e.g., within and between participants, over different time-points).

$$\text{ICC } (\rho) = \frac{\sigma^{2BP}}{\sigma^{2BP} + \sigma^{2WP}}$$

Missing data was assumed to be Missing at Random (MAR), and a restricted maximum likelihood estimate (REML) was used within the statistical model to account for missing data. REML was used due to its ability to produce an unbiased estimate of missing data in MLM (Harville, 1977).

3.11.2 Compliance Analysis

Chi-square (X^2) tests have been used to investigate compliance levels with the EMA procedures. Firstly, compliance levels were categorised using two labels: participants with low compliance (< 70%) and participants with high compliance (≥ 70%). 70% was used as a threshold for high compliance as it was considered that completing over 24 surveys throughout the week demonstrated a good commitment to completing surveys given the level of participant burden involved in completing the daily measures. This variable was compared against age, gender, ethnicity, and weight status using chi-square (X^2) tests to investigate any statistically significant differences ($p < .05$).

3.11.3 Descriptive Analysis

Descriptive statistics have been calculated to describe the sample and contextualise the results. The means (M), standard deviations (SD) and range were obtained for both the baseline and EMA variables. Lastly, the within-person and between person variances and an ICC were reported for the mediator and outcome variables BISS and SSCS-SF.

3.11.4 Exposure Type Analysis

The total number of exposures per participant was calculated by adding up all the different exposure types that were ticked in each survey. At some time points, participants selected a range of different exposure types (e.g., social media, conversation with family member), which meant that they were exposed to diet culture through different platforms. Therefore, it was assumed that these exposures were distinct, and they were counted as different exposures in the analysis. Means, standard deviations and ranges were reported to detect patterns within the data.

3.11.5 Multilevel Modelling Analysis

Multilevel modelling was chosen to analyse the data due to the nested nature of the EMA design (See Figure 1 for a schematic representation of the EMA variables and the nested levels included in the MLM analysis). Multi-level mediation models were used to test the hypotheses using IBM SPSS Statistics 23 with the MLMed macro (Rockwood, 2017). These processes were used to model regressions and calculate p-values (<.05), to evaluate statistical significance. Model 1 investigated the main effect of diet culture exposure on individuals' moment-to-moment body image satisfaction (BISS). Model 2 investigated whether the mediator variable (SSCS-SF) can significantly account for the relationship between the predictor variable (diet culture) and the overall mean outcome (α) of BISS. Age, sex, weight status and baseline levels of sociocultural attitudes to appearance (SATAQ-4) were also inputted as potential confounding variables at the between-person level (L2) due to their potential relevance, as presented within the introduction. Finally, an error term (E) was added into the model to account for noise within the data.

The statistical models for the main analyses are displayed below:

Model 1: $BISS_{it} = \alpha + a_i + \beta_1 \, DietCulture_{it} + E_{it}$

Model 2: $BISS_{it} = \alpha + a_i + \beta_1 \, SSCS\text{-}SF_{it} + \beta_2 \, DietCulture_{it} + \beta_3 \, (SSCS\text{-}SF \times DietCulture)_{it} + E_{it}$

A two-level multilevel mediation model with a 1-1-1 structure was opted for, with fixed covariates and slopes (β). This model contains repeated measurements at different time points ($_t$), for each participant ($_i$) and the variation over time for each participant was analysed with a random intercept (ai). The covariation structure for the random effects was set as diagonal, to remove the correlation between random effects, with the intention to enable the model to converge (Singmann & Kellen, 2019).

Model issues that could not be resolved are reported in the results section and necessary caution was adopted in the interpretation of results.

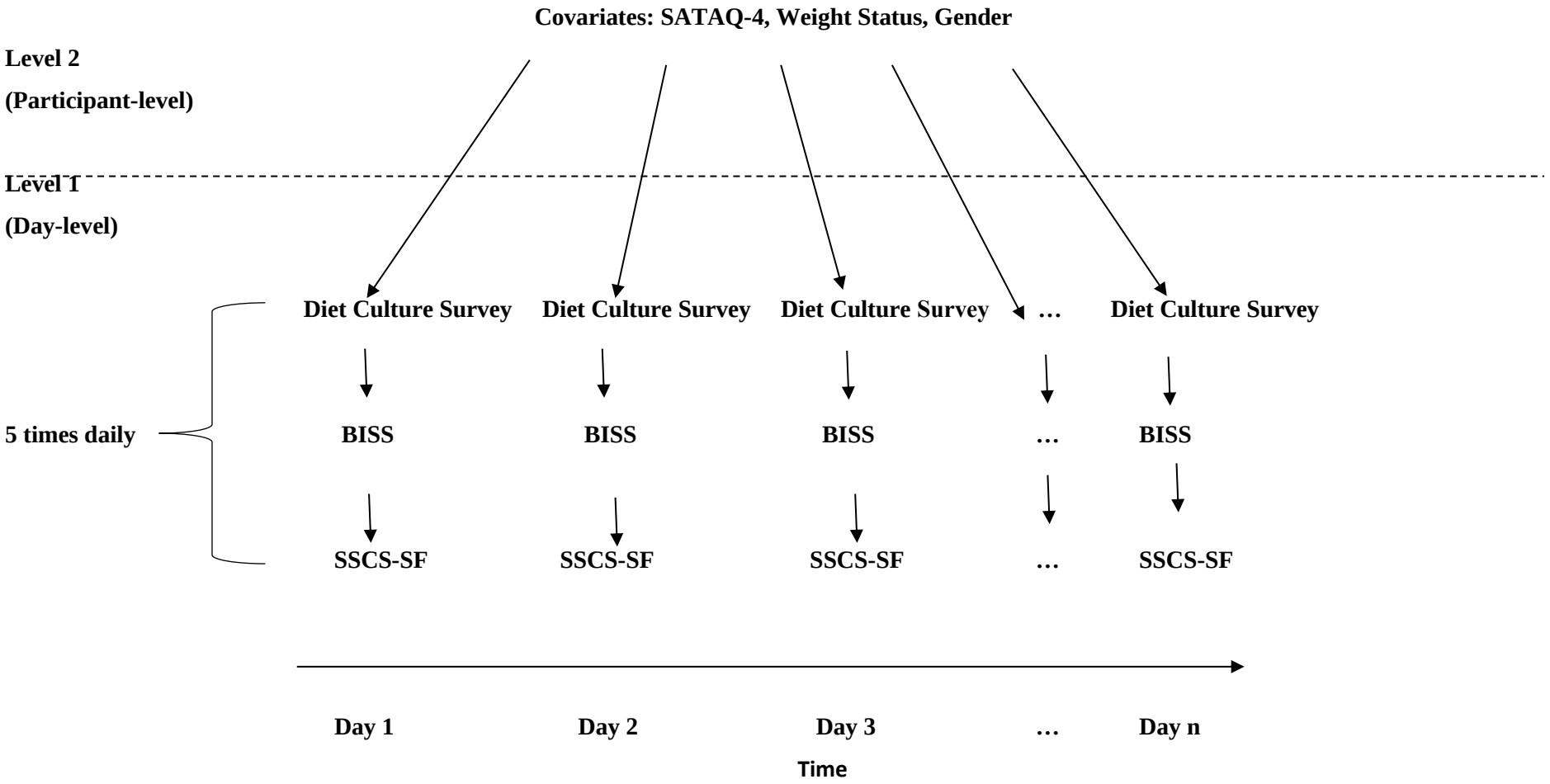

Figure 1

Conceptual Diagram of the EMA study Process and the structure of the 1-1-1 mediation model

Within the above calculation, σ^{2BP} represents the variance of the error between each participant, at each time point and σ^{2WP} represents the variance over time within each participant, per time-point. An ICC of above .10 was considered sufficient to perform the main analysis. The data was left uncentred to perform statistical analysis.

Results were interpreted using Baron and Kenny's (1986) approach to mediation analysis. Firstly, the following pathway checks were made:

1) Path *a*: The predictor variable (*x*) significantly predicts the mediator variable (*m*).
2) Path *b*: The mediator variable (*m*) significantly predicts the outcome variable (*y*).
3) Direct effect (*c'*): *x* significantly predicts *y*.
4) Total effect (*c*): When *m* enters the *x* and *y* relationship, the total effect becomes non-significant. If the direct effect does not reduce to non-significant, mediation only happens partially.

In addition, Monte Carlo Confidence Intervals (95%, 10,000 samples) were used to test the indirect effect, suggesting that if zero falls between the two confidence intervals, the indirect effect is rendered non-significant. The proportion of the effect that is mediated will be investigated using the following equation (*c'* = Direct effect; *c* = Total effect) and will be reported as a percentage:

$$1 - \frac{c'}{c}$$

The proportion of the effect of diet culture, mediated by SSCS-SF, on BISS was also calculated using the following equation (*ab* = Indirect effect, *c'* = Direct effect controlling for mediator), which will be reported as a percentage:

$$\frac{ab}{(c' + ab)}$$

Effect sizes were estimated using the regression coefficients (B) of each path, as they can be considered to be partial correlations (Small = .1; Medium = .3; Large =.5) and the indirect effect will be interpreted using the $\eta 2$, which is the product of the partial correlation squared (Small = .01; Medium = .09; Large = .25; Preacher & Kelley, 2011).

Chapter Four: Results

Within this chapter the results from this thesis are reported and inferences will be made about their statistical significance. Firstly, the *participant pathway and attrition* will be presented. Secondly, *demographics* will be presented to contextualise the final sample of participants. Thirdly, *compliance investigations* will be presented, which explored whether any baseline characteristics were related to low or high compliance levels. Next, *descriptive statistics* will be presented, and the assumptions of normality, variability and intra-class correlations will be checked. Correlational analyses will be reported and associations within the data will be explored. Finally, the main analysis will comprise four different sections, relating to the hypotheses which will explore: '*Variations in Diet Culture Exposure*', '*Main Effect of Diet Culture on Moment-to-Moment Body Image Satisfaction*', '*Within-Person Mediating Role of State Self-Compassion'* and '*Between-Person Mediating Role of State Self-Compassion, with Between-Person Covariates*'. Screenshots of raw data can be found for analyses in Supplementary Materials (S2).

4.1 Participant Pathway and Attrition

The flow of participants through the study is displayed in Figure 2. Seven participants dropped out after consenting to participate in the study and completing baseline questionnaires. 44 participants downloaded Avicenna to prepare to participate and one participant dropped out after this stage. This left a final sample of 43 participants in the study. power

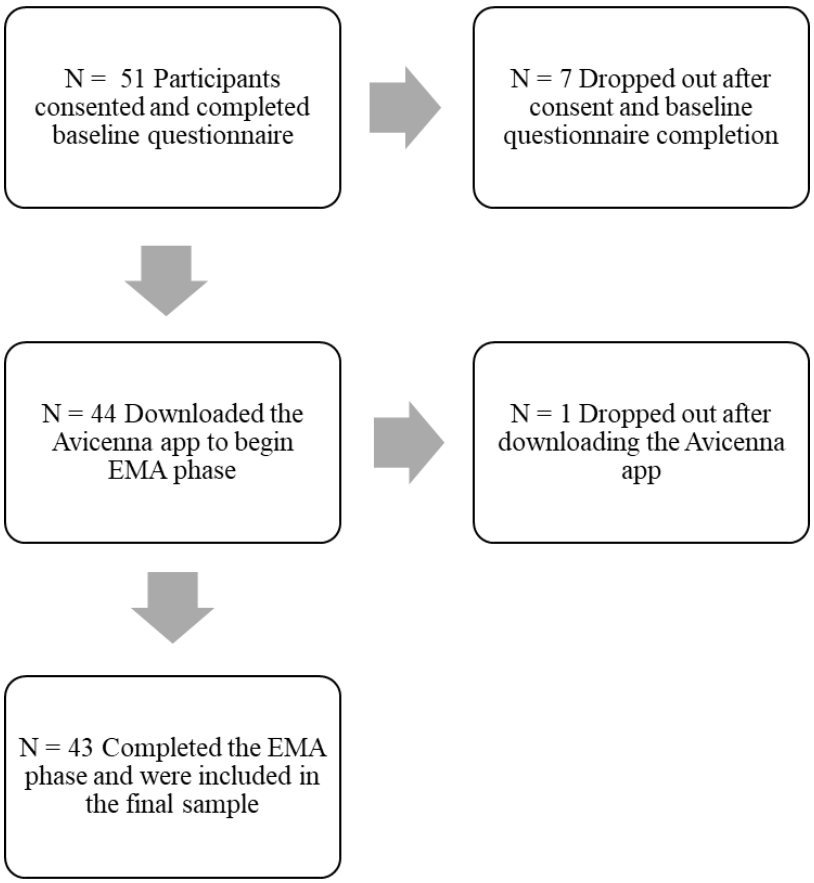

Figure 2

Flow of Participants Throughout the Study.

4.2 Demographics

As full compliance to the EMA data collection processes was unlikely, a larger sample than 30 was recruited. 43 participants were included in the final sample (84.3% of people that were initially consented into the study) and were included in subsequent analyses. The demographic characteristics of these participants are displayed in Table 1. The sample was predominantly female (74.4%) and of a White ethnic background (86%). The study was only able to recruit four people from a Mixed/Multiple ethnic background, two people from an Asian background and there was no representation from people with a Black ethnic background. Just over half of the sample (51.2%) of the sample were in the 26–35-year-old

age bracket, and most of the remaining participants were in the 16-25 (16.3%), 36-45 (18.6%) and 46-55 (11.6%) age brackets, with only one participant being in an older adult age bracket (66-75). Just over a quarter of participants self-identified as either overweight (27.9%) or obese (25.6%) and just under half of participants self-identified as having a 'Healthy' weight status.

Table 1

Demographic Characteristics of the Final Sample (N = 43).

Descriptive variable	Final sample
Age Range: N (%)	
16-25	7 (16.3%)
26-35	22 (51.2%)
36-45	8 (18.6%)
46-55	5 (11.6%)
56-65	0 (0%)
66-75	1 (2.3%)
75+	0 (0%)
Gender: N (%)	
Female	32 (74.4%)
Male	11 (25.6%)
Non-Binary	0 (0%)
Ethnicity: N (%)	
White	37 (86%)
Mixed/Multiple Ethnic	4 (9.3%)
Asian	2 (4.7%)
Black	0 (0%)
Other	0 (0%)
Weight Status: N (%)	
Underweight	0 (0%)
Healthy	20 (46.5%)
Overweight	12 (27.9%)

Obese	11 (25.6%)

4.3 Compliance Investigations

Firstly, an analysis was conducted with the overall sample that were consented into the study, including dropouts (N = 51). The percentage of people who dropped out prior to completing the EMA phase were compared with the final sample and Gender became a significant indicator of poorer compliance X^2 (2, N = 51) = 25.87, p < .001. This appeared to be influenced by, 4 out of 7 participants that dropped out of the study identifying as 'non-binary'. Although this was an interesting finding, this observation was derived from a small sample of participants, so it is difficult to draw any firm conclusions from this data.

Secondly the final sample was explored the average number of surveys completed per participant was 20.35 (SD = 11.31). The minimum number of surveys completed per participant was two, and the maximum completed was 37. Overall, the total number of participants that met the set threshold for low compliance (<70%) was higher (58.1%) than those that met the set threshold for high compliance (≥70%, 41.9% of participants). Pearson's Chi-Square tests of compliance rates and demographic characteristics are displayed in Table 2, and they were all statistically non-significant. The values were as follows: Gender X^2 (1, N = 43) = 2.88, p < .09; Age X^2 (4, N = 43) = 1.89, p < .76; Ethnicity X^2 (2, N = 43) = 1.58, p < .45 and finally, Weight status X^2 (2, N = 43) = .772, p < .68.

Table 2

Investigations of Low Compliance (<70%) versus High Compliance (≥70%).

Potential compliance indicators		N with Low Compliance (<70%)	N with High Compliance (≥70%)	Pearson Chi-Square Value	df	Significance (2-sided p-value)
Gender	Female	21	11	2.88	1	.09
	Male	4	7			
	Non-Binary	0	0			
Age	16-25:	4	3	1.89	4	.76
	26-35:	14	8			
	36-45:	4	4			
	46-55:	2	3			
	66-75:	1	0			
Ethnicity	White	21	16	1.58	2	.45
	Mixed and Multiple Ethnic	2	2			
	Asian	2	0			
	Black	0	0			
Weight Status	Underweight	0	0	.77	2	.68
	'Healthy'	13	7			
	Overweight	6	6			
	Obese	6	5			
Total low or high compliance N = 43		25	18	n.a	n.a	n.a

4.4 Descriptive Statistics

Descriptive statistics are reported to further situate the sample and contextualise results. Table 3 displays descriptive statistics that relate to both the baseline variables and the variables used within the MLM analysis. 'Diet Culture Exposure' was a binary variable,

therefore the average score (M = 0.28, SD = .45), indicates that most often, people reported that they had not experienced a diet culture exposure at the time of measurement.

In terms of state-based measures, the combined mean scores of each BISS survey (M = 4.7. *SD* = .91) were proportionally lower (12%) than SSCS-SF scores (M = 3.2, *SD* = 0.91) reported throughout the week. This meant that overall, people's body image was lower than their levels of self-compassion.

SATAQ-4 scores were measured at baseline and had a mean score of 2.87 (*SD* = 0.66) and ranged between 1.36 and 4.09, suggesting that on average, participants rated their socio-cultural attitudes to appearance-ideals as neutral, biased slightly towards having higher levels of appearance-ideal pressure.

The trait-based measure of self-compassion (SCS-SF; M = 2.81, *SD* = 0.83) was slightly lower (M = 2.87, *SD* = 0.83) than the state-based measure. This could indicate either that participants, on average, experienced higher levels of self-compassion during the week of the data collection, or it could suggest that with less recall bias, participants rated their self-compassion levels more favourably. In both instances, the self-compassion scores were between the neutral and higher self-compassion level.

The within- and between-person variance of BISS (σ^{2WP} = .41 and σ^{2BP} =.93) and SSCS-SF (σ^{2WP} = .16 and σ^{2BP} = .46) were used to calculate the within-person and between-person ICC for each variable (BISS: ρ^{WP} = .31 and ρ^{BP} = .69; SSCS-SF: ρ^{WP} = .26 and ρ^{BP} = .74). The within-person variance accounted for 31% of the variance in BISS and 26% of the variance in SSCS-SF. This suggests that participants varied more between each other (BISS = 69%; SSCS-SF =74%), than they did within-themselves, and BISS scores varied more than SSCS-SF scores over the course of a week (5%). This means that participants tended to show greater stability than they did variability over the week; however, the findings suggest that within-person scores still varied over the course of a week.

Table 3

Descriptive Statistics and Intra-Class Correlations for Level 1 and Level 2 Variables from the Final Sample (N = 43).

Level	Variable	M	*SD*	Skewness	Kurtosis	Possible Range	Observed Range	σ^{2WP}	σ^{2BP}	ρ^{WP}	ρ^{BP}
1	Diet Culture Exposure	.28	.45	1.00	-1.00	0-1	0-1	n/a	n/a	n/a	n/a
	BISS	4.7	1.48	.50	-.37	1-9	1.67-9	.93	.41	.31	.74
	SSCS-SF	3.2	.91	.24	.09	1-5	1.33-5	.46	.15	.26	.69
2	SATAQ-4	2.87	.66	-.06	-.47	1-5	1.36-4.09	n/a	n/a	n/a	n/a
	SCS-SF	2.81	.83	.9	.56	1-5	1.42-5	n/a	n/a	n/a	n/a

Note. Only complete data were used in the preliminary analysis. M = Mean; *SD* = Standard Deviation; ρ^{WP} = Within-Person Intra-Class Correlation; ρ^{BP} = Between-Person Intra-Class Correlation.

Table 4

Bivariate Correlations Between Aggregated Key Variables Included in the MLM Analysis (N = 43).

Variable	1	2	3	4	5	6
1. BISS	--					
2. SSCS-SF	.49**	--				
3. Diet culture Exposure	-.14**	-.12**	--			
4. Gender	.20**	.14**	-.14**	--		
5. Weight Status	-.39*	-0.73*	.04	.15**	--	
6. SATAQ-4	-.39**	-.52**	.11*	.04	.12**	--

Note. * $p < .05$; ** $p < .01$ (2-Tailed). BISS = Body Image State Scale (Average Weekly Score), SSCS-SF = State Self-Compassion Scale (Average Weekly Score), SATAQ-4 = Socio-cultural Attitudes Towards Appearance Questionnaire- version 4.

4.5 Correlational Analysis

The bivariate correlations between the key variables included in the MLM analysis is depicted in Table 4. Level 1 variables (Body Image Satisfaction and State Self-Compassion) were aggregated across the week of measurements, therefore correlational relationships were investigated exclusively at the between-person level.

Body image satisfaction was positively associated with Gender ($r = .2$, $p < .01$), and negatively associated with weight status ($r = -.39$, $p < .05$), which were small and medium effects respectively. This meant that being male and having a lower perceived weight status (i.e., being thinner) was associated with having higher body image satisfaction. State Self-Compassion was positively associated with Gender ($r = .14$, $p < .01$), and negatively associated with weight status ($r = -.73$, $p < .05$), which were small and large effect sizes respectively. This meant that being male and having a lower weight status (e.g., being thinner) was associated with having higher self-compassion.

Socio-cultural attitudes towards appearance (SATAQ-4) had a small negative correlation with weight status ($r = .12$, $p < .01$), however, it was not correlated with gender. This meant that feeling greater pressure to conform to sociocultural appearance ideals was associated with having a lower weight status (e.g., being thinner). BISS was negatively associated with SATAQ-4 ($r = -.39$, $p < .001$), which was a medium effect size. This suggests that feeling greater pressure to conform to sociocultural appearance ideals is associated with lower body image satisfaction. State self-compassion was negatively associated with SATAQ-4 ($r = -.52$, $p < .01$), which was a large effect. This indicated that experiencing greater pressure to conform to sociocultural appearance ideals is associated with having less self-compassion.

Both body image satisfaction and state self-compassion had a small negative correlation with Diet Culture Exposure ($r = -.14$, $p < .01$ and $r = -.116$, $p < .01$ respectively), suggesting that

having more frequent diet culture exposures is associated with having poorer body image satisfaction and lower self-compassion. Body image satisfaction was positively associated with state self-compassion ($r = .49$, $p < .01$), with a medium-strong effect, meaning that as self-compassion increases, body image satisfaction also increases.

4.6 Main Analyses

This section will present the main statistical analyses, which investigate *'Variations in Diet Culture Exposure'* using descriptive data and the '*Diet Culture on Moment-to-Moment Body Image Satisfaction', 'Within-Person Mediating Role of State Self-Compassion'* and the '*Between-Person Mediating Role of State Self-Compassion'* using MLM analysis.

4.6.1 Hypothesis 1- Variations in Diet Culture Exposure:

It was hypothesised that the type of diet culture exposures (conversations and in the media) would vary between participants. Descriptive data was collected with regards to the type of diet culture exposure that participants experienced and can be found in Table 5.

Out of the total number of surveys completed by all participants, 278 different diet culture exposures were reported (mean average of 6.47 per participant over the course of a week). There was high between-participant variability, with a *SD* of 5.32 and a range of 24. Diet culture conversations were the most common type of exposure cited by participants (52.2% of diet culture exposures), whereas diet culture media accounted for 47.8%. Overall, the mean number of diet culture exposures for both conversations and media were just over 3 exposures each over the course of a week, with a range between 12 and 13. This suggests that there was high variability between-participants for each of these categories of diet culture exposure.

In terms of diet culture conversations, participants were more likely to report being exposed to diet culture in conversations that they had engaged in (82.1%), rather than reporting a conversation that was overheard (17.9%). Participants reported diet culture conversations most frequently with family members (19.1%) and friends (18.3%) and less frequently with strangers or acquaintances (5.4%).

In terms of diet culture media, participants were more likely to report being exposed to diet culture on social media/internet platforms (78.2%), compared to more traditional forms of media (21.8%). The most common form of media exposure was browsing on social media sites (29.5% of total exposures). The next most common form of media exposure was through watching TV shows and films (9.4%).

Table 5

Number of Diet Culture Exposures per Exposure Type out of the Total Sample of Repeated Surveys (N = 822).

Exposure Type	Sub-type	Number of exposures (% out of total exposures)	Range	Mean	*SD*
Diet Culture Conversation		145 (52.2%)	13	3.37	3.16
	Conversation with family	53 (19.1%)	12	1.23	2.14
	Conversation with friend	51 (18.3%)	8	1.19	1.67
	Conversation with stranger or acquaintance	15 (5.4%)	3	0.35	0.65
	Overheard family member conversing	7 (2.5%)	2	0.16	0.48
	Overheard friend conversing	9 (3.2%)	2	0.21	0.47
	Overheard stranger or acquaintance conversing	10 (3.6%)	4	0.23	0.72
Diet Culture Media		133 (47.8%)	8	3.09	3.18
	Browsing social media	82 (29.5%)	8	1.91	2.10
	Chatting on social media	4 (1.4%)	2	0.09	0.37
	Browsing the internet	18 (6.5%)	4	0.42	0.93
	Watching TV	26 (9.4%)	6	0.60	1.28
	Reading a newspaper or magazine	3 (1.1%)	1	0.07	0.26
Total exposures		278	24	6.47	5.32

Table 6

Regression Coefficient Estimates (SE) for parameters in 1-1-1 mediation models predicting BISS in relation to diet culture exposure, with SSCS-SF as a mediator.

Coefficient Estimates	Regression Coefficient (SE)	T value	Confidence Intervals
Model 1 (AIC: 1877.68):			
Within-Person Fixed Effects			
Intercept BISS	4.70[a] (.20)***	23.59	4.30, 5.10
Diet Culture → BISS	-.29 [a] (.06)***	-4.90	-.40, -.17
Random Effects			
Residual BISS	.46 [a] (.02)***	23.0	.42, .51
Intercept BISS	1.64 [a] (.36)***	4.50	1.07, 2.52
Model 2 (AIC: 2763.621):			
Within-Person Fixed Effects (L1)			
Intercept BISS	4.90[a] (1.42)***	-4.21	2.04, 7.75
Intercept SSCS-SF	4.78[a] (.62)***	-2.48	-.15, -.02
Diet Culture → SSCS-SF	-.09[a] (.03)*	-2.50	-.15, -.02
SSCS-SF → BISS	.56[a] (.06)***	9.72	.45, .67
Direct Effect Diet Culture → BISS	-.23[a] (.06)***	-4.21	-.34, -.12
Indirect Effect	-.05[b] (.02)*	-2.50	-.09, -.01[c]
Total Effect	-.30[a] (.05)***	-6.00	-.41, -.13
Between-Person Fixed Effects (L2)			
Diet Culture → SSCS-SF	-.34 [a] (.47)	-.73	-1.29, .60
SSCS-SF → BISS	0.59 [a] (.23)*	2.55	.45, .67
Direct Effect Diet Culture → BISS	-.23 [a] (.67)	-3.45	-.34, -.12
Indirect Effect	-.20 [b] (.31)	.65	-.87, .36[c]
Total Effect	-.43 [a] (.98)	-.43	-1.21, .22
Random Effects (L2)			
Residual BISS	.41 [a] (.02)***	20.50	.37, .46
Intercept BISS	.93 [a] (.22)***	4.22	.57, 1.48
Residual SSCS-SF	.16 [a] (.09)***	4.23	.14, .18
Intercept SSCS-SF	.47 [a] (.11)***	4.27	.29, .74

Note. Diagonal covariance matrix used in both models, with the covariance of BISS and SSCS-SF set to 0. B = coefficient estimates, *SE* = Standard Error, BISS = Body Image State Scale, SSCS-SF = State Self-Compassion Scale. * $p < .05$, ** $p < .01$, *** $p < .001$. [a] = Beta Coefficient, [b] = indirect effect ($IND_{SSCS\text{-}SF)}$, [c] = Montecarlo Confidence Intervals (95%; 10,000 samples).

4.6.2 Hypothesis 2 – Main Effect of Diet Culture on Moment-to-Moment Body Image Satisfaction:

It was hypothesised that exposure to diet culture would reduce individuals' moment-to-moment body image satisfaction. The results from the multilevel mediation analysis (Table 6), provides information about the direct fixed effect of the x predictor variable (diet culture) on the y outcome variable (BISS). The analysis confirmed that in Model 1 there was a significant main effect of diet culture on BISS (B = -.29, *SE* = .06, $p < .001$) at the within-person level, which was a small-medium effect. This suggests that having a higher daily frequency of diet culture exposures predicted lower levels of body image satisfaction.

4.6.3 Hypothesis 3 – Within-Person Mediating Role of State Self-Compassion

It was hypothesised that exposure to diet culture will exert its impact on moment-to-moment body image satisfaction via differences in state self-compassion. Specifically, higher levels of self-compassion were expected to predict higher body image satisfaction after being exposed to diet culture.

As shown in Figure 3, there was a significant total effect between diet culture and body image (Path *c:* B = -.30, *SE* = .05, $p < .001$), which had a medium effect size. There was a statistically significant relationship between diet culture on SSCS-SF (Path *a*: B = -.09, *SE* = .03, $p < .05$), yet it did not quite meet the threshold for a small effect (B = >.1). This suggests

that having more diet culture exposures is associated with having less self-compassion, but with only minimal impact. Path *b*, which regressed SSCS-SF onto BISS, was statistically significant (B = .56, *SE* = .06, *p* < .001) and had a large effect size. This suggests that having higher levels of self-compassion was strongly predictive of having higher levels of body image satisfaction. The direct effect between diet culture and BISS, whilst including SSCS-SF in the model, was B = -.23, *SE* = .67, *p* <.001 (Path *c'*), which was a medium effect; however, only 23.3% of the total effect was accounted for by mediation.

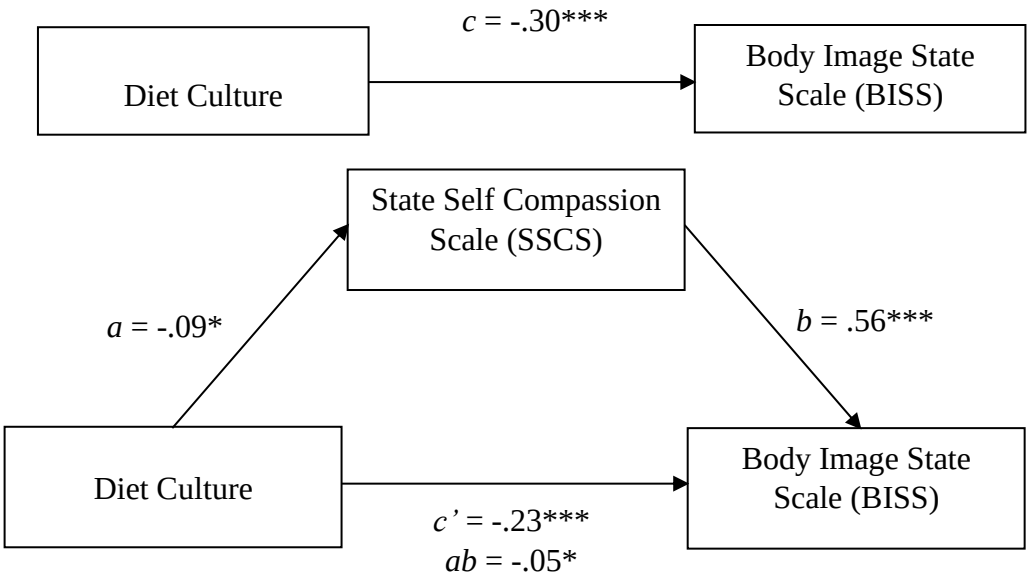

Figure 3

Within-Person Fixed Effects Model showing the relationship between Diet Culture and BISS, with SSCS-SF as a mediator.

In the Montecarlo Confidence Interval Test for the indirect effect, zero was not between the upper and lower confidence interval bounds, therefore the indirect effect remained significant (Path *ab:* INDSSCS-SF = -.05, *SE* = .02, *z* = -2.39, *p* <.02, MCLL= -.09, MCUL = -.01). In addition, the proportion of diet culture, mediated by SSCS-SF on BISS was 46.5%. These results suggest that having more diet culture experiences led to having low body image

satisfaction when self-compassion levels were controlled for, however, the effect size for the indirect effect was unsubstantial (η^2= .003).

Taken together, the current model does not meet the criteria for full mediation due to the significant main effect. Furthermore, it could be argued that although paths *a, b, ab* and *c*' were significant, the effect sizes for path *a* and path *ab* were too small, which would suggest that the magnitude of the relationship was not strong enough to claim grounds for partial mediation. Furthermore, the model fit statistic indicated an increase in value after adding in the mediator (Model 1 AIC = 1877.68; Model 2 = 2763.62), which suggests that the hypothesised mediation model for within-person differences did not significantly improve the model fit.

4.6.4 Hypothesis 4 – Between-Person Mediating Role of State Self-Compassion, with Between-Person Covariates.

It was hypothesised that a greater proportion of diet culture exposure will have a cumulative effect over the course of a week, which would reduce people's average weekly body image satisfaction. It was also hypothesised that gender, weight status and socio-cultural appearance-based pressure would have a covarying influence on this relationship, whereby being female, having a higher weight status and experiencing more socio-cultural appearance-based pressure to conform to ideals, would be associated with poorer overall body image satisfaction.

As shown in Figure 4, there was a non-significant total effect between cumulated diet culture and body image (Path *c:* B = -.43, *SE* =.98, *p* < .62), which is a medium effect size. There was a statistically non-significant, yet medium-sized effect of diet culture on SSCS-SF (Path *a*; B = -.34, *SE* = .47, *p* < .47). SATAQ-4 score was also a significant covariate in this relationship (B = .54, *SE* = .17, *p* <.003), which was a large effect. This suggests that having

greater sociocultural pressure to conform to appearance ideals is significantly associated within having lower self-compassion. Taken together, this suggests that accumulating more diet culture exposures over the course of a week is associated with having less self-compassion, however, this relationship is not statistically significant. Path *b*, regressing between-person SSCS-SF onto BISS, was statistically significant (B = .59, *SE* = .23, *p* < .02), with a large effect. This suggests that having higher levels of self-compassion, averaged over the course of a week, was predictive of having higher weekly levels of body image satisfaction. The direct effect between cumulated diet culture and BISS (Path *c'*), whilst controlling for SSCS-SF, was B = -.23, *SE* = .67, *p* < .73, which was a medium effect. Furthermore, weight status was a significant covariate in this relationship (B = -.71, *SE* = .19, *p* < .001), with a large effect, which suggested that having a higher weight status was predictive of having an overall lower body image satisfaction over the course of a week.

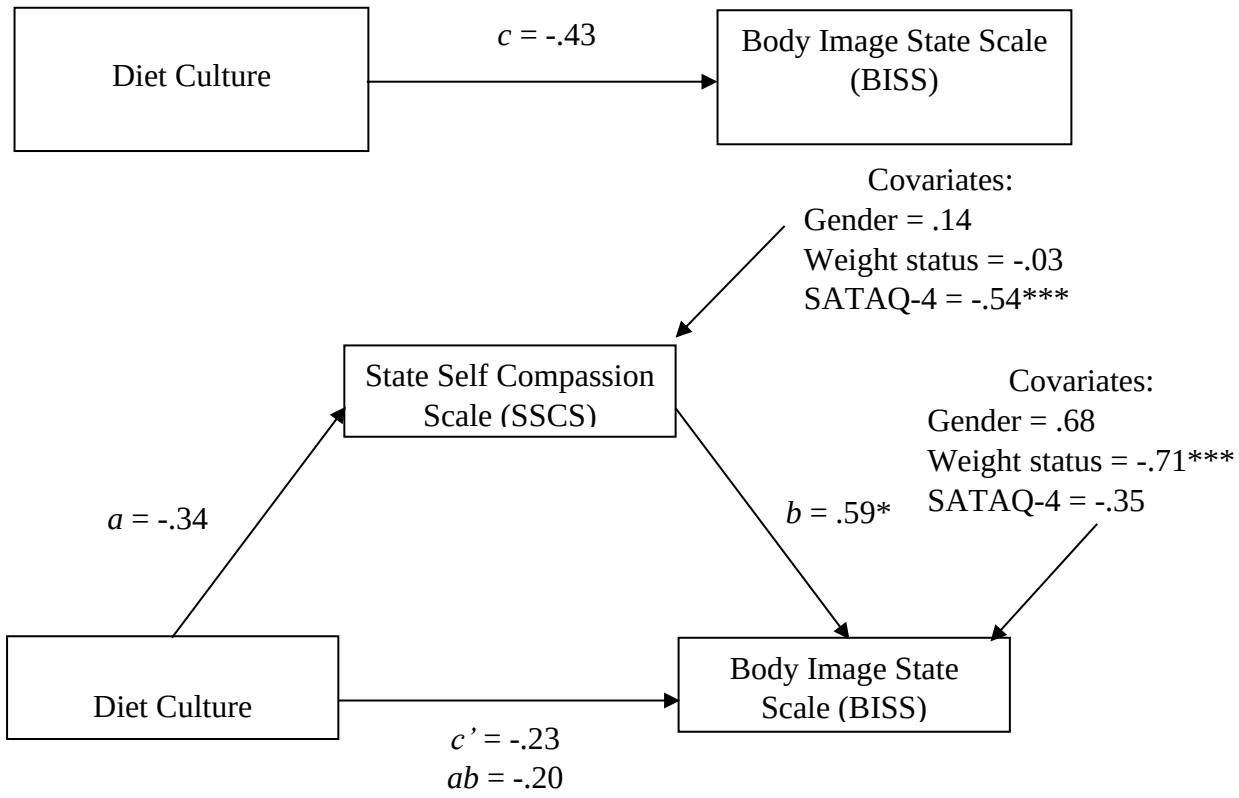

Figure 4

Between-Person Fixed Effects Model showing the relationship between Diet Culture and body image satisfaction, controlling for state self-compassion, as a mediator, with L2 covariates

In the Montecarlo Confidence Interval Test for indirect effects, zero was in between the upper and lower confidence interval, therefore, the test was rendered non-significant (Path

ab: $IND_{SSCS\text{-}SF}$ = -.20, *SE* = .31, *p* <.51, MCLL = -.87, MCUL = .36). The proportion of the cumulated effect of diet culture exposures, mediated by SSCS-SF, on BISS was 46.5%. The effect size of the indirect effect was η^2 = -.04, which was small. These results suggest that accumulating more diet culture exposures over the course of a week led to having lower body image satisfaction when controlling for averaged state self-compassion levels, however, this effect was non-significant.

Taken together, the current model does not meet the criteria for full mediation since paths *a* and c' were non-significant. However, the magnitude of the effect sizes did increase in this model, which could suggest that there was insufficient power at the between-person analysis to detect a significant effect. The test of indirect contextual effects did not significantly differ between and within-person ($DIFF^{BP/WP}$ = -.15, MCLL = -.82, MCUL = .41).

Chapter 5: Discussion

In this chapter, the aims of this thesis will be revisited, and the main findings will be summarized. Interpretations of main findings will also be considered alongside the wider context of research literature. I will go on to discuss the strengths and limitations of the thesis, before highlighting clinical implications based on the thesis' findings. Finally, conclusions and suggestions for future research will be made.

5.1 Overview of Thesis Aims

This thesis aimed to understand the moment-to-moment impact of diet culture exposure on body image and investigate the role of self-compassion as a potential protective factor. It was hoped that building on the current literature would elicit clinical implications for professionals working with people who experience body image dissatisfaction. This thesis aimed to firstly, identify what types of diet culture exposures people were having over a typical week. Secondly, test whether there was a within-person effect of diet culture exposure on day-to-day body image (i.e., did body image satisfaction fluctuate over the course of a week and was this impacted by experiences of diet culture exposure?) and whether this relationship was mediated by being in a more self-compassionate state. Finally, between-person effects were analysed to see whether there was a between-person effect of accumulated diet culture exposures on body image over the course of a week. Self-compassion was also analysed as a mediator in this relationship and gender, weight status and socio-cultural attitudes to appearance were tested as covariates in this model.

5.2 Summary of Main Findings

In this section, a summary of the key findings of the thesis will be presented, alongside the researchers' interpretations. This will be situated within the context of the wider clinical literature.

5.2.1 Variations in Diet Culture Exposures

Within the current sample, participants reported a mean of 6.47 diet culture exposures throughout their week of participation and the between-person variability was high within the sample (Range = 24). There could be several reasons to account for this variability. Firstly, it could suggest that people are all exposed to diet culture to a lesser or greater degree within their day-to-day lives. However, further research would be necessary to substantiate this claim. It is also a possibility that participants could have varied at an individual level in their sensitivity towards picking up on diet culture exposures. This could have been related to demographic factors, such as age, gender, ethnicity, or weight status. For instance, previous research (Jones et al., 2014) which investigated the theoretically related concept, 'fat-talk' in female college students demonstrated a large range of experiences of 'fat-talk' (range = 0-27). This study signalled participants five times a day, over the course of five days, and asked participants to record experiences of both engaging in and overhearing fat-talk conversations. These experiences appear to have been comparatively more common in this cohort (young female undergraduates), compared to our broader sample. In the present sample, being male was associated with having fewer diet culture exposures, which would fit with the implication above that studies that young females might experience more specific diet culture exposures, such as 'fat-talk'.

In addition, according to objectification theory (Frederickson and Roberts., 1997) some people within society may be more primed to detect diet culture exposures given that they experience greater pressure with regards to socio-cultural appearance ideals. The present

study observed a weak, yet statistically significant, relationship between pressure to conform to appearance-ideals and diet culture exposures. This provides some evidence to suggest that experiencing more pressure to conform was associated with having more diet culture exposures. However, it is important to acknowledge that the directionality of this relationship is unclear. Furthermore, participants may have varied in relation to how much they hold diet culture reinforcing beliefs. Furthermore, some people may be more aware of specific diet culture beliefs that are commonly held within society due to engaging in more 'anti-diet culture' content or literature. This may have led them to feel more informed about diet culture, which would have perhaps made it easier for them to detect more nuanced diet culture narratives in their conversations or in the media that they consume. The present thesis did not collect information about participants' understanding or beliefs around diet culture, so it was not possible to test this, though it could be an area of interest for future research.

The split between experiencing diet culture conversations and diet culture media was close (52% and 47.8% respectively); however, overall, more diet culture conversations were reported. Participants more frequently reported engaging in a diet culture conversation, rather than overhearing a conversation about diet culture. To the researcher's knowledge, this finding is novel in terms of investigating the relative frequency of these experiences in participants' day-to-day lives.

Participants in the current sample were also more likely to report a diet culture conversation with a family member or friend rather than a stranger. Much of the research into these types of diet culture conversations between family and peers has been within child and adolescent samples (Barbeau et al., 2022), or within female undergraduate populations (Salk & Engeln-Maddox, 2011), so it was interesting to find that diet culture conversations were also likely to be experienced in a typical week by participants from a wider population sample.

In the present sample, diet culture exposures were similarly common amongst family and friends. The literature suggests that it is possible that some diet culture conversations may be more salient than others. Research by Jones et al., (2014) suggested that fat-talk which was initiated by a friend (46.1%) was more salient than a conversation with a family member (13.1%). There could be several explanations for this. It could be that conversations involving fat-talk, 'healthy eating' and dieting are more likely to happen at mealtimes, especially with family members (Fielding-Singh & Wang, 2017).

In the present thesis, participants reported more frequently that they had engaged in a diet culture conversation than overhearing one. Evidence from Jones et al., (2014) observed a similar pattern, they found that participants reported that experiences of fat-talk being more salient when participants had initiated and engaged in the conversation, rather than overhearing the conversation. Engaging in a conversation tends to rely on more cognitive resources, which could have accounted for the finding that participants reported engaging in more diet culture conversations, as they were easier to detect in the participants' day-to-day life. In summary, it is perhaps unsurprising that overhearing a diet culture conversation was rarer. Alternatively, conversations around dieting, weight or and physical appearance may be experienced with more potency when someone is actively involved in the conversation, as this may elicit more negative emotions from a relational perspective.

Previous research (Simone et al., 2021) has also explored gender differences in the frequency of 'weight talk' within both families and friends. This research suggested that female siblings report more 'weight talk' exposures from their mothers. However, they found that a similar rate of 'weight talk' was experienced across both genders that was directed from their fathers. The present thesis did not differentiate between which family member engaged in diet culture conversations, so this finding could not be directly compared.

Simone et al., (2021) found that young women reported being exposed to a higher rate of self-directed 'weight talk' from peers than young men. The present study found correlational support to suggest that being a woman was associated with having more diet culture exposures overall, but it did not tease apart whether specific diet culture conversations were more frequent amongst men and women.

In terms of diet culture media, participants more often reported being exposed to diet culture on social media or internet-based platforms (78.2%), compared to more traditional forms of media (21.8%). The reasons for this could be interpreted in different ways. Differences in media consumption could have impacted this. Social media use has steadily increased over the past decade, and it is estimated that the average daily time spent on social media sites worldwide is 143 minutes per day (Dixon., 2024). Furthermore, social media consumption varies from generation to generation. For instance, millennials and Gen-Z cohorts are often referred to as 'Digital Natives', as they have grown up with technology and are often considered to be comparatively more technologically adept. As the current sample had greater representation from a younger generation, this could have affected the media consumption habits, and thus made it more likely to pick up on diet culture narratives perpetuated through social media rather than more traditional media outlets (e.g., magazines). Furthermore, for people who regularly consume content on social media, biased algorithms may lead to more and more diet culture promoting content being shared (Clark et al., 2021), which could account for repeated experiences of diet culture media being reported by some participants.

In the current analysis, there was not enough statistical power to perform any further investigations around the impact of different exposures based on whether diet culture conversations (i.e., amongst families, friends, or strangers; overheard or engaged in) or diet

culture media (i.e., traditional, or social media) were harmful for participants' body. Therefore, the interpretations within this section would need further research to investigate these relationships further.

5.2.2 Within-Person Variability in Body Image Satisfaction and State Self-Compassion

In terms of the within-person variance of the measures used in this analysis, 31% of the variance in body image satisfaction (using BISS) and 26% in state self-compassion (using SSCS-SF) was attributable to differences within participants. The remaining variance was between-participants: 69% and 74% respectively. This suggests that people were more likely to vary amongst themselves than within-themselves throughout the week.

The variability in BISS at the within-person level was greater in previous research (e.g., 43%, Kelly and Stephens, 2016 and 38.56%, Thøgersen-Ntoumani et al., 2017). However, the samples in these studies were arguably more homogenous due to being conducted on either female undergraduates (Kelly & Stephen., 2016) or young females (Thøgersen-Ntoumani et al., 2017). In the Cash et al., (2010) validation study of the BISS measure, the temporal stability of BISS was measured over a two-three-week period. Participants were asked to rate their body image state in response to imagined contexts, which were either neutral, positive, or negative. They measured the temporal stability of the BISS relative to imagining a neutral context and they found an ICC of between .69 and .68 was reported for women and men respectively. This suggested that the within-person variability lay between 31% and 32%, which was very similar to the present thesis.

The variability in state self-compassion was observed to be greater in other research studies that used the same measure (e.g., 36%, Mey et al., 2023). It was difficult to directly compare this with previous research, as there are scant examples in the research literature that use the state self-compassion measure developed by Neff et al., (2020). However, many studies opted

to use an adapted version of the SCS-SF developed by (Raes et al., 2011), so it was possible to compare the present findings to studies that employed this measure. For instance, Kelly & Stephen (2016) reported an ICC of .63, which suggests that the within-person variance of day-to-day self-compassion was 37%, which was very similar to that found in Mey et al., (2023). Unlike Kelly & Stephen's (2016) study, Mey et al (2023) conducted their research on a mixed-gender, non-clinical sample from the general population, which was a more similar participant pool to the present study.

In the present study, state self-compassion was negatively correlated with weight status, indicating that as weight status increased, self-compassion decreased. The diverse demographics of the participants could account for the increased between-persons variances observed in the current study. Mey et al., (2023) did not record information relating to BMI as it was not the focus of the research, so it is unclear how diverse their sample was in relation to weight status.

5.2.3 Impact of Diet Culture on Moment-to-Moment Fluctuations in Body Image Satisfaction

The findings from this thesis supported the hypothesis that moment-to-moment fluctuations in body image satisfaction were significantly impacted by diet culture exposures.

The observed effect between diet culture and body image satisfaction was a small-medium effect size in Model 1 (Main effect of diet culture on body image satisfaction; B = -.29). This evidence is in line with previous findings from naturalistic research (Faw et al., 2020). In fact, this was a slightly greater effect in magnitude than previous research by Faw et al., (2020), who also investigated the role of diet culture and body-related co-rumination on body image satisfaction. Furthermore, Rudiger and Winstead (2013) found more nuanced support for the impact of body focused talk (an overlapping construct to diet culture exposure) on

body image satisfaction. They found that body accepting talk (a sub-type of body focused talk) was associated with positive body image satisfaction. While co-rumination (another sub-type of body focused talk) was not significantly associated with body image satisfaction. This highlights the differences in the types of diet culture exposures and that this is a complex picture, which was beyond the scope of the present study.

As the observed effect between diet culture and body image satisfaction was a small to medium effect size, it is likely that there are other factors that are more strongly predictive of body image satisfaction than diet culture exposure. For example, research that has explored internal triggers (e.g., internalised weight bias; Pearl & Puhl, 2018) has been consistently linked with poorer body image satisfaction, and therefore, may have a stronger association with body image dissatisfaction. In their systematic review, Pearl and Puhl (2018) found that out of 27 studies that investigated the relationship between internalised weight bias and body image satisfaction 16 of these papers reported a strong correlation between these variables. Furthermore, self-directed stigma and weight bias has been found to be strongly related to negative internal affective states, such as low self-esteem and shame, which are commonly associated with having low levels of self-compassion (Durso and Latner, 2008).

Interestingly, Calogero et al., (2009) found that individuals with high levels of trait self-objectification (which is associated with internalized weight bias) experienced body image dissatisfaction when exposed to appearance-focused comments, regardless of whether the comments were positive or negative. Therefore, suggesting that there may be an interaction between internal and external factors which influences one's body image satisfaction. Another interesting finding from previous research was presented by Mills and Fuller-Tyszkiewicz (2018), who found that even positively intended 'fat-talk' (e.g., telling a friend "I look bigger than you") had a negative impact on body image satisfaction. This evidence is

indicative of the bind that diet culture places on individuals to conform to the thin-ideal and how this perpetuates weight stigma.

In summary, the present study found that diet culture exposure was a significant predictor of body image satisfaction and future research may be beneficial to further explore the mechanisms by which this process exerts its influence.

5.2.4 Self-Compassion, Diet Culture Exposure and Moment-to-Moment Body Image Satisfaction

The findings from the current thesis suggest that diet culture exposure was significantly related to lower levels of state self-compassion. However, the effect size was very small (B =-.09), which suggests that this relationship is too weak to draw any meaningful conclusions. A similar finding by Kelly et al., (2016) indicated that interactions with body-focused others, was not significantly related to levels of self-compassion. Furthermore, the effect size of the *c'* path (which predicted the impact of diet culture on state body image satisfaction whilst controlling for state self-compassion) reduced slightly (B = -.23). Adding state self-compassion into the model as a covariate explained 23.3% of the variance of the total effect, which was interpreted as only a modest proportion. There are a several conclusions that could be drawn from this finding. This result could be indicative of a true weak effect size. Factors that impact body image are complex and there are many other factors in the evidence base that have been identified as potential moderators or mediators in the relationship between concepts relating to diet culture (such as weight stigma, body-talk, body-focused media) and body image satisfaction. Alternatively, the present results may represent a false weak effect, owing to issues such as measurement error (which will be discussed further in the *'Limitations'* section).

Given that low levels of self-compassion were strongly correlated with body image dissatisfaction, it is also possible that a self-evaluative, shame-driven cognitive process (such as self-stigma cognitions) may have occurred in the interim between a diet culture exposure and an experience of poorer body image, which may not have always been remedied by employing a self-compassionate mind-set. Therefore, an additional ruminative process may have created a time-lag between the experience of having a diet culture exposure and the experience of poor body image, which the present analysis strategy was not sensitive enough to pick up on. Furthermore, diet culture may have exerted its influence on body image satisfaction via a different mediator (e.g., self-directed stigma or weight biased thoughts) and over the course of the day, rather than in the moment. A recent study by Rutter et al., (2024) showed support for this potential interpretation, finding that self-critical thoughts and unfavourable comparisons of the self to others mediated exposure to appearance-based ideals and state self-compassion. This would support the notion that an alternative mediating process may have influenced the relationship between diet culture exposure, self-compassion and body image satisfaction.

Rodgers et al., (2019), explored three alternative potential mediators of 'fat-talk' exposures on body image satisfaction, namely: perceived acceptance from others, external body shame and anti-fat attitudes. External body shame was the strongest mediator in this study and involved anticipating negative evaluation of one's appearance from the external world and avoiding social situations that one perceives might illicit external shame. This research demonstrates the impact of diet culture narratives on the individual, which leads to harmful cognitions and behaviour which revolves around shame-avoidance. Perhaps practicing self-compassion could serve as an antidote to some of the above mediators associated with being exposed to diet culture exposures such as 'fat-talk', as one of the main aims of eliciting self-compassion is to reduce shame. Other potential mediators of this relationship have been

explored, such as, appearance self-consciousness (or body surveillance) and appearance comparisons Mills and Fuller-Tyszkiewicz (2018). Their findings suggested that there was no mediation effect of either of these variables, though high levels of each of these constructs were predictive of poorer body image satisfaction.

Despite not finding a mediation effect, higher levels of state self-compassion were significantly related to having better body image satisfaction, and a large effect size (B = .59) was observed. Furthermore, most participants within the present sample did not score especially high or low not especially low or high in self-compassion overall, so these findings could be generalizable to the general population. This result was in line with the evidence-base supporting the protective function of employing a self-compassionate state of mind is predictive of better body image outcomes (Kelly et al., 2016; Thøgersen-Ntoumani et al., 2017). Therefore, actively applying self-compassion in the face of body image threats may be a useful skill to develop to alleviate some of the harms associated with diet culture.

5.2.5 Self-Compassion, Accumulated Diet Culture Exposure and Body Image Satisfaction Over the Course of a Week

The findings from this thesis did not support the hypothesis that an accumulation of diet culture exposures throughout the week would significantly impact body image satisfaction at the between-person level. The total effect between cumulated diet culture exposure and body image satisfaction was statistically non-significant; however, it had a medium-to-large effect size (*c path:* B = -.43). Furthermore, the direct effect (*c*' path controlling for state self-compassion, weight status, gender) between accumulated diet culture exposure and body image satisfaction was non-significant (B = -.23) with a small effect size. This observed effect size was the same as the one shown in the within-person model; however, the finding was statistically non-significant. This could suggest that the relationship between diet culture

and body image satisfaction functions similarly at both the within-person and between-person level in terms of the magnitude of the effect; however, the models each held a different level of power to detect a statistically significant difference. Whilst the current findings do not provide sufficient evidence to suggest that a cumulative effect of diet culture exposure significantly predicts poorer body image satisfaction, this finding might suggest grounds for further investigation.

Weight status was identified as a significant covariate in this relationship (B = -.72), with a large effect size, which suggested that having a higher weight status was predictive of having an overall lower body image satisfaction over the course of a week. This is in line with research by Rudiger et al., (2007) and Thøgersen-Ntoumani et a (2017), who both found that women with a lower BMI were more likely to have higher levels of day-to-day body image satisfaction. When comparing the bivariate correlations between Rudiger et al., (2007) and the present thesis, the effect size of the correlational relationship was very similar (r = -.37 and r = -.39). One explanation for the above findings could be that people with a heavier perceived weight status tend to experience higher levels of internalised weight bias attitudes. For instance, Pearl and Puhl (2014) found that people with a higher self-reported BMI scored higher on the Weight Bias Internalisation Scale. Interestingly, in a study which evaluated both positive and negative weight related talk in people with diverse weight statuses, both positive and negative body-talk were associated with detrimental impacts (e.g., drive for thinness, disordered eating) for people with a higher weight status. Taken together this could suggest that people with a higher weight status may be more at risk of the detrimental effects of diet culture and may experience more harmful effects (e.g., drive for thinness, poorer body image satisfaction).

With regards to state self-compassion, diet culture exposures did not significantly predict this variable; however, a medium effect size (B =-.34) was observed. Notably, this effect size

increased quite substantially in magnitude in the between-persons model, which could suggest that an accumulation of diet culture exposure might be more predictive of having lower self-compassion, rather than experiencing moment-to-moment exposures of varying frequencies over the course of the week. Future research could recruit a larger sample size to explore this relationship further. This relationship had a significant covariate (SATAQ-4) at the between person level, which suggested that having greater sociocultural pressure to conform to appearance ideals is significantly associated with having lower self-compassion.

However, weekly averages of state self-compassion were significantly related to weekly averages of body image satisfaction, with a high effect size (B = .59). This suggests that having higher average levels of self-compassion over the course of a week predicted having greater overall levels of body image satisfaction over the course of a week. This is in line with a wide range of body image literature which has consistently linked self-compassion to improved body image outcomes (Braun et al., 2016), but there has been less work directly relating it to body image satisfaction. In a systematic review and meta-analysis by Turk and Waller (2020), higher levels of self-compassion were associated with having a more positive body image perception with a strong effect size (*r* = .52*)*. Taken together this evidence suggests that self-compassion may be an adaptive cognitive emotion-regulation strategy to support people with poor body image.

The results of this thesis did not show compelling evidence to support the role of state self-compassion as a mediator in this relationship. Although self-compassion explained a proportion of the cumulated variance in the effect of diet culture exposure on body image satisfaction (46.5%), which was a higher proportion than the within-person model. Given that paths *a* and *c'* were non-significant, the criteria for mediation were not met. In a similar way to the within-person findings, diet culture may not exert its influence on body image

through having higher levels of self-compassion over the course of a week. In fact, a different mechanism, such as moderation, may better explain the relationship.

Research by Wang et al., (2022) found that self-compassion significantly moderated the relationship between body-talk and appearance pressure on social networking sites. This could suggest that self-compassion may have an adaptive function in supporting people to resist the negative consequences of body image talk, such as increasing the pressure to conform to body image ideals. The present thesis did not explore self-compassion as a moderator variable between diet culture exposure and body image satisfaction; however, future research could test this to further establish whether there was a buffering effect of self-compassion on an accumulation of diet culture reinforcing messages over time on body image satisfaction.

Taken together, the results from the between-person analysis may have been limited in terms of their ability to detect significant relationships within this mediation model due to being statistically underpowered. However, given the larger effect sizes in this model, it is possible that future research which employs a higher sample size may be more able to detect a significant, predictive relationship between these variables.

5.3 Strengths of the Research

To the knowledge of the author, this is the first study to look into the moment-to-moment impact of diet culture, the role of self-compassion and its impact on body image satisfaction. This research has built upon the foundation of the literature in the field with an in-depth moment-by-moment methodology, providing insight into this area.

This section will highlight the strengths of this thesis, by highlighting the following categories: *recruitment, power/multilevel modelling analysis* and *participant retention.*

5.3.1 Recruitment

In terms of recruitment, the principal investigator managed to recruit a good range of people with different weight statuses. There was a higher than anticipated proportion of people that self-identified as living with obesity and being overweight. Furthermore, a higher than anticipated proportion of males were recruited within this thesis, indicating that the measures that were used were most likely applicable to both males and females. In terms of age ranges, the thesis mostly managed to recruit participants from a young – middle aged range. Overall, this research is comparatively more heterogeneous than previous body image research which has mostly been conducted on college females.

Furthermore, the recruitment strategy was effective in recruiting participants over a three-month period. The most successful recruitment strategy was social media site recruitment, through sites such as Instagram and reddit. It is considered that this was achieved through interacting with a wide range of online communities (e.g., dieting forums, local community groups) and by setting up a dedicated research social media account (@dietcultureresearch) which was followed by members of the public. Regular 'stories' and posts were created to increase engagement with the study and the principal investigator asked people with a large follower base (e.g. '@i_weigh', with a 1.2 million follower base) to share the study poster on their social media accounts. The principal investigator was also able to make connections with dieticians, who had a follower-base that were engaging in dieting practices, social media accounts to share the research advertisement.

5.3.2 Multilevel Modelling Analysis

In terms of statistical analysis, the multi-level modelling approach enabled the principal investigator to measure moment-to-moment variability within participants, which allowed them to demonstrate the fluctuating experiences of body image dissatisfaction and levels of self-compassion over the course of a week across the sample of participants. The multi-level

modelling analysis was also able to cope with a high proportion of missing data, which enabled the principal investigator to capture the experiences of more participants within the study.

5.3.3 Participant Retention

There were relatively low levels of participant attrition between Phase One and Phase Two of the study. Only eight out of 51 participants dropped out of the study in between the baseline and EMA phases. It is thought that the recruitment process enabled the principal investigator to retain a higher proportion of participants in the study, as participants were asked to email the principal investigator to express interest in participating, rather than being directed straight to the baseline questionnaire. It is thought that this gave potential participants the time to read what was involved in the study and ask questions before filling in the baseline questionnaire, which could have meant that there was greater buy in to complete the next stage of the study.

The decision not to have a lower compliance cut-off level enabled us to avoid needlessly eliminating participants from the sample, which could have led to a biased sample in the results (e.g., participants who found it difficult to fill in the measures, which could have been owing to experiencing greater body image distress). This was thought to be important, as the piloting process indicated that it could be challenging to repeat surveys asking about diet culture experiences, body image and self-compassion when these experiences were significantly impacting their life. One of the pilot participants suggested that "taking a break" from completing the surveys was necessary to cope with difficult body image experiences.

5.4 Limitations of the Research

There are various factors which influence the outcomes of studies, even when they are well designed. Therefore, this section will acknowledge some issues that can be considered when interpreting the findings. It will do so by breaking these down into the following categories: *recruitment, measurement of diet culture* and *compliance.*

5.4.1 Recruitment

In terms of recruitment, unfortunately, the thesis did not manage to recruit people in the self-identified 'underweight' category. This could mean that the principal investigator did not capture the experiences of those that were more likely to have an eating disorder, such as anorexia nervosa. However, this may not have been entirely accurate due to the risk of weight misperception (Robinson & Oldham., 2016) so there may have been some representation from within this group which was masked by measurement error. Furthermore, this thesis did not manage to recruit from an older adult age range. There could have been many reasons for this, for instance, the recruitment phase may not have adequately targeted this population (e.g., communities, social media sites and forums attracting older adults), or the method of data collection may have been less appealing to this population and may reflect differences in social media or smart-phone use (e.g., willingness to download an app to participate). The thesis had comparatively poor diversity in terms of ethnicity in the final sample, with only 14 % of the final sample being a non-White ethnicity. Although people from any country could participate, it is likely that the study would have reached more people who were English-speakers from the UK as many of the social networking platforms were UK-based. According to UK census data (England and Wales 2021 Census; Office for National Statistics, 2021), 82% of people in England and Wales are White, and 18% belong to racialized ethnic backgrounds, such as Asian (9.3%), Black (4%), Mixed and Multiple Ethnic (2.9%) and other (2.9%). This suggests that our sample was not wholly dissimilar to the wider UK population,

however there were notable exceptions from the final sample (e.g., Black participants). Again, recruitment issues could have been due to a lack of community engagement during the recruitment process.

5.4.2 Risk of Measurement Error

This study used a range of standardised and unstandardized measures (with a mixture of binary and Likert scale variables) to test its hypotheses. Making use of binary measures (diet culture exposure) or using Likert Scales to measure complex information, has its issues as it involves distilling down complex constructs into simple metrics and such as levels of state self-compassion, therefore, the ability to develop an accurate account of someone's experience is limited.

Furthermore, the concept of diet culture, measured using a non-standardised outcome variable, meant that it was difficult to validate exactly what participants were defining as being a diet culture exposure. It is likely that participants had different levels of sensitivity to what they defined as a diet culture experience, which could have introduced some bias to the results. Efforts were made to reduce the potential bias associated with what a diet culture exposure was by creating an infographic (to be read prior to signing up to participate) and including a small reminder image on each EMA survey, providing some examples of potential diet culture exposures. Despite providing information to participants about diet culture, there is no way of knowing whether participants read and understood this material whilst they participated. This could have accounted for some of the increased variability in the number of exposures that were recorded per participant, or it may have affected the measured impact of the exposures (e.g., on body image satisfaction). It was also wondered whether there may have been an attenuation effect throughout the study, which would

insinuate that have participating in the study alone would increase people's awareness, and therefore likelihood, of having a diet culture exposure.

5.4.3 Compliance

The study had relatively low levels of compliance, compared with other EMA research studies. This meant there were fewer data points per participant, so it was more difficult to measure the variability between-participants. There were also some issues with compliance relating to 'blocked signals' (i.e., participants did not receive a notification, likely due to their phone being switched off, on 'do not disturb', or on 'flight mode'). Despite being encouraged to limit the use of flight mode or do not disturb whilst participating in the study, there were still a high proportion of 'blocked' signals in the sample (just over 10% of all surveys were blocked; see Supplementary Materials, S3).

It was also recognised that EMA methods place an increased level of burden on participants, which could have affected compliance. It was hoped that setting a time-period of a full week, with five different surveys each day would capture a realistic snapshot of the influence of diet culture within a week, allowing for data points to be captured each day of the week. Nevertheless, it is unclear whether this significantly influenced compliance rates.

5.5 Clinical Implications

This section will explore the clinical implications of the results of this thesis. The following key areas of clinical practice will be considered: *Clinical Intervention for Body Image Distress, Social Media, Body Positivity and 'Anti-Diet Culture' Interventions* and *Public Health Interventions.*

5.5.1 Psychological Interventions for Body Image Distress

The current findings build upon previous literature which suggests that diet culture exposure (e.g., in conversations and in media) is related to poorer body image outcomes, such as body image dissatisfaction (Mills and Fuller-Tyszkiewicz., 2017; Faw et al., 2021) and lower levels of self-compassion (Wang et al., 2020; Kelly et al., 2016). Therefore, clinical services that support people experiencing body image distress may find it beneficial to consider the influence of diet culture on their clients within their interventions.

One of the findings that was generated from this thesis was around diet culture's impact on people's conversations. This thesis found that diet culture conversations occurred more frequently between family and friends than it did amongst strangers and acquaintances. Previous research has also suggested that 'fat-talk' amongst friends and family members has the potential to be more salient than conversations with strangers or acquaintances (Jones et al., 2014). Therefore, when clinicians are working with people with body image distress, they might consider the use of clinical models aiming to foster people's ability to respond in a self-compassionate manner when faced with diet culture reinforcing narratives, as having high self-compassion was strongly correlated with having greater body image satisfaction. For instance, therapists can work systemically to support people to unpick some of the unhelpful diet culture narratives within their families and social networks, so that they can develop new ways of communicating with each other that supports a healthier body image (e.g., challenging intergenerational narratives about weight/shape/size/food). Furthermore, therapists can support clients to explore different ways of coping with associated body image distress, such as helping them to develop and practice self-compassion skills in the moment (see review by Braun et al., 2014). Encouraging discourse around the pervasive nature of how diet culture ideals and the role of sociocultural pressure to conform affects a diverse range of people of different weight statuses and social demographics may also support people to foster a greater sense of common humanity, which is one of the factors associated with having

increased self-compassion. Self-compassionate therapeutic approaches may help individuals alleviate some of the internalised pressure to conform and reduce levels of shame around this.

Interestingly, recent evidence from the clinical literature (Toole et al., 2021) has suggested that self-compassion is associated with having a greater ability to cope with the societal pressure to meet appearance ideals, without necessarily changing the ways in which people buy into these ideals. Therefore, being mindful of the influence of diet culture within social networks, has the potential to support people to foster a sense of common humanity in being exposed to diet culture pressures, even if their internalised beliefs do not shift.

Furthermore, there were some interesting findings around who may be significantly more likely to report diet culture exposures, have poorer body image satisfaction and be less compassionate towards themselves. These factors were more strongly associated with being female and of a higher weight status. However, this is not to say that body image distress does not significantly affect men and those with a lower weight status. In fact, the present research did not manage to recruit people who identify as being 'underweight' (though as previously mentioned, weight misperception bias may have contributed to this). However, it does highlight the fact that people living in a bigger body, especially females, may be exposed to more weight bias and more pressure to conform to a 'thin ideal' and this can be both reinforced within the media that they consume and within daily interactions with loved ones. Therefore, when clinicians are working with individuals who are of a higher weight status, they may anticipate that they will be disproportionately impacted by weight bias and weight stigma (Puhl and Brownell., 2003; Puhl and Lessard., 2020).

In terms of self-compassion, the present finding supports previous research which has highlighted that people who identify as women (i.e., Rodgers et al., 2017; Yarnell et al., 2018) and people with a higher weight status (Forbes & Donovan, 2019; Puhl et al., 2020)

tend to have lower levels of self-compassion. The gender differences above may relate to previous research which has found that women tend to engage in more ruminative thought processes (Johnson & Whisman, 2013) and tend to exhibit more internalised self-criticism (Thompson & Zuroff, 2004). Furthermore, the findings relating to weight status may link to obesity research relating to the role of internalised weight stigma and its harmful influence on body shame (Forbes & Donovan, 2019). Taken together, this may suggest that self-compassion interventions may be especially beneficial to support women and people with a higher weight status to address internalised self-criticism and stigma, which may also influence their body image satisfaction in the face of diet culture exposure.

5.5.2 Social Media, Body Positivity and 'Anti-Diet' Culture Interventions

This thesis identified media-based diet culture exposure as being the second most common exposure type in the present sample. Given that social media exposure was the most prevalent, this section will explore ways in which clinicians might aim to support clients to recognise and resist diet culture exposure when using social media. Furthermore, interventions will be explored that aim to support individuals to change the way that they interact with social media, to support the above aim.

Firstly, research suggests that introducing people to body positive (Cohen et al., 2021) and anti-diet culture promoting content (Fiuza & Rodgers, 2023) online could help people work towards fostering more adaptive beliefs around body image ideals and reduce the pressure to conform. Evidence has suggested that engaging in self-accepting body positive talk has the potential to support people to develop more self-compassion, which has been linked with a reduction in eating disorder attitudes (Barbeau et al., 2022). However, the evidence in support of body positivity is mixed (Rodgers et al., 2021), and there has been some suggestion that

de-centring the focus from bodies altogether can be more helpful in promoting better body image outcomes.

Introducing content that is associated with the HAES ® movement may also provide a helpful way of navigating the pressures of diet culture, especially with regards to assumptions that people make around weight equating to health (Clark et al., 2021). Concepts such as intuitive eating may also be helpful to support a healthier relationship with eating and evidence has indicated that intuitive eating may buffer some of the negative outcomes associated with diet culture (Faw et al, 2021).

A recent study by Rodgers et al., (2024) presented a case for 'social media literacy' as a preventative intervention with the aim to preventing eating disorders. They categorised three main targets of intervention to support skill development in: observing and monitoring one's social media choices and behaviours; being able to critically evaluate beliefs/values around engagement with social media content and assessing the realism of content and finally, encouraging people to use social media in a prosocial way, with the body-image related harms of social media in mind. They identify systemic early intervention for young people as being key to prevent harmful body image and eating outcomes.

Another pilot trial has incorporated social media literacy into a five-session self-compassion intervention, exploring topics such as "How social media hijacks the brain and what we can do about it" (Mahon & Hevey, 2023). This research had an adolescent sample (15–17-year-olds) and identified significant increases in body image appreciation and satisfaction after engaging with the programme. As this research was conducted in a children and young people's sample, it is unclear whether this style of intervention would be as effective for an adult sample; however, it appears to be a legitimate target for intervention owing to the fact

that body-focused media can have a significant impact on one's levels of self-compassion (Rutter et al., 2023).

5.5.3 Public Health Intervention

Psychologists and other health professionals that support people with body image distress and shame relating to weight stigma may also be able to play a key role in working outside of the clinic to influence change in challenging unhelpful diet culture narratives (Pearl, 2018). Influence on policymaking could be especially helpful when considering clinical work with people living with obesity. As previous research has suggested, top-down approaches are required to tackle weight-based stigma (Pearl, 2018), which could involve addressing counter-moralising messages (Mulder et al., 2015), adapting the language that is used in public health campaigning (Flint et al., 2018) and considering the role of socio-demographic difference and intersectionality in people's conceptualisation of obesity (e.g., the influence of religion and race on weight, Scott, 2016).

5.6 Future Research

The findings of this study have relevance in the advancement of research into socio-cultural theory (Schaefer et al., 2019) and diet culture research (Faw et al., 2021; Jovanovski & Jaeger, 2022), and in particular, its pervasive impact on body image satisfaction (Jones et al., 2014). Furthermore, this research has added to the consideration of the potential protective influence of self-compassion (Rodgers et al., 2017; Kelly et al., 2016).

As Jovanovski & Jaeger (2022) highlight, diet culture is a term that has been previously ill-defined, which has limited its use in the field of psychological research. It is hoped that the present thesis builds upon their work, which aimed to define diet culture and highlight many of the harmful aspects of this concept which can influence body image satisfaction and other

health outcomes. Though there has been some more recent traction in the use of diet culture as a construct (Faw et al., 2021; Fiuza & Rodgers, 2023), the term is still limited in its use within the research literature.

Generally, more research which is inclusive of the broader concept of diet culture could add value to the literature to better understand the systemic and individual influences.

It would be interesting to consider further the impact of holding diet culture reinforced beliefs such as, the moralisation of food and bodies and the association between dieting and health. A master's thesis by Davidson (2020), supervised by Meara Faw and colleagues, has been developed to test people's alignment to diet culture beliefs in a sample of participants in the United States. This work has identified a set of nine common-held diet culture beliefs, such as "fat people are unhealthy" and "some foods are temptations to be resisted". Reliability and validity of this measure has recently been established (Hogan, 2022), but the measure is still in its infancy in terms of being established and grounded within the literature. Future research looking into the moment-to-moment impact of diet culture exposure could use a measure such as this to further explore the impact of holding diet culture reinforcing beliefs and the impact of this on one's daily body image state.

Future research could also use a larger sample size to be able to detect between-person effects using an EMA data collection method to help explore the potential cumulative effects of diet culture exposure over the course of a week. It would also be interesting to include detail based on the salience of the diet culture exposures, in a similar way to Jones et al., (2014), to look at whether different types of exposure have differing impacts on body image outcomes. Furthermore, there is scope for further investigation within this area using a mixed methods approach, so that more clarity and detail can be gleaned from participants experience of diet culture, which might be able to pick up on more nuanced experiences that have the potential

to impact body image outcomes, which may be difficult to pick up on through quantitative exploration.

Additionally, it would be interesting to expand the EMA research literature to develop a better understanding of how moment-to-moment internal processes of self-directed stigma interact with external triggers such as diet culture exposure. This could help to try to tease apart whether there might be time-lagged or cumulative influences on body image distress. This research could utilise a similar design to the present thesis, but in addition, explore whether ruminative cognitive processes might also mediate diet culture exposure and the influence of body image satisfaction. Furthermore, it is recommended that future research that is interested in between-participant factors might use a larger sample size so that it is adequately powered to detect such differences.

5.7 Overall Conclusions of the Thesis

In conclusion, this novel thesis demonstrates that diet culture exposures are a common experience for a diverse group of participants throughout a typical week. Conversational exposures to diet culture are more frequent than media-based encounters, with interactions with family and friends and viewing content on social media being the more prevalent sources. Multilevel modelling analyses revealed experiencing diet culture was moderately predictive of decreased moment-to-moment body image satisfaction. While self-compassion was strongly correlated with more positive body image outcomes; this study found insufficient evidence to support its role as a mediator between diet culture exposures and body image satisfaction. Moreover, there was an indication of a cumulative effects from increased weekly diet culture exposures on both self-compassion and body image satisfaction. However, the study's statistical power may have limited its ability to detect significant differences in this relationship.

These findings hold significant implications for clinical practice, suggesting the importance of equipping individuals with skills to recognise and resist diet culture, fostering self-compassion as a coping mechanism against its effects, and advocating for changes in public health policy. Future research should explore variations in the impact of diet culture exposure salience and intensity, as well as explore the dynamic between internal processes like internalised stigma and external triggers such as diet culture exposure.

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Appendices

Appendix 1: Search Strategy

The following terms were included in the search:

Concept 1 (Diet Culture): diet culture, weight stigma, weight bias, fat-talk, body-talk, thin-ideal, muscular-ideal, slender-ideal, diet*, moralisation, exercise*, physical activ*.

Concept 2 (Exposure-Type): Friend*, peer*, classmat*, Famil*, sibling*, mother*, maternal father*, paternal daughter*, son*, brother*, sister*, husband*, wife*, partner*, girlfriend*, boyfriend*, cohabitee*, Media, tv, televis*, phone*, mobile phone*, social media*, Instagram, Facebook, Twitter, TikTok

Concept 3 (Body dissatisfaction): bod* image dissatisfaction, bod* image satisfaction, bod* dissatisfaction, body* satisfaction, bod* discontent, bod* displeasure, bod* dysmorphi*, bod*disapprov* , bod* sham*, bod* dislik* bod* satisfaction, bod* content*, bod* approv*, bod* accept*

Concept 4 (Self-Compassion): self compassion*, compassion*, self-compassion*

Appendix 2: Ethical Approval Confirmation Email

From: Medicine and Health Univ Ethics Review <FMHUniEthics@leeds.ac.uk>
Sent: Monday, February 19, 2024 10:30 AM
To: Abigail Plant <ps13ap@leeds.ac.uk>; Ciara Masterson <C.Masterson@leeds.ac.uk>
Cc: Fiona Trew <F.Trew@leeds.ac.uk>
Subject: RE: MREC 22-091 - Conditional Study Approval Confirmation

Hi Abbie

The ethics approval reference number is MREC 22-091.

Good luck!
Sou

Appendix 3: Poster advertisement

UNIVERSITY OF LEEDS

DIET CULTURE CONVERSATIONS AND MEDIA

PARTICIPATE IN CLINICAL PSYCHOLOGY RESEARCH PROJECT

Version 1
Prepared by: Abigail Plant, Trainee Clinical Psychologist
20th March, 2023

PROJECT DESCRIPTION

In the UK, "Diet culture" is characterised by an internalisation of Westernised body image ideals (e.g., being thin) and the felt sense of pressure that society and the media places on individuals to conform to these ideals. Our exposure to 'Diet Culture' is widespread (e.g., media, within our interactions with others). So much so, it is thought that conversations about weight and shape are habitual and routine in some social groups (i.e., especially amongst young women). Exposure to 'diet culture' has been associated with many harms, for example, experiences of poor body image. This study aims to capture the moment-to-moment impact of diet culture conversations and media.

DETAILS

To participate in the study, you will...

- complete a short online survey (5 min)
- download a smartphone app called 'Ethica'
  (guidance will be provided)
- receive 5 notifications a day over the course of one week, to fill in a brief survey on Ethica (2-5 min), capturing your experience of diet culture conversations and media exposure.
- be invited to an optional online interview to share your experiences of 'diet culture' in greater detail.

ELIGIBILITY

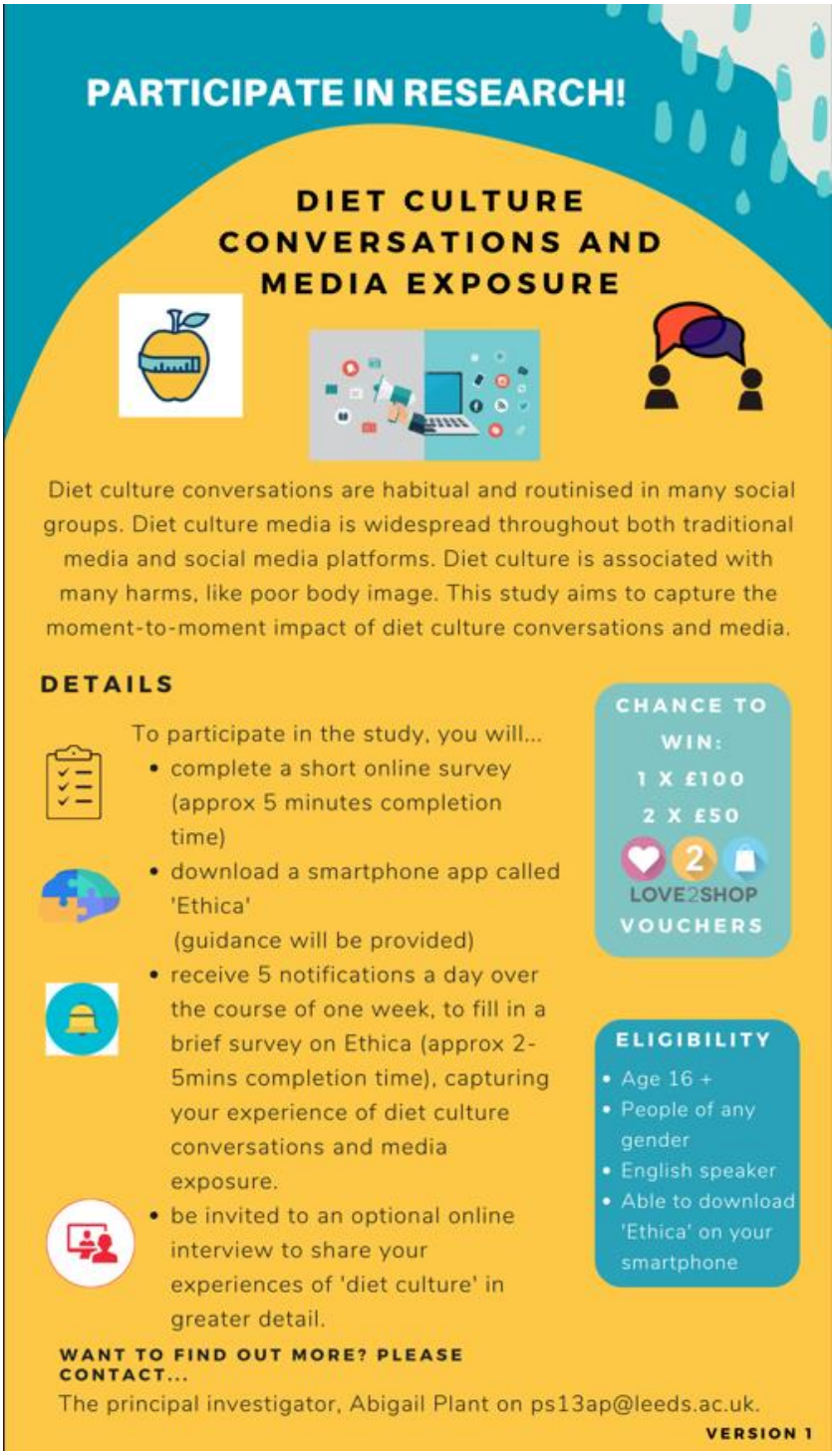
- Age 16 +
- People of any gender
- English speaker
- Able to download 'Ethica' on your smartphone

CHANCE TO WIN:
1 X £100
2 X £50
LOVE2SHOP
VOUCHERS

WANT TO FIND OUT MORE? PLEASE CONTACT...

The principal investigator, Abigail Plant on ps13ap@leeds.ac.uk
Scan this QR code to be directed straight to their email

Appendix 4: Social Media Advert



Appendix 5: Participant Information Sheet

Participant Information Sheet

The title of the research project

An ecological momentary assessment* of the impact of diet culture conversations, media exposure and self-compassion on moment-to-moment body image satisfaction.

*Ecological Momentary assessment is a type of diary study whereby information is gathered through sending participants a set surveys at different time-points throughout the day, over the course of a set period (in this study, 1 week). This allows researchers to capture people's moment to moment experiences.

Ethical approval has been sought from the School of Medicine Research Ethics Committee and include the SoMREC application reference number (MREC 22-091).

Invitation paragraph

You are being invited to take part in a research project. Before you decide to participate, it is important for you to understand why the research is being done and what it will involve. Please take time to read the following information carefully and discuss it with others if you wish. Ask us if there is anything that is not clear or if you would like more information. Take time to decide whether you wish to take part.

What is the purpose of the project?

In the UK, 'Diet culture' shapes our body beliefs and desire for weight loss, prioritizing thinness over health. It influences behaviours like yo-yo dieting and selective social media image posting. Many of us conform to these harmful norms, influenced by socio-political factors (e.g., anti-obesity campaigns, calorie displays). Diet culture conversations are habitual, especially among young women. Engaging in them is linked to greater body dissatisfaction. This research explores the real-time impact of 'diet culture' conversations, considering media pressure and self-compassion on body image. It also examines these conversations within different social relationships (family, peers) and the media context. The project, part of the investigator's Clinical Psychology Doctorate, will conclude by summer 2024. Participation spans around 8 days (one for baseline surveys, seven for smartphone-based diary study), potentially followed by interviews."

Am I eligible to participate in this project?

You received this information sheet after responding to our research study advert. We're looking to recruit a diverse range of participants (aged 16+), encompassing various backgrounds, genders, ages, and body types. Our goal is to recruit 30 participants.

Do I have to take part?

You decide whether to participate. If you do, we will send you a copy of this information and ask you to sign a consent form. To enter the prize draw, you must complete at least 80% of sent questionnaires during the diary study period. You can withdraw your data within two weeks of study completion without needing a reason. After two weeks, withdrawal is not possible.

What do I have to do?

Task 1: Baseline Questionnaire: Complete a baseline set of questionnaires about body image, self-compassion and provide us with some demographic details.

Task 2: Smartphone-based diary study: This phase of the study will last 7 days and each day, 5 prompts will be sent to you at random intervals throughout the day where you will be asked to fill in questionnaires about diet culture, body image and self-compassion.

We may also invite you for a follow-up interview to ask you about your experiences of diet culture, body image and self-compassion.

What will happen to me if I take part?

You'll participate solely via your computer and smartphone whilst you go about your daily life. You won't need to travel to the university. First, you will complete the baseline questionnaire from your phone or computer. At the beginning of the questionnaire, you will be asked to create a unique username using your birthday and initials and provide your email for further instructions. This will allow us to link your data from each different task. Then, after you have provided us with your email address, we will ask you to download the "Ethica" app for a 7-day diary study. The app will prompt you five times daily (sending you notifications), and each survey takes a few minutes to complete. If you miss a signal, you will be able to complete it later.

If you have any questionnaire whilst participating in the study, please contact Abigail Plant at ps13ap@leeds.ac.uk or opt for a phone call. After the study, you'll receive a debrief pack and will be offered the opportunity to discuss your experience with the primary investigator. We may be requesting interviews with some participants. Please indicate your interest on the consent form. Interviews will take place over Microsoft Teams or over the telephone at a time that is convenient to you. The researcher will ask you open questions based on a series of topics that relate to the experiences described above. Throughout the interview you have the right to decline to answer any questions and you can provide as much or as little detail as you feel comfortable doing so.

What are the possible disadvantages and risks of taking part?

Over the course of the study, you will be asked to answer questions relating to your experience of diet culture, body image and your levels of self-compassion. We anticipate that these topics can feel shameful or distressing to some individuals. If you feel distressed by any of the content or process of the research trial, please feel free to contact the researcher at any point during the trial. You may wish to withdraw from the trial at this point (which is your right) or the researcher can signpost you to further support.

We also recognise that you will be asked to engage in the study for a sustained period over the course of 8 days (1 day completing baseline questionnaires and 7 days using the Ethica app). You may find this demanding in terms of other personal time commitments or work-related demands.

What are the possible benefits of taking part?

Whilst there are no immediate benefits for those people participating in the project, it is hoped that this work might make a meaningful contribution to the research literature on the impact of diet culture and self-compassion on body image. Participating in the research project might also provide you with some more insight into the role of these in your own life.

You will also be entered into a competition to win either £100 or £50 of love2shop vouchers should you wish to participate and if you complete at least 80% of the daily surveys. If you consent to be contacted for follow-up interview you will get two entries into the prize draw.

Use, dissemination and storage of research data

You're getting this information because you want to join our study. Confidential information, such as your email address and your name will stay private and we will anonymise any personal identifiable features within any data (e.g., interview transcripts and questionnaire responses). The principal investigator (AP) will store all confidential and anonymised data safely on the university's secure 'M: drive', not on personal computers.

Interviews will be conducted and recorded over Microsoft Teams. Later, the principal investigator (AP) will transcribe them verbatim and personal identifiable information will be anonymised. Both pieces of data will be saved securely on the principal investigator's (AP) Duo Authentication protected One Drive: University of Leeds account. The files containing the video recordings will be encrypted with a password and will be deleted from the secure drive once transcription is complete. We follow the university's data protection rules. We may use direct quotations in the final thesis reports, but please be assured that your name and personal information will be kept anonymous.

Data storage will adhere to the controls given in the University Information Protection Policy. In anticipation of the suspension of my IT account on completion of my studies with the DClinPsychol programme, I have made the following arrangements for data management:

- Confidential data (e.g., consent forms) will be transferred to the DClin programme coordinator who will store this securely for 3 years after the study is completed.
- Anonymised study data (e.g., interview transcripts and questionnaire data) will be transferred to be stored in a secure data repository (University of Leeds Research Data Repository: Research Data Leeds) for a minimum of 10 years following the completion of my studies. Data held in this repository is publicly available.

Will I be recorded, and how will the recorded media be used?

Should you volunteer to be contacted for an online follow-up interview, this interview will be recorded over Microsoft Teams. The audio and/or video recordings of your activities made during this research will be used only for analysis. No other use will be made of them without your written permission, and no one outside the project will be allowed access to the original recordings.

What will happen to my personal information?

The principal investigator will be the only member of the research team who will have access to your personal identifiable information (e.g., your name and email address). We will use your email address to contact you after you have completed the first questionnaire. You will be contacted from the principal investigator's secure university email address. Your email address will be deleted upon completion of the diary study phase if you do not consent to be contacted for a follow-up interview. If you consent to be contacted for a follow-up interview, we will make a note of your email address on a spreadsheet, which will be stored in a secure location (The principal investigator's University OneDrive account). We will use your unique identifiable code that you set up at the start of the study to link your data from different questionnaires and analyse our results.

In the very unlikely event that the researcher is concerned during the interview that you may be at risk of harming yourself or someone else. We will discuss this together and agree the best steps.

Faculty of Medicine and Health: School of Medicine (SoMREC)

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What will happen to the results of the research project?

All the contact information that we collect about you during the research will be kept strictly confidential and will be stored separately from the research data. We will take steps wherever possible to anonymise the research data so that you will not be identified in any reports or publications.

The research will be published online at White Rose E-Theses in Winter of 2024. This depositary is accessible to the public on the following website https://etheses.whiterose.ac.uk/. There is also a possibility that the researchers may submit the final manuscript for publication within a peer reviewed academic journal.

You should be able to tell the participants what will happen to the results of the research (i.e. when the results are likely to be published, whether they can obtain a copy of the published results) and add that they will not be identified in any report or publication.

Given the importance of research data for the future you need to include a statement indicating that the data collected during the project might be used for additional or subsequent research (this should be explicit on the participant consent form).

What type of information will be sought from me and why is the collection of this information relevant for achieving the research project's objectives?

Your responses to the baseline questionnaire, data from the "Ethica" questionnaires and potentially follow-up interview data.

Who is organising/ funding the research?

Funded by the Doctorate of Clinical Psychology programme.

Contact for further information

Abigail Plant (Principal Investigator): ps13ap@leeds.ac.uk
Fiona Trew (Research Supervisor): f.trew@leeds.ac.uk
Ciara Masterson (Research Supervisor): c.masterson@leeds.ac.uk

Finally …

Thank you for taking the time to read through this information.

Project title	*Document type*	*Version #*	*Date*
	Eg consent form for…		

The Privacy Notice for Research should be provided alongside the Participant Information Sheet.
Further guidance is available at http://ris.leeds.ac.uk/involvingresearchparticipants and at https://dataprotection.leeds.ac.uk/information-for-researchers.

Appendix 6: Consent Form

Faculty of Medicine and Health: School of Medicine (SoMREC)

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Consent to take part in "An Ecological Momentary Assessment of the impact of diet culture conversations, media exposure and self-compassion on moment-to-moment body image satisfaction".	Add your initials next to the statement if you agree
I confirm that I have read and understand the information sheet dated 05/12/2022 explaining the above research project and I have had the opportunity to ask questions about the project.	[ ]
I understand that my participation is voluntary and that I am free to withdraw until after I have completed all questionnaires within the weeklong "Ecological Momentary Assessment" phase of the trial (please refer to information sheet for further details) and without there being any negative consequences. In addition, should I not wish to answer any question or questions, I am free to decline. *Please contact Abigail Plant by email at ps13ap@leeds.ac.uk should you wish to withdraw from the research study. Should you wish to withdraw early from the study, your personal data and anonymised research data will be deleted from the trial database.	[ ]
I understand that members of the research team may have access to my anonymised responses. I understand that my name will not be linked with the research materials, and I will not be identified or identifiable in the report or reports that result from the research. I understand that my responses will be kept strictly confidential.	[ ]
I understand that the data collected from me may be stored and used in relevant future research in an anonymised form.	[ ]
I understand that relevant sections of the data collected during the study, may be looked at by individuals from the University of Leeds or from regulatory authorities where it is relevant to my taking part in this research.	[ ]
I understand that if direct quotations are used, my anonymity will be preserved.	[ ]
I agree to take part in the above research project and will inform the lead researcher should my contact details change.	[ ]
I understand that I will be able to withdraw my data up to two weeks after completing the study.	[ ]
I understand that my anonymised survey (and potential follow-up interview) data will be shared with Research Data Leeds, a publicly available repository that can be accessed by anyone (all data will remain anonymous).	
I consent to be contacted by the principal investigator for a follow-up interview as part of the study (please indicate yes or no within the box to the right and place your initials next to the response).	**Yes/ No** [ ]

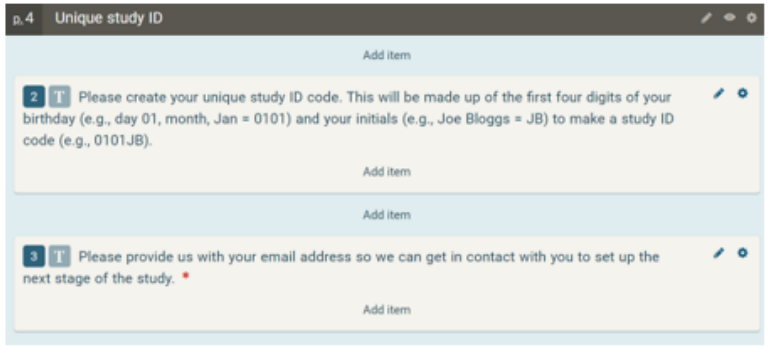
Name of participant	
Participant's signature	
Date	
Name of lead researcher	Abigail Plant
Signature	
Date*	

*To be signed and dated in the presence of the participant. Once this has been signed by all parties the participant should receive a copy of the signed and dated participant consent form, the letter/ pre-written script/ information sheet and any other written information provided to the participants. A copy of the signed and dated consent form should be kept with the project's main documents which must be kept in a secure location.
Bngty67hnb bngt6

Appendix 7: Demographic Questionnaire

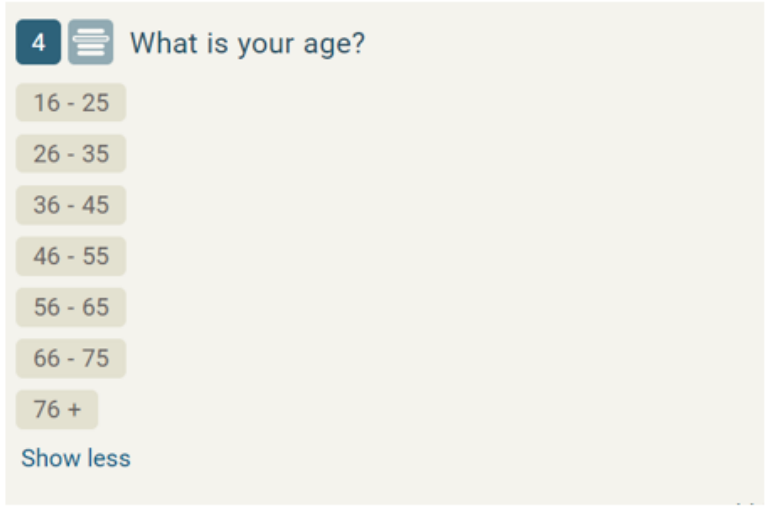
Questionnaires will be located and distributed from the Online Surveys platform.

Unique study ID and email address:



Demographic questions:

Age



Ethnicity

BMI

Appendix 8: Socio-cultural Attitudes Towards Appearance Questionnaire (SATAQ-4)

Sociocultural Attitudes Towards Appearance Questionnaire – 4

Directions: Please read each of the following items carefully and indicate the number that best reflects your agreement with the statement.

Definitely Disagree = 1
Mostly Disagree = 2
Neither Agree Nor Disagree = 3
Mostly Agree = 4
Definitely Agree = 5

	Definitely Disagree				**Definitely Agree**
1. It is important for me to look athletic.	1	2	3	4	5
2. I think a lot about looking muscular.	1	2	3	4	5
3. I want my body to look very thin.	1	2	3	4	5
4. I want my body to look like it has little fat.	1	2	3	4	5
5. I think a lot about looking thin.	1	2	3	4	5
6. I spend a lot of time doing things to look more athletic.	1	2	3	4	5
7. I think a lot about looking athletic.	1	2	3	4	5
8. I want my body to look very lean.	1	2	3	4	5
9. I think a lot about having very little body fat.	1	2	3	4	5
10. I spend a lot of time doing things to look more muscular.	1	2	3	4	5

Answer the following questions with relevance to your Family (include: parents, brothers, sisters, relatives):

11. I feel pressure from family members to look thinner.	1	2	3	4	5
12. I feel pressure from family members to improve my appearance.	1	2	3	4	5
13. Family members encourage me to decrease my level of body fat.	1	2	3	4	5
14. Family members encourage me to get in better shape.	1	2	3	4	5

Answer the following questions with relevance to your Peers (include: close friends, classmates, other social contacts):

15. My peers encourage me to get thinner.	1	2	3	4	5
16. I feel pressure from my peers to improve my appearance.	1	2	3	4	5
17. I feel pressure from my peers to look in better shape.	1	2	3	4	5
18. I get pressure from my peers to decrease my level of body fat.	1	2	3	4	5

Answer the following questions with relevance to the Media (include: television, magazines, the Internet, movies, billboards, and advertisements):

19. I feel pressure from the media to look in better shape.	1	2	3	4	5
20. I feel pressure from the media to look thinner.	1	2	3	4	5
21. I feel pressure from the media to improve my appearance.	1	2	3	4	5
22. I feel pressure from the media to decrease my level of body fat.	1	2	3	4	5

Note: SATAQ-4 Scoring:
Internalization – Thin/Low body fat: 3, 4, 5, 8, 9
Internalization – Muscular/Athletic: 1, 2, 6, 7, 10
Pressures – Family: 11, 12, 13, 14
Pressures – Peers: 15, 16, 17, 18
Pressures – Media: 19, 20, 21, 22

Appendix 9: Neff's Self-Compassion Scale (Short-form; SCS-SF)

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Neff's Self-Compassion Scale (Short-form)

	Please respond to each item by marking one box per row	Never	Rarely	Sometimes	Often	Always
1	When I fail at something important to me I become consumed by feelings of inadequacy. (R)	☐ 5	☐ 4	☐ 3	☐ 2	☐ 1
2	I try to be understanding and patient towards those aspects of my personality I don't like.	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
3	When something painful happens I try to take a balanced view of the situation.	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
4	When I'm feeling down, I tend to feel like most other people are probably happier than I am. (R)	☐ 5	☐ 4	☐ 3	☐ 2	☐ 1
5	I try to see my failings as part of the human condition.	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
6	When I'm going through a very hard time, I give myself the caring and tenderness I need.	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
7	When something upsets me I try to keep my emotions in balance.	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
8	When I fail at something that's important to me, I tend to feel alone in my failure(R)	☐ 5	☐ 4	☐ 3	☐ 2	☐ 1
9	When I'm feeling down I tend to obsess and fixate on everything that's wrong. (R)	☐ 5	☐ 4	☐ 3	☐ 2	☐ 1
10	When I feel inadequate in some way, I try to remind myself that feelings of inadequacy are shared by most people.	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
11	I'm disapproving and judgmental about my own flaws and inadequacies. (R)	☐ 5	☐ 4	☐ 3	☐ 2	☐ 1
12	I'm intolerant and impatient towards those aspects of my personality I don't like. (R)	☐ 5	☐ 4	☐ 3	☐ 2	☐ 1

Scoring:

Coding and Scoring Key:	My Scores
Self-Kindness Items: 2, 6	
Self-Judgment Items: 11, 12	
Common Humanity Items: 5, 10	
Isolation Items: 4, 8	
Mindfulness Items: 3, 7	
Over-identified Items: 1, 9	
Total:	

Subscale scores are computed by calculating the mean of subscale item responses. To compute a total self-compassion score, note the reverse scores (the negative subscale items - self-judgment, isolation, and over-identification)- then compute a total mean.

Raes, F., Pommier, E., Neff, K.D., and Gucht, D.V. (2010). Construction and factorial validation of a short form of the self-compassion scale. *Clinical Psychology and Psychotherapy, 18*, 250-255.

Appendix 10: Non-Standardised Questionnaire Measuring "Diet Culture Exposure"

These questions are non-standardised and have been developed by the researcher to capture information relating to whether a participant has been exposed to diet culture.

1) *"Since the last signal, have you either engaged in or been exposed to conversations or media which has promoted diet culture?"*

   Participants will be provided with the following options:
   a) *Conversations only*
   b) *Media only*
   c) *Both conversations and media*
   d) *Neither conversations, nor media*

   -If they select *Conversations only,* then they will be directed to question 2 and then to the Body Image State Scale.
   -If they select *Media only,* then they will be directed to question 3 and then to the Body Image State Scale.
   -If they select *Both conversations and media,* then they will be directed to questions 2) and 3).
   -If they select *neither conversations, nor media* – they skip to the next survey (the Body Image State Scale).

2) *"If you selected "diet culture conversations", please provide the context..."*

   a) *Engaging with a family member/member*
   b) *Overhearing a family member*
   c) *Engaging with a friend*
   d) *Overhearing a friend*
   e) *Engaging with a colleague, acquaintance, or stranger;*
   f) *Overhearing a colleague, acquaintances, or stranger*

3) *"If you selected "diet culture media", please provide the context..."*
   a) *Traditional media (e.g., tv, film, journalism)*
   b) *Social media*

Appendix 11: State Self-Compassion Scale – Short Form (SSCS-SF)

HOW I FEEL TOWARDS MYSELF RIGHT NOW

Think about a situation you are experiencing right now that is painful or difficult. It could be some challenge in your life, or perhaps you are feeling inadequate in some way. Please indicate how well each statement applies to how you are feeling toward yourself right now as you think about this situation, using the following scale:

Not at all true for me				Very true for me
1	2	3	4	5

1. I'm giving myself the caring and tenderness I need.
2. I'm obsessing and fixating on everything that's wrong.
3. I'm remembering that there are lots of others in the world feeling like I am.
4. I feel intolerant and impatient toward myself.
5. I'm keeping things in perspective.
6. I feel like I'm struggling more than others right now.

Reverse code items 2, 4 and 6 and then take a grand mean to calculate a total state self-compassion score.

Appendix 12: Infographic "Recognising Diet Culture"

RECOGNISING 'DIET CULTURE' IN CONVERSATIONS

'Diet Culture' would suggest that people are more or less good/moral/worthy based on their body shape or size. Sometimes the comments people make can be quite explicitly hurtful (e.g., body shaming comments) and others are more subtle. We have made a list below of some common diet culture narratives that reinforce diet culture ideals.

Weight equating to health and wellbeing

Believing that "having a higher BMI always relates to having an unhealthy lifestyle"; being encouraged to diet/ exercise more to lose weight and become healthier.

Placing moral value on exercise and using exercise to prevent 'fatness'

Describing oneself as "being good" after exercising; exercising to "burn off" a specific amount of calories or to "earn a treat"; trying to obtain a "beach body" or a "summer body" through exercising

Rules around what, when, and how much to eat

Describing oneself as "having a cheat day" if we eat specific foods; feeling the need to "cut carbs", making judgements like "If I'm going out to eat later I have to work out that day to earn it"; "

Placing greater moral value on specific foods

Using language like "clean eating" and "superfoods" for foods deemed as 'healthy' or 'good for us'; food being described as "bad for us" e.g., "junk food", or "dirty food.

Weight stigma and fat phobia

This can be both overt (e.g., making hurtful comments about someone's weight) and covert (e.g., discriminating against someone due to their appearance). Negative stereotypes of people in bigger bodies are also widely portrayed by the media.

RECOGNISING 'DIET CULTURE' IN THE MEDIA

'Diet Culture' ideals are pervasive throughout all forms of media, be this more traditional media (e.g., tv, film, journalism) and modern media (e.g., various social media platforms like Tik Tok, Instagram and Facebook). Here are some examples of how we may be exposed to 'diet culture' ideals in the media.

Social media influencers

Social media influencers are people with a strong presence and influence on social media . Companies use influencrs to promote brands and lifestyle choices.

Dieting trends on social media

Social media users can post content under specific hashtags to promote a specific idea (e.g., dieting). A recent example is the #WhatIEatInADay hashtag which boasts over 7.6 billion views.

Fat shaming on social media

Fat shaming occurs when people criticize or harass overweight people about their weight or eating behavior. Such comments are common on social media.

Stigmatising media narratives

UK media portrayal and framing of obesity is stigmatising, derogatory and often disrespectful (e.g., using language like "war on obesity" or "hell" to describe being obese). Obese subjects were more likely to be headless, for instance, or eating and drinking, and less likely to be fully clothed, professionally attired or exercising.

Negative stereotypes of people with a higher weight status in the media

Negative stereotypes of people in bigger bodies are also widely portrayed by the media. For example, Characters with obesity are shown overindulging in junk food and are less likely than thinner characters to be involved in romantic relationships.

Note: this is not an exhaustive list. There are many ways in which diet culture narratives pervade our Westernised society and media.

Appendix 13: Avicenna Download Instructions

Note. When this resource was being developed the app was called “Ethica” and was undergoing the process of being re-branded as “Avicenna”.

To Avoid confusion, both names were used on the instructions.

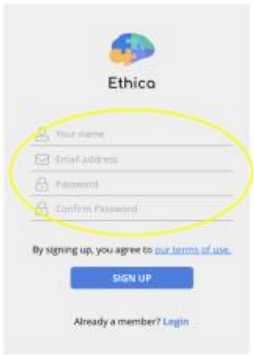
Downloading Ethica (Avicenna)

Step 1: Download Ethica (soon to be re-branded as “Avicenna”) from the app store/ google play store. This is what it looks like:

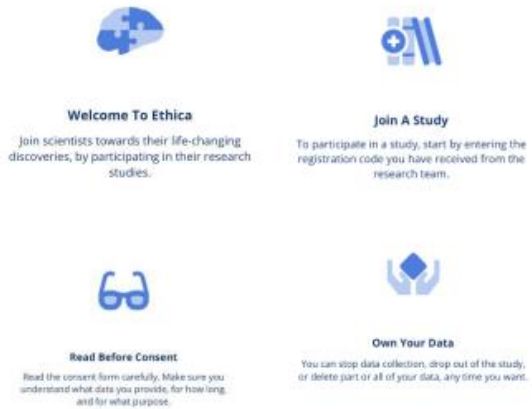
Google Play store:

Apple ‘app store’:

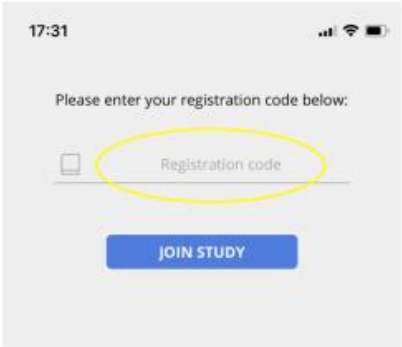
Step 2: Create an account by clicking “sign up”. Then enter your name and email address in the boxes and create a password. Click “sign up”.



Step 3: Click through the first few screens which provide information about the app:

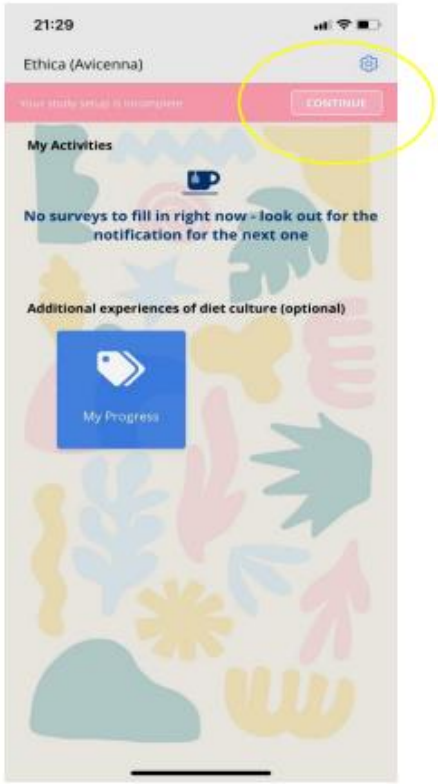


Step 4: Next, enter the study registration code into the box displayed below:



Note: You may need to change your notification settings – Please follow these instructions to enable "persistent banner notifications" for the ethica app (this won't change any other app notifications):

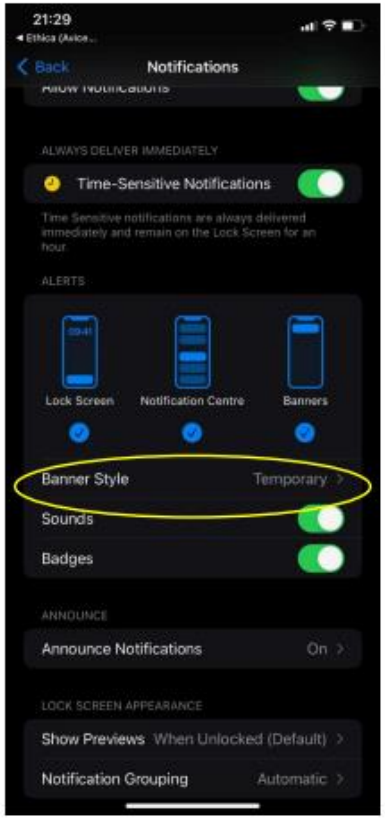
Step 1: Click "continue" on the app



Step 2: Select "open settings"

Step 3: This will take you to app settings. Click on "Notifications"

Step 4: Click on "Banner Style"



Step 5: Ensure "Persistent" is ticked.

Should you require further guidance and support with setting up or completing surveys on ethica, do not hesitate to contact Abigail Plant on ps13ap@leeds.ac.uk and we can arrange a telephone call to discuss your queries.

Appendix 14: Infographic About 'Resisting Diet Culture'

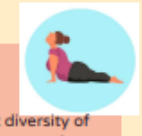
RESISTING 'DIET CULTURE'

Recognising 'Diet Culture' is the first step towards resisting it. There have been many suggestions that have come from the "Health at Every Size® and ' body positivity' movements which you may find useful if you choose to make steps towards resisting 'Diet Culture'. Here are some examples:

Weight does not always equate to health

Weight is not the only marker of health. Learning about this may help release some of the guilt or shame around eating or exercising.. Follow the QR code link to find out more.

Follow social media accounts that promote weight inclusivity



Accepting and respecting the inherent diversity of body shapes and sizes is important for promoting weight inclusivity. Follow the QR code for some suggestions of social media profiles to follow.

Intuitive eating

It is important to take care of their bodies and minds holistically. Intuitive eating encourages us to "eat when we are hungry and stop when we are full". Scan the QR code here to find out more .

Practice self-compassion

self-compassion is associated with better mental and physical health, improved body image. At its root, self-compassion revolves around care, love, and respect for our bodies. Scan this QR code to find out more

Challenge weight stigma and fat phobia

Be an ally: Jokes, judgmental questions, suggestions to exercise, and other everyday interactions can reinforce weight stigma. If possible and it is safe to do so, explain to the person why these comments may be harmful.

IF YOU ARE EXPERIENCING ANY DISTRESS AFTER PARTICIPATING IN THIS RESEARCH...

WELLBEING RESOURCES

1) IF YOU HAVE CONCERNS ABOUT BODY IMAGE AND OR EATING DIFFICULTIES YOU CAN ACCESS RESOURCES FROM:

- NATIONAL EATING DISORDER ASSOCIATION
- BEAT
- MIND

2) IF YOU ARE CONCERNED ABOUT YOUR MENTAL HEALTH

- CONTACT YOUR GP.
- SEEK ADVICE BY RINGING 111
- SELF-REFER YOURSELF TO YOUR LOCAL IMPROVING ACCESS TO PSYCHOLOGICAL THERAPY SERVICE:

3) ACCESS BODY POSITIVE MEDIA ON

- INSTAGRAM
- TIK TOK
- FACEBOOK