The Effects of Self-Compassion on Internalised Weight-Based Stigma

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Abstract

Weight stigma is a painful and distressing phenomenon experienced by many individuals with overweight and obesity around the world. Weight stigma, whether experienced from others, or internalised by individuals with overweight, is associated with a myriad of detrimental physical and mental health outcomes (Latner, Durso, & Mond, 2013; Papadopoulos & Brennan, 2015; Pearl, Puhl, & Dovidio, 2015; Puhl & Brownell, 2001). Given the widespread and negative impact of weight stigma, there is a need for strategies to alleviate the effects of weight stigma and assist individuals to better cope with stigmatising situations (Flint, Raisborough, & Hudson, 2020). Concurrently, there has been an increased interest in the field of self-compassion research, for which there is now compelling evidence highlighting that self-compassion is beneficial for mental health and well-being. Evidence shows that self-compassion is particularly important during times of suffering and distress, and can serve to buffer the effects of stigma for various populations, including marginalised groups (Fredrick, Williams, & LaDuke, 2019). Evidence demonstrating the advantages of self-compassion provides a persuasive rationale to argue that self-compassion has the potential to attenuate the negative effects of weight stigma. However, studies merging the fields of weight stigma and self-compassion research are limited, and the role of self-compassion within the context of weight stigma is an understudied area of investigation. Based on empirical evidence available from both fields, it is argued that self-compassion can serve as a protective factor in the lives of weight stigmatised individuals with overweight. It is further argued that a compassion focused method to alleviate the effects of weight stigma and develop the capacity for self-compassion offers an important empirical contribution to the field of weight stigma research, which has not been offered by the approaches currently available.

This dissertation aimed to firstly present a review of empirical evidence across the fields of weight stigma and self-compassion. Following this, a series of studies aimed to identify and address gaps in the literature. Specifically, the research presented in this dissertation was designed to address three primary aims: 1) to investigate the role of internalised weight stigma and self-compassion in the relationship between weight stigma and outcomes of psychological distress, body shame, loneliness and life satisfaction; 2) develop a compassion-focused group intervention specifically designed to reduce the adverse effects of weight stigma; and 3) conduct a pilot study to examine the acceptability and feasibility of a compassion-focused group intervention for weight stigmatised women with overweight and obesity. This dissertation presents a compendium of three studies conducted to achieve these aims.

Study 1 involved an empirical study that tested the relative contribution of both internalised weight stigma and self-compassion on weight stigma, as mediators in the relationship between weight stigma and outcomes of psychological distress, loneliness, body shame and life satisfaction. Results revealed that internalised weight stigma mediated the relationship between external weight stigma and body shame, while self-compassion mediated the relationship between external weight stigma and psychological distress, loneliness and satisfaction with life. Study 2 provided a detailed account of the development of a 2-day Compassion-Focused Therapy (CFT) intervention, designed to increase self-compassion, and reduce internalised weight stigma for women with overweight and obesity. Two case studies demonstrated improvements in the expected direction for self-compassion, internalised weight stigma, depression, body shame, loneliness, weight self-efficacy, body dissatisfaction, life satisfaction, as well as weight loss. Study 3 tested the feasibility/acceptability of the 2-day, Compassion-Focused Therapy (CFT) program for a group of weight stigmatised

females with overweight and obesity in Australia. Significant group improvements were found from pre-treatment to post-treatment for self-compassion and internalised weight stigma, with gains maintained at 3-month follow-up. Significant improvements were also found for psychological distress, life satisfaction, eating self-efficacy, body dissatisfaction and loneliness at the post-treatment assessment. A non-significant trend of mean group weight loss from pre-treatment to three-month follow-up was also observed. Credibility ratings of the program were high.

This compendium of research has advanced research knowledge in two main ways. Firstly, the research reported herein is the first to have demonstrated the unique roles of both self-compassion and internalised weight stigma as mechanisms through which experienced weight stigma can affect a range of adverse psychological consequences. Secondly, this dissertation has demonstrated the feasibility and acceptability of a 2-day CFT-based group program specifically designed to increase self-compassion and reduce internalised weight stigma for women with overweight and obesity. The current program has merged two important fields of self-compassion and weight stigma research, thus providing evidence for self-compassion as a promising strategy through which to assist individuals to better cope with the painful effects of weight stigma.

Statement of Originality

This work has not previously been submitted for a degree or diploma in any university. To the best of my knowledge and belief, the thesis contains no material previously published or written by another person except where due reference is made in the thesis itself.

(Signed)_____(Date) 7/04/2020

Yvette Forbes

Dedication

I dedicate this dissertation to the many people around the world who have experienced mistreatment by others due to their size and shape. May the efforts of all involved in this research contribute to a greater understanding of how we can support individuals with overweight and obesity who are affected by weight stigma.

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Declaration of Published Papers

Included in this thesis are three papers (Chapters 3-5) which are co-authored with other researchers. My contribution to each co-authored paper is outlined at the front of the relevant chapter. The bibliographic details for these papers including all authors, are:

Chapter 3

Forbes, Y., & Donovan, C. (2019) The role of internalised weight stigma and self-compassion in the psychological well-being of overweight and obese women. *Australian Psychologist*, *54*(6), 471. doi: 10.1111/ap.12407

Media Coverage

- Sydney Morning Herald
- Channel 7 News Brisbane
- ABC Radio Gold Coast
- Sun Newspaper Gold Coast

Disclaimer: This chapter has undergone minor revisions as recommended by the Examiner/Chairperson, and therefore differs from the published version of the manuscript. This includes in-text changes, as well as an updated Chapter title from the published version of "The Role of Internalised Weight Stigma and Self-Compassion in the Psychological Well-Being of Overweight and Obese Women" to the revised title of "The Role of Internalised Weight Stigma and Self-Compassion in the Psychological Well-Being of Women with Overweight and Obesity.

Chapter 4

Forbes, Moffitt, Van Bokkel, & Donovan (*Under review)*. Not Defined by Weight: Development of a self-compassion intervention to build resilience to weight stigma, with two case illustrations.

This paper is currently under review in '*Journal of Cognitive Psychotherapy'.*

Chapter 5

Forbes, Moffitt, Van Bokkel, & Donovan (*Under review*). Unburdening the weight of stigma: Findings from a compassion-focused group program for women with overweight and obesity.

This paper is currently under review in '*Clinical Psychologist'.*

All persons who contributed to the research in each paper qualified as authors.

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Associate Professor Caroline Donovan

SECTION 1 – LITERATURE REVIEW

Orientation to Thesis

Chapter 1 – The Stigma of Obesity

Chapter 2 – The Science of Self-Compassion

Orientation to the Thesis

Weight stigma involves the devaluation of individuals with overweight and obesity, based on negative weight stereotypes and attitudes (Myers, & Rosen, 1999; Puhl & Brownell, 2001). Weight stigma can be internalised, meaning that individuals with overweight and obesity can endorse negative weight-based stereotypes, and attribute the negative evaluations to themselves (Durso & Latner, 2008; Pearl & Puhl, 2016). Both external and internalised weight stigma are associated with a range of deleterious psychosocial issues, and despite continuing developments in the field of obesity research, weight stigma and its associated mental and physical health problems remain a burdensome concern (Flint et al., 2020). Concurrently, research findings have indicated that self-compassion is associated with a range of beneficial outcomes, and is a valuable coping resource when faced with stressful situations (Neff, Kirkpatrick, & Rude, 2007; Zessin, Dickhauser, & Garbade, 2015). However, while there is compelling evidence around the efficacy of self-compassion, knowledge and understanding of the role of self-compassion in the management of weight stigma remains a limited area of empirical enquiry. Further research is needed to investigate whether a more compassionate approach to the self may enhance resilience to the negative effects of weight stigma. Accordingly, the program of research described in this thesis was designed to fill this gap in the literature. Specifically, this thesis presents a series of research studies aimed at gaining a more comprehensive understanding of the role of self-compassion in the relationship between experienced weight stigma and its associated psychosocial outcomes.

The present thesis comprises three sections. Section 1 (Chapters 1 and 2) reviews the literature in the fields of weight stigma and self-compassion, and provides a rationale for the empirical studies presented in Section 2. Specifically, Chapter 1

provides a review of the nature and impact of external and internalised weight stigma for women with overweight and obesity, as well as a review of interventions designed to ameliorate the effects of weight stigma. Chapter 2 provides a detailed overview of self-compassion, empirically evaluated compassion-based interventions, and the potential applicability of Compassion-Focused Therapy in a weight stigma context. Section 2 firstly summarises the gaps in the literature and provides a rationale for the series of empirical studies presented subsequently. This chapter then presents three research papers (Chapters 3 to 5). Chapter 3 (Study 1), (published in *Australian Psychologist*, 2019) is the first empirical study to investigate both internalised weight stigma and self-compassion as mediators of the relationship between experienced weight stigma and a range of psychosocial outcomes. Chapter 4 (Study 2, under review with *Journal of Cognitive Psychotherapy*) describes the development of a CFT intervention designed to increase self-compassion and reduce internalised weight stigma. The study presented in Chapter 4 also includes two case illustrations, drawn from a pilot study (discussed in Chapter 5), which aimed to provide researchers and clinicians with an initial illustration of the potential of the CFT program for one female participant with overweight and one female participant with obesity. Chapter 5 (Study 3, under review with *Clinical Psychologist*) presents the results of a pilot study involving an uncontrolled trial, designed as a preliminary test of the acceptability and feasibility of the 2-day, Compassion-Focused Therapy (CFT) program described in Chapter 4. This program aimed to increase self-compassion and reduce internalised weight stigma for a group of weight stigmatised females with overweight and obesity. See Appendix A, B, and C for participant consent and feedback forms, and all participant handouts for program activities are provided in Appendix D. Finally, Section 3 (Chapter 6) provides a general discussion of the overall research findings of the studies presented, the clinical

implications of these findings, the key strengths and limitations of the dissertation, and recommendations for future research.

Chapter 1: The Stigma of Obesity

Overweight and obese status in Australia is rapidly becoming what many consider to be a national health crisis (Ng et al., 2013; Werder, Holland, & Munro, 2019). Data from the most recent Australian National Health Survey 2017-2018 revealed that 67.0% of Australian adults are classed as overweight or obese, with 35.6% considered overweight and 31.3% in the obese range. Results also indicate that the prevalence of overweight and obesity has increased dramatically over time from 56% in 1995 to 63.4% in 2014–2015, to the current rate of 67% (Australian Bureau of Statistics, 2019). High rates of overweight and obesity are not confined to the Australian population. According to the World Health Organisation (2018a), global obesity prevalence rates have almost tripled from 1975 to 2016, with more than 1.9 billion adults worldwide now overweight, and 650 million considered obese.

Obesity is associated with a range of deleterious heath consequences, as demonstrated in large-scale studies (Guh et al., 2009). Compared to individuals in a healthy adult weight range (Body Mass Index, (BMI) of 18.5 kg/m^2 to 24.9 kg/m^2), those with obesity are at greater risk of developing: type II diabetes (Vazquez, Duval, Jacobs, & Silventoinen, 2007); various types of cancer including breast (Key, Allen, Spencer, & Travis, 2003), colon (Larsson, & Wolk, 2007), and pancreatic cancer (Larsson, Orsini, & Wolk, 2007); cardiovascular diseases (Ni Mhurchu, Rodgers, Pan, Gu, & Woodward, 2004); osteoarthritis (Jarvholm, Lewold, Malchau, & Vingard, 2005); obstructive sleep apnoea (Drager, Togeiro, Polotsky, & Lorenzi-Filho, 2013); and ischemic stroke (Hu et al., 2007). Studies have also indicated that adults with obesity are at greater risk of experiencing: depressive symptoms (Sutin & Zonderman, 2012); anxiety disorders (Scott, McGee, Wells, & Oakley Browne, 2008); lower self-esteem (Griffiths, Parsons, & Hill, 2010); and impaired levels of health-related quality

of life in terms of emotional, social and physical functioning (Fontain, Barofsky, & Lawrence, 1997). The associated economic burden of obesity is substantial and includes both direct costs, such as those resulting from inpatient and outpatient health services, and indirect costs, including absenteeism from work (Dee et al., 2014). According to a study published by the McKinsey Global Institute (2014), obesity ranks in the top three global economic burdens (along with smoking and armed conflicts), with a combined annual cost to the global economy estimated at $2 trillion.

The Stigma of Obesity

In addition to personal and economic costs, overweight and obese status has significant social consequences, and individuals often experience weight-based stigma and discrimination (Papadopoulos & Brennan, 2015). Weight stigma can be defined as the rejection and/or devaluation of individuals with overweight, based on negative societal attitudes and stereotypes, which may result in discriminatory behaviours directed towards those individuals (Car & Friedman, 2005; Lewis et al., 2011; Pearl, 2018; Puhl, & Brownell). Various forms of stigmatisation may be experienced, including: direct harassment and ridicule from others; subtle or indirect stigma, such as ridiculing other individuals with obesity in the company of an overweight person; and/or environmental stigma, such as lack of adequate sized seating and clothing which has the potential to cause embarrassment, and serves to reinforce the “anti-fat” message (Lewis et al., 2011; Puhl & Brownell, 2006; Sikorski, Luppa, Luck, & Riedel-Heller, 2015).

Although caloric intake is a primary mechanism of weight gain, the cause of obesity involves many environmental, psychological and biological factors (Bouchard, 1991; Finkelstein, Ruhm, & Kosa, 2005; Li, Harmer, Cardinal, Bosworth, & Johnson-Shelton, 2009). However, despite the complex aetiology of obesity, weight gain is often

attributed to individual behaviour, with overweight people commonly deemed lazy, unmotivated, unattractive and weak-willed (Brochu & Esses, 2011; Puhl & Brownell, 2001; Puhl et al., 2015; Puhl & Heuer, 2009). According to Major and colleagues (2012), weight stigma differs from stigma associated with other social identities such as race or ethnicity, as it is often perceived as controllable, and therefore the fault of the individual. As explained by attribution theory and associated research, individuals are more likely to hold negative stereotypes and attitudes towards individuals with overweight and obesity if they attribute personal responsibility to weight gain (Hilbert, Rief, & Braehler, 2008). Moreover, a slim physique is considered a cultural and health ideal in many countries, particularly Western cultures, and is commonly associated with positive attributes such as attractiveness, intelligence and success (Schwartz, Chambliss, Brownell, Blair, & Billington, 2003; Schwartz, Vartanian, Nosek, & Brownell, 2006; Wade & DiMaria, 2003). Media imagery of the "thin ideal" and messages conveyed by medical and weight loss agencies designed to promote thinness, together with the belief that weight gain and loss is attributable to personal responsibility and effort, together contribute to the stigmatisation of individuals with overweight and obesity (Puhl et al., 2015; Puhl & Heuer, 2010; Papadopoulos & Brennan, 2015).

Research spanning several decades indicates that individuals commonly believe it is undesirable to be of overweight or obese status. For example, findings from a large online study of 4,283 individuals conducted by Brewis and colleagues (2011) indicated that in preference to being obese, respondents reported that they would rather: shorten their life by one year (46%), shorten their life by 10 years (15%), be unable to have children (25%), or be divorced (30%). Other studies have demonstrated that negative attitudes towards obesity are held by people across different age groups. For example, in a study by Cramer and Steinwert (1998), it was found that children as young as three

years of age demonstrated negative attitudes toward a “chubby” target. Evidence of stigma in childhood obesity has also been demonstrated in an early study by Richardson and colleagues (1961) involving 458 primary school children. Children were asked to rate the likeability of a child depicted in drawings who: was not visibly disabled; was on crutches; was in a wheelchair; was without a left hand; had a disfigured mouth; or was obese. The drawing of the child with obesity was the one rated as least likeable overall (Richardson, Goodman, Hastorf, & Dornbusch, 1961). This study was later replicated by Latner and Stunkard (2003), with results again indicating that the child with obesity was liked the least. The authors also found that the bias against overweight children was stronger than that found in the previous study by Richardson et al. (1961). These studies indicate that weight stigma can start early in life. When considering its origins, a classic analysis of stigma by Goffman (1963) asserts that stigma is not innate, but rather, is learned and internalised early in life from various aspects of a child’s socialisation. As will be discussed later in the chapter, this has important implications in terms of the potential for weight stigma to be ‘unlearned’ (Pearl, Hopkins, Berkowitz, & Wadden, 2016).

Weight stigma also occurs within adolescent and adult populations. In a study involving 449 university students who were asked to rank depictions of various potential romantic partners, participants reported that, in preference to an overweight partner, they would rather a partner: with mental illness (i.e. self-harm and attempted suicide); with a history of curable sexually transmitted diseases; who was missing an arm; who was in a wheelchair; or who was in good health (Chen & Brown, 2005). A further study comprising 477 undergraduate university students found that when attitudes toward various social groups, including immigrants, refugees, Asian people, White people, Black people, Muslim people, Jewish people, ‘fat’ people, and women

were compared, the least favourable attitudes were directed at the ‘fat’ group (Brochu & Esses, 2011). Together, the findings from these studies demonstrate that despite evidence for the multifaceted nature of weight gain, and the possible obstacles preventing weight loss (e.g., biopsychosocial factors), individuals with heavier bodies are often blamed, stigmatised and rejected due to their weight.

Along with the growing prevalence of obesity now evident in many countries around the world, weight stigma has also become more pervasive (Andreyeva, Puhl, & Brownell, 2008). In a large multinational study of weight bias, Puhl and colleagues (2015) found negative weight stigmatising attitudes and beliefs towards individuals with overweight and obesity across four countries including Australia, Canada, the United States and Iceland (Puhl et al., 2015). Weight stigma is also not confined to Western societies, with a study by Brewis and Colleagues (2011) finding negative and discrediting attitudes towards obesity reported by individuals from ten different countries, including those previously considered to be accepting of higher weight status such as American Samoa, Puerto Rico and Tanzania. Furthermore, a prospective study involving a large group of adults aged 35 to 74 years conducted in the United States, sought to investigate the prevalence of weight discrimination longitudinally (Andreyeva et al., 2008). Self-reported daily and lifetime instances of various types of discrimination were analysed using data collected from 1995 to 1996 and a subsequent sample from 2004 to 2006. Results indicated that weight stigmatisation found in the later sample was 66% higher than found previously, with perceived discrimination higher for both males and females across the various age groups. More recent national studies conducted in the United States have indicated that approximately 40% of US adults in the general population have experienced weight stigmatising situations over the course of their lives (Himmelstein, Puhl & Quinn, 2018; Puhl et al., 2015).

Studies seeking to investigate self-reported accounts from individuals with overweight or obesity also provide evidence for the pervasive nature of weight stigma. For example, in a study by Friedman, Ashmore and Applegate (2008) involving 94 obese adults seeking weight loss surgery, 100% of participants reported experiencing stigmatisation due to their weight within the previous month. Similarly, of the 141 participants in an Australian retrospective study by Lewis et al. (2011), 85.8% reported experiencing behaviours and attitudes reflecting weight stigma at least once previously. Of these individuals who reported weight stigma, 76.9% reported direct stigma such as verbal abuse and teasing from friends, family, romantic partners, employers, work colleagues, strangers, or health professionals, 57% reported environmental stigma such as a lack of appropriate clothing options, and 86% reported indirect forms of stigma such as being stared at when eating, and being ignored. In an early retrospective study by Myers and Rosen (1999) involving 146 subjects with obesity, frequently experienced forms of weight stigmatisation included: negative comments from children, family and others; negative assumptions made by others regarding weight; being stared at; and facing physical barriers such as not being able to fit in seats in theatres or on an aircraft. Using modified versions of the inventories used by Myers and Rosen (1999), a subsequent study of 2,449 adult women by Puhl and Brownell (2006) found that the most common incidents of weight stigma included negative assumptions made by others (68%), receiving nasty comments from children (63%), experiencing physical barriers (50%), and receiving inappropriate comments from doctors (63%).

In addition to retrospective self-report studies, researchers have employed a variety of alternative methodologies to determine the extent to which weight stigma occurs in ‘real time’ for individuals with overweight and obesity. For example, Vartanian and colleagues (2014) conducted a study using ecological momentary

assessment (EMA) that aimed to document incidents of weight stigma experienced by a sample of Australian adults with overweight and obesity. Individuals documented stigmatising situations on electronic devices each time it occurred, over a two-week period. Results indicated that of the 46 individuals recruited for the study, 91% experienced stigmatising situations related to their weight. Individuals reported an average of 11.12 incidents throughout the study, with episodes ranging from 1 to 49 instances. The most frequently reported form of stigma involved verbal comments, or combined verbal and non-verbal language, and among the most frequently reported sources were strangers, spouses/partners, friends, parents and media/advertising.

Weight stigma occurs across multiple life domains, including both personal and professional contexts. Individuals with overweight and obesity often report weight stigma within informal contexts, such as receiving negative comments and criticisms from family, romantic partners, friends, children and strangers, (Boyes & Latner, 2009; Lewis et al., 2011), and being stared at while engaging in leisure activities such as dining out (Poria, Beal & Shani, 2019). However, weight-related stigma has also been well documented in professional settings, including areas of education and employment (Puhl & Luedicke, 2012; Rudolf, Wells, Weller, & Baltes, 2009; Vanhove & Gordon, 2014). For example, a systematic review by Nutter and colleagues (2019) explored weight stigma and its effects within educational settings. Findings from 45 studies involving reports from students (from kindergarten to college) and teachers, revealed that: weight stigma is directed towards students with obesity from peers in the form of verbal and physical threats and victimisation, and social exclusion; and that teachers perceived students with obesity as a burden, and as being different to other students, and more challenging to teach.

Within the employment context, obesity has been associated with increased weight stigmatising experiences including: stereotypical beliefs (e.g., reduced job performance) directed towards individuals with obesity from staff and supervisors; being less likely to be hired for employment; and lower individual income, particularly for women (Carr & Friedman, 2005; Giel, Thiel, Teufel, Mayer & Zipfel, 2010). Furthermore, within employment settings, research suggests that negative evaluations may not be limited to overweight people themselves, with some evidence suggesting that those proximally associated with obese individuals may also be evaluated negatively. This was demonstrated in a study conducted by Hebl and Mannix (2003) in which participants were randomly shown photographs of a fictitious male job candidate who was pictured near a woman who was either of "average" or "heavy" weight during the hiring process. Results indicated that when seen next to a heavy woman, the male job applicant was less likely to be hired by participants and received lower applicant ratings with respect to professional qualities and interpersonal skills, compared to when the male job applicant was seen with a woman of average weight.

Despite being places where people with overweight and obesity seek and obtain help, clinical healthcare settings and professionals are among the greatest sources of weight stigma (Puhl & Heuer, 2009). Indeed, research has found that almost 70% of women with excess weight have experienced weight stigma from health practitioners in their lifetime (Puhl & Brownell, 2006). Studies involving a wide range of health professionals including dental and medical practitioners, medical residents, nurses, and psychologists have revealed negative and derogatory attitudes; health practitioners have perceived overweight and obese patients as being unattractive, lazy, and weak-willed (Puhl & Heuer, 2009). In a study involving 620 primary care physicians in the US, approximately half of all practitioners considered patients with obesity to be

noncompliant, unattractive, ugly and awkward (Foster, et al., 2003). Weight stigma also occurs within health care settings that specialise in assisting individuals with eating and weight-related concerns. For example, a systematic review conducted by Panza and colleagues (2018) investigated weight stigma among exercise and nutrition professionals with a history of working with individuals with obesity. Results indicated that 17 of the 20 studies involving exercise professionals, and 8 of the 11 studies examining nutritional professionals, found that both male and female health professionals expressed weight stigma towards their clients (Panza et al., 2018). In another study, Puhl and colleagues (2014) investigated weight stigma among 329 professionals specialising in eating disorders, including psychologists, therapists, registered dieticians, and other professionals such as social workers, psychiatrists and nurses. Results indicated that while most professionals (88%) felt confident providing treatment for obese clients, 56% reported they heard or witnessed professionals within their field making negative remarks about obese clients, and 29% stated they were aware of work colleagues who held negative attitudes towards clients with obesity. The impact of weight stigma within the health care context is associated with several detrimental consequences for the lives of overweight and obese people including: reduced quality of health care provided (e.g., less time given to obese versus normal weight clients); decreased patient trust toward providers; and compromised health care utilisation including increased reluctance and/or delay in seeking health care such as medical screenings and examinations (Amy, Aalborg, Lyons, & Keranen, 2006; Bertakis & Azari, 2005; Brown, Thompson, Tod & Jones, 2006; McGuigan & Wilkinson, 2015; Puhl & Heuer, 2009; Phelan et al., 2015).

Weight stigma also occurs more broadly within the societal context, including news media and public health campaigns (Ata & Thompson, 2010; Puhl, Luedicke, &

Peterson, 2013). Although the intention of obesity prevention campaigns is to encourage healthy living practices and healthy weight, mass media advertising and campaigns often target the undesirability of obesity, and have limited support in terms of their effectiveness (Walls, Peeters, Proietto, & McNeil, 2011). Indeed, such campaigns can have negative, unintended consequences such as eliciting shame and guilt, and further stigmatisation of overweight and obese individuals (Couch, Fried, & Komesaroff, 2018, Puhl et al., 2013). For example, an Australian study investigated the perceptions of 142 individuals with obesity toward obesity-related news reporting (Couch, Thomas, Lewis, Blood, & Komesaroff, 2015). Results indicated that 86% of participants believed that the news coverage: was "superficial", "unrealistic", "inaccurate", "unfair" or "unhelpful"; conveyed personal blame and undesirability; and was dehumanising and stigmatising. It is becoming increasingly evident that stigmatisation of overweight and obesity is widespread, with research indicating that individuals are potentially exposed to stigmatising situations and messages across numerous life contexts.

Age and gender differences in weight stigma have also been investigated. A review of the literature on weight stigma in the United States reported that negative stereotyping and discrimination about weight is more often directed toward females than males in areas of employment, education, romantic relationships, and health care settings (Fikkan & Rothblum, 2012). Gender differences in weight stigma have also been found in a large-scale US national sample of 22,231 participants (Hatzenbuehler, Keyes, & Hasin, 2009). A greater prevalence of discrimination was reported by females overall, and in health care and insurance settings specifically. Another study designed to investigate perceived weight discrimination in the workplace, found that in a sample of 2,838 adults aged 25-34 years, self-reported discrimination was more likely to be perceived by younger adults, and weight discrimination was 16 times more likely to be

reported by females (Roehling, Roehling, & Pichler, 2007). Similarly, a retrospective study of 2,290 adults in the United States by Puhl and colleagues (2008) found that overall rates of perceived daily or lifetime weight-related discrimination reported by males was approximately half that reported by females. In this study, although gender differences were similar across various racial groups, discrimination differed between age groups, with the highest rates of perceived discrimination reported for those aged 25-34 years. It would seem overall therefore, that weight stigmatisation is most commonly experienced by young adult women.

The Psychosocial Effects of Weight Stigma

There is now strong and convincing evidence indicating that weight stigma is not only common and widespread, but it is also associated with a range of psychological and social difficulties (Puhl & Heuer, 2009). Some concern for the health of individuals with overweight is appropriate, given associated biopsychosocial effects, as noted above. However, evidence strongly demonstrates that stigmatising individuals for their weight status is associated with detrimental effects. Indeed, research has indicated a relationship between weight stigmatisation and negative psychological correlates including: mood (i.e. major depressive episode, manic or hypomanic episodes, dysthymia), and anxiety disorders (i.e. generalised anxiety disorder, social phobia, post-traumatic stress disorder, and panic disorder) (Hatzenbuehler et al., 2009; Wu & Berry, 2018); stress (Vadiveloo & Mattei, 2017); substance use disorders (Hatzenbuehler et al., 2009); self-criticism (Myers & Rosen, 1999); shame (Westermann, Rief, Euteneuer, & Kohlmann, 2015); decreased quality of life (Lillis, Levin, & Hayes, 2011; Papadopoulos & Brennan, 2015); increased risk of suicidal ideation (Eisenberg, Neumark-Sztainer & Story, 2003); and increased risk of mortality (Sutin, Stephan, & Terracciano, 2015; Vadiveloo & Mattei, 2017).

Weight stigma also has effects on the social lives of those with overweight and obesity. Weight stigmatised individuals report limiting participation in social and leisure activities, and isolating themselves, as ways of coping with the impact of stigma (Lewis et al., 2011; Myers & Rosen, 1999; Puhl & Brownell, 2006). Such findings are concerning given evidence indicating that loneliness and social isolation are risk factors for premature mortality, and this risk is comparable to other well-established psychological factors (e.g., depression) (Holt-Lunstad, Smith, Baker, Harris, & Stephenson, 2015); and behavioural factors (e.g., physical inactivity) (Shankar, McMunn, Banks, & Steptoe, 2011). The research presented provides compelling evidence indicating that the diminished health and well-being of individuals with overweight and obesity may be due at least in part to the impact of weight stigma, rather than only the physical aspects of obesity itself.

Weight Stigma, Overweight and Obesity

The experience of weight stigma has also been shown to be a risk factor for obesity. A study by Sutin and Terracciano (2013) was designed to investigate the impact of weight discrimination on the development of obesity using data from a large longitudinal survey involving 6,157 participants in the United States. Results indicated that individuals who experienced weight stigma at baseline were over three times more likely to remain obese at follow-up four years later, compared to those who did not experience weight stigma. Results also indicated that individuals in a category not considered obese (BMI<30) at baseline but who had experienced weight discrimination, were 2.54 times more likely to fall within the obese weight range at follow-up, compared to those who had not experienced discrimination. This suggests that for individuals with overweight (but not obesity), stigma led to weight gain. The impact of perceived weight stigma on the development of obesity was further demonstrated in

research from the United Kingdom in which longitudinal data from 2,944 participants in a study of ageing was examined (Jackson, Beeken, & Wardle, 2014). Findings revealed that perceived weight discrimination was significantly associated with both increased waist circumference and greater increases in weight across a four-year period.

Given findings such as those reported above, researchers have sought to understand the mechanisms through which weight stigma can perpetuate obesity. Tomiyama (2014, p. 8) proposed a "vicious cycle" of interconnected factors whereby psychological stress resulting from weight stigma can contribute to emotional (e.g., shame), behavioural (e.g., increased eating), and physiological (e.g., increased cortisol) responses which subsequently lead to weight gain and further stigmatisation. According to Brewis (2014), being overweight and feeling stigmatised may have direct behavioural implications. First, given that the experience of a stigmatising situation may be perceived as a painful and stressful event, individuals may engage in unhelpful coping behaviours which can impede weight loss or lead to weight gain (Hunger, Major, Blodorn, & Miller, 2015; Myers & Rosen, 1999). For example, when faced with stressful stigmatising situations, studies have shown individuals may engage in obesogenic behaviours, such as turning to emotional and comfort eating as a means of coping (Myers & Rosen, 1999; Puhl & Brownell, 2006). Increased eating following exposure to weight stigma has also been demonstrated in studies designed to experimentally induce stigmatisation. For example, Schvey, Puhl and Brownell (2011) found that women with overweight viewed a stigmatising video subsequently consumed approximately three times the number of calories than women with overweight in the control group who were not shown the video.

Increased calorie consumption is not the only consequence of weight stigma that serves to perpetuate overweight status. Studies have also shown that anticipated or

experienced weight stigma is linked to exercise avoidance, which may further impact obesity (Pearl, Dovidio, Puhl, & Brownell, 2015; Vartanian & Novak, 2011; Vartanian & Shaprow, 2008). For example, in a study involving female university students, it was found that stigmatising situations, such as receiving negative comments from others and being stared at, was significantly associated with avoidance of exercise. This relationship remained significant even after controlling for self-esteem, age, body dissatisfaction, and BMI in the analyses. Similar results were found in a study of 100 women with overweight who were randomly assigned to either: an experimental group primed to think about stereotypes related to weight following exposure to a vignette of women's exercise behaviour and dietary habits; or a control group who were not primed (i.e., received the vignette without the stereotype prime) (Seacat & Mickelson, 2009). Results indicated that the experimental group reported significantly lower exercise and dietary self-efficacy, and lower intentions to exercise and maintain a healthy diet, compared to women in the control group.

In addition to behavioural change, research suggests that stigmatising situations may also exacerbate obesity through increasing stress-related physiological responses (Brewis, 2014; Hunger et al., 2015). While an association between psychosocial stress and weight gain has been established in the literature (e.g., Harding et al., 2014), studies have also sought to determine whether weight stigma specifically is associated with biological changes that are in turn linked to weight gain (Himmelstein, Incollingo Belsky, & Tominyama, 2015). Stress has been shown to produce an increase in cortisol following activation of the hypothalamic-pituitary-adrenal axis, which can then stimulate eating and increase abdominal fat accumulation (Björntorp, 2001; Epel, Lapidus, McEwen, & Brownell, 2001; Peckett, Wright, & Riddell, 2011). Studies focusing specifically on the effects of weight stigma have indicated that elevated

cortisol levels are found among individuals who have experienced weight-based stigma (Himmelstein et al., 2015; Schvey, Puhl, & Bownell, 2014; Tomiyama, 2014). In one of the first studies in this area, Schvey et al. (2014) assigned 123 women of various weights to view either a video depicting stigmatising situations or a neutral video (control). Results indicated that women exposed to the stigmatising condition, regardless of their weight, demonstrated increased stress as measured by salivary cortisol reactivity, compared to those in the control group. In a more recent study consisting of 1,872 participants from the English Longitudinal Study of Aging, researchers sought to investigate whether weight discrimination mediated the relationship between obesity and hair cortisol concentrations as a marker of biochemical stress (Jackson & Steptoe, 2018). Results indicated that both obesity and weight discrimination were independently and significantly associated with increased cortisol levels, and that weight discrimination mediated the positive association between obesity and hair cortisol. This suggests that increased body weight can lead to experiencing weight stigmatising situations and mistreatment, which can in turn increase levels of stress. Taken together, these studies provide strong evidence for the painful nature of weight stigma, and suggest that when faced with stressful stigmatising situations, individuals may respond physiologically, and/or cope behaviourally, in ways that can perpetuate obesity.

Internalised Weight Stigma

Internalised weight stigma, also known as self-stigma or weight bias internalisation, refers to the extent to which an individual endorses negative stereotypes associated with overweight and obesity, and attributes the negative evaluations to themselves (Durso & Latner, 2008; Hilbert, Braehler, Haueser, & Zenger, 2014; Pearl & Puhl, 2016, 2018). According to Durso and Latner (2008), internalised weight stigma

differs from, and extends beyond, body image evaluations, to encompass widespread negative attitudes and stereotypes related to overweight and obesity. As well as experienced stigma, internalised weight stigma is also highly prevalent. This was made evident in a study by Puhl, Himmelstein, & Quinn (2018) which indicated that internalised weight stigma is experienced by approximately 40-50% of adults with overweight and obesity in the United States. Consequently, internalised weight stigma has significant associations with psychological and physical health issues including: psychological distress (Alimoradi et al., 2019); anxiety, depression, stress, (Durso & Latner, 2008; Durso, Latner, & Ciao, 2016); and reduced health-related quality of life (Latner, Durso, & Mond, 2013). Similarly, greater internalised weight stigma has been associated with higher body image concerns, and binge eating frequency (Durso & Latner, 2008). Importantly, studies have shown that internalised weight stigma significantly contributes to poor emotional and physical health independent of weight status, and has been found to be a stronger predictor of mental health difficulties than externally experienced weight stigma (Hilbert et al., 2014; Pearl & Puhl, 2016; Pearl et al., 2015). Finally, internalised weight stigma has been found to mediate the relationships between weight stigma and reduced exercise, disordered eating, and depression and anxiety (Durso, Latner, & Hayashi, 2012; Magallares et al., 2017; O'Brien et al., 2016; Pearl et al., 2015). Such findings suggest that exposure to external weight stigma may lead to the internalisation of negative weight-based stereotypes and beliefs, which may in turn be associated with an increase in adverse psychological outcomes for individuals with overweight and obesity.

Just as females have been shown to experience greater weight stigmatisation than males, there is also evidence to suggest that women report greater internalised weight stigma than their male counterparts (Hilbert et al., 2014; Puhl, Himmelstein &

Quinn, 2018). In the largest study investigating internalised weight stigma to date, 18,769 participants enrolled in a Weight Watchers program provided details about weight stigmatising experiences and demographic characteristics such as age, gender, height and weight (Pearl et al., 2019). The highest levels of internalised weight stigma were reported by women, younger participants, and those with a higher BMI. Together, such findings provide compelling evidence to suggest that the diminished health and well-being of individuals with overweight and obesity is due at least in part to the impact of weight stigma, rather than only the physical aspects of obesity itself, and that individuals, especially younger women, who exhibit high levels of internalised weight stigma are a particularly vulnerable group.

Tackling Weight Stigma

As discussed above, messages reinforcing the notion that people with overweight and obesity are undesirable, lazy, or lack willpower, do not motivate these individuals to engage in behaviours consistent with weight loss, and instead, can do more harm than good. Rather than motivating people to engage in healthy behaviours, individuals feel stressed, anxious, depressed or discouraged when faced with stigmatising situations, and the effects may be worse for individuals, particularly women, who believe the negative messages are true.

The clinical implications of targeting weight stigma in practice are important given both the deleterious effects of weight stigma outlined above, and the limited success of traditional behavioural approaches targeting overweight and obesity (Booth, Prevost, Wright, & Gulliford, 2014). Indeed, mounting evidence demonstrating the negative effects of experienced and internalised weight stigma has prompted suggestions for the development and implementation of strategies to reduce weight stigma, and alleviate the effects of weight stigma for overweight populations (Flint et

al., 2019; Pearl, 2018). However, reducing or preventing weight stigma from occurring in society is a challenging task given the widespread and ingrained societal ideal of thinness, and the widely held negative stereotypes associated with overweight. Indeed, a systematic review of 17 intervention studies designed to reduce weight stigma among students and practitioners in health-related fields, found little evidence for the effectiveness of interventions to change participant attitudes towards those with overweight and obesity (Alberga et al., 2016).

Interventions designed to assist individuals with overweight to better cope with weight stigma, and specifically to reduce internalised weight stigma, have also been developed and evaluated, although the research in this area is somewhat limited. One study aimed to develop and test the efficacy of an approach involving a Cognitive Behavioural Therapy (CBT) program, known as the Weight Bias Internalization and Stigma (BIAS) Program (Pearl et al., 2016). Fourteen individuals (11 female) in the United States with obesity who reported experiencing internalised weight stigma were recruited for the study. The study was non-randomised: eight individuals participated in a CBT intervention group; and six received a control condition which involved attending a 90-minute informational session on the Weight BIAS program (conducted at the time of the final intervention group session). The Weight BIAS program comprised eight weekly 1-hour group sessions which focused on a cognitive behavioural approach to reducing internalised weight-based stigma. Online assessments were conducted at pre- and post-intervention. Results indicated greater reductions in internalised weight stigma and fat phobia as well as greater increases in weight efficacy (i.e., self-efficacy for controlling eating in challenging situations) for participants receiving treatment, compared to those in the control group. No significant reductions in weight loss were

found, which, as noted by the authors, suggests improvements in internalised weight stigma were due to the treatment itself and not due to experienced weight loss.

The Weight BIAS Program was subsequently tested in a recent study by Pearl and colleagues (2020) who sought to investigate the effects of the intervention when combined with a behavioural weight loss program. A sample of 72 individuals with obesity were randomly allocated to participate in either a weight loss program or receive the weight loss program plus Weight BIAS Program. The Weight BIAS intervention comprised several CBT-based strategies targeting weight stigma including: psychoeducation on obesity and weight stigma; challenging cognitive distortions and cognitive restructuring in the context of weight stigma; developing capacity for greater coping with weight stigma through assertiveness and empowerment training; reducing self-criticism; developing self/body acceptance; and one session on self-compassion. Each group participated in a total of 16 sessions over a period of 26 weeks, which comprised 60-minute sessions focusing on weight loss. The weight stigma group received an additional 30-minute component of the Weight BIAS Program each session. Results for the primary outcome of weight stigma internalisation found: improvements in internalised weight stigma for both groups at 12 and 26 weeks, but no significant differences between groups as measured by the Weight Bias Internalisation Scale (WBIS). As suggested by the authors, non-significant differences in internalised weight stigma may be due to unexpected improvements within the weight loss only group, impacting the results. However, participants who received the combined intervention reported significantly greater improvements in internalised weight stigma as measured by the Weight Self-Stigma Questionnaire (WSSQ) at week 12, compared to the weight loss group. Significantly greater reductions on the WSSQ subscale of self-devaluation were found at both weeks 12 and 26 for the combined group. Results for secondary

outcomes revealed both groups experienced improvements in depression, anxiety, body image, and quality of life, with no significant differences between groups. Findings also revealed participants in the combined group reported greater improvements on measures of eating behaviours and self-monitoring behaviours (i.e., tracking of physical activity). Both the combined and weight loss groups experienced weight loss, with no significant differences between groups.

The Weight BIAS program offers an important contribution to the field of weight stigma, being the first to demonstrate the malleability of internalised weight stigma using a CBT framework. When considering a CBT approach to weight stigma, it is important to note that for some individuals, it may be a difficult task to change deeply ingrained self-critical and distressing internal dialogue (i.e. “well I really AM overweight”). Weight stigmatised individuals can be highly self-critical, and report feelings of shame and guilt in response to their body weight and appearance. According to Gilbert (2009), self-critical and shame-prone individuals may attempt to re-evaluate and reframe unhelpful cognitions, but if the underlying emotional tone of the reappraisal continues to be hostile, it can interfere with the efficacy of treatment. Self-critical individuals can have difficulty engaging in self-warmth and reassurance, particularly in situations where hostility to the self is habitual (Gilbert, 2009). Based on this view, in the context of weight stigma, individuals may therefore logically come to understand the evidence against weight stigmatising messages, but they may continue to experience negative feelings towards themselves. For example, individuals may rationally understand that attributions of blame based solely on individuals for their weight are not supported given the complex nature of obesity, but they may continue to feel they are to blame. Thus, hostile underlying tones may endure, despite efforts to reframe thoughts and beliefs about self-stigmatising messages. Further research also supports this view,

with a study on eating behaviours finding that a more accepting rather than challenging approach can be more conducive to cognitive change for individuals who experience intense and distressing cognitions (Moffitt, Brinkworth, Noakes, & Mohr, 2012). Such findings suggest that self-compassion may play an important role in the efficacy of CBT approaches designed to alleviate the effects of weight stigma.

A further approach to alleviating the effects of weight stigma involving Acceptance and Commitment Therapy (ACT) has also been investigated. Within an ACT framework, rather than being taught to identify and change destructive or disturbing thought patterns, ACT teaches individuals to develop mindful awareness of, and distance from, self-critical thoughts and experiences. For example, a study by Lillis and colleagues (2009) designed a group-based ACT program, which aimed to reduce weight self-stigma and distress, and improve quality of life. The authors recruited 87 participants from a weight loss clinic in the United States, and randomly assigned them to either a one-day mindfulness and acceptance program targeting weight stigma for individuals with overweight or a wait list control group. Most participants were female, with the treatment and control groups comprising 95% and 86% females, respectively. The treatment protocol involved one 6-hour workshop, delivered in group format and led by two facilitators. Participants were also provided with an ACT workbook to encourage further practice following completion of the active intervention. The workshop comprised key ACT components which included skill development in areas of mindfulness, acceptance, cognitive defusion, identifying values, and committing to behave in accordance with life values. The workshop aimed to alleviate the effects of weight stigma by reducing experiential avoidance (i.e., avoidance of discomfort and aversive internal experience) and increasing psychological flexibility (i.e., commitment to pursuing valued goals in the face of pain and adversity) in the context of weight-

stigmatising thoughts and beliefs. No weight loss strategies or goals were implemented, as 38% of participants were already currently engaged in a formal weight loss program, and the remaining participants were either attempting or maintaining weight loss individually. Participants were assessed prior to commencing, and at 3-months post intervention. Results indicated significant between group differences, including greater improvements in distress tolerance, quality of life, and weight-related self-stigma for the intervention group. Additionally, significant differences in weight loss were found between groups at 3-month follow-up, with 35% of the intervention group losing at least five pounds (2.27 kilograms) compared to 11% of controls.

An ACT approach to reducing weight stigma was also utilised in a guided self-help format (Levin, Potts, Haeger, & Lillis, 2018). In this study, 13 individuals with overweight or obesity from a community in the United States were enrolled in an uncontrolled pilot study. Three participants discontinued within the first three weeks, thus data from 10 participants were reported. Of the 10 participants, 90% were female. The program comprised an initial in-person session, at which time participants completed questionnaires, and were given information and materials describing the 7-week guided self-help program. The program was based on the previous study conducted by Lillis et al. (2009) and included readings from a self-help book (*The Diet Trap*; Lillis et al., 2014) targeting weight issues and weight self-stigma. Participants were asked to read one chapter per week over the course of the intervention. Participants were also asked to complete journal-based exercises as outlined in the self-help book chapters. Additionally, participants received weekly 5 to 10-minute telephone coaching calls with program facilitators to increase motivation, commitment and treatment adherence. A post-intervention in-person session involving the completion of assessment items was also conducted, as well as a final three-month follow-up which

was conducted online. Program content included educational information on effective weight management or weight loss and weight stigma, as well as various ACT-based techniques designed to encourage healthy behaviours, weight loss, and reduce weight stigma. Topics targeted the six core processes of ACT: cognitive defusion (distancing from thoughts and cognitions), acceptance (active awareness and acceptance of one's private events e.g. feelings, sensations); mindfulness (non-judgemental presence); self-as context (i.e. contacting the aspect of oneself responsible for observing thoughts, feelings, and actions) values; committed action (action linked to values). Results at treatment completion revealed significant improvements in internalised weight stigma, emotional eating, weight management behaviours including diet and exercise, and depression and quality of life, with gains maintained at three-month follow-up. Results also demonstrated a non-significant trend of weight loss at post-intervention, with 40% of participants experiencing weight loss of at least five pounds (2.27 kilograms).

The findings provide evidence for the efficacy of ACT to reduce internalised weight stigma and its associated negative effects, through various techniques including those designed to reduce experiential avoidance and increase psychological flexibility in the context of weight-stigma. In addition to core components of ACT, there is growing interest in a further factor implicated in the efficacy of ACT to elicit change, which involves the role of self-compassion. Several researchers have purported that self-compassion is implicit in ACT, particularly in regard to processes designed to develop a more flexible and accepting way of relating to oneself (Luoma & Platt, 2015; Tirch, Schoendorff, & Silberstein, 2014). Research in this area is limited thus far, however, studies have indeed found self-compassion to play a significant mediating role in the effect of outcomes of ACT interventions including studies involving individuals with clinical perfectionism (i.e., decreased concern over mistakes; Ong et al., 2019); and

patients with chronic pain (i.e., improved pain-related anxiety, depression, disability, and medical visits; Vowles, Witkiewitz, Sowden & Ashworth, 2014). Neither of these ACT programs taught self-compassion to participants directly, suggesting that to some extent, ACT interventions may produce therapeutic gains through promoting self-compassion implicitly. While self-compassion may be impacting on outcomes for ACT programs indirectly, in the context of weight stigma where individuals can be highly self-critical and shame-prone, a more direct and focused approach to developing self-compassion is worthy of empirical investigation.

Only one program designed to reduce the effects of weight stigma has explicitly included a self-compassion component. An ACT program, known as Kg-Free, incorporated mindfulness and a self-compassion component, and aimed to decrease internalised weight stigma and unhealthy eating behaviours, and increase quality of life (Palmeira, Pinto-Gouveia, & Cunha, 2017). A total of 73 women in Portugal with overweight or obesity who were enrolled in a nutritional weight loss treatment at medical care units were recruited in the pilot study. Participants were randomised to either active intervention, which involved attending Kg-Free program while maintaining treatment as usual (i.e., participants continued to attend medical and nutritional treatment for weight loss), or a control group which included treatment as usual. The program for the intervention group comprised 10 weekly group sessions, with two additional fortnightly booster sessions (2.5 hours each). Participants were assessed at pre- and post-intervention. The program included established ACT and mindfulness-based protocols for individuals with eating and weight-based problems, as well as a self-compassion element. Components included: psychoeducation on mindfulness, mindful eating, self-criticism; several ACT-based strategies, many of which incorporate mindfulness, including emotion regulation, values identification, promoting acceptance,

defusion strategies, and distress tolerance; as well as education and promotion of self-compassion. Booster sessions included mindfulness and acceptance activities, as well as relapse prevention. Results indicated that compared to controls, those in Kg-Free showed a significantly greater reduction in internalised weight stigma, experiential avoidance, self-criticism and BMI (i.e., participants in Kg-Free lost 1.15kgs more than participants in the control condition), as well as significantly greater increases in healthy behaviours and quality of life. No significant between group differences in self-compassion were found, which the authors suggest may have been due to the relatively smaller focus on self-compassion in the later stages of the intervention.

A subsequent study was conducted which sought to further examine the efficacy of the Kg-Free program by exploring follow-up results and investigating underlying psychological mechanisms of change (Pinto-Gouveia et al., 2019). The study aimed to examine change within the intervention group, and no control group was included. Similar recruitment procedures to the original study were followed, and data from a sample of 53 females in Portugal with overweight and obesity were included for analysis. Assessment was conducted at pre- and post-intervention and at 3-month follow-up. Results supported previous findings, with significant improvements in internalised weight stigma, shame, self-judgement, experiential avoidance, emotional eating, quality of life, self-compassion, mindfulness, and BMI found at post-intervention, with improvements maintained at follow-up. Moreover, shame and self-criticism were found to mediate changes in health-related outcomes; and mindfulness, self-compassion and experiential avoidance mediated changes in eating/weight-related outcomes. Regarding weight stigma specifically, results indicated that reductions in internalised weight stigma were mediated by decreased shame, self-criticism, weight-

related experiential avoidance, and increased mindfulness and self-compassion at post-intervention.

Altogether, results of studies designed to reduce the effects of weight stigma have supported the premise that internalised weight stigma is malleable through targeted intervention. Additionally, they have provided preliminary support for the use of interventions to reduce internalised weight stigma, and its associated negative outcomes, and improve quality of life. Importantly, a consideration of the research in this area suggests that self-compassion may be a common thread to the success of the published interventions currently available for weight stigma, and has indeed been identified as a potential mechanism of change. For example, the program, KG-Free (Palmeira et al., 2017) included a component of self-compassion, and results indicated that self-compassion played a role in reducing the effects of internalised weight stigma. However, multiple treatment components in larger interventions are likely to interact in complex ways, so the specific and unique contribution of self-compassion to enhancing weight stigma remains unclear.

One way of identifying the specific and individual contribution of self-compassion as a therapeutic strategy for weight stigma is to examine the effects of interventions designed with a more comprehensive and explicit focus on self-compassion. Indeed, as also argued by Palmeira and colleagues (2019), additional focus on self-compassion may benefit programs designed to alleviate the effects of weight stigma. As such, the development and evaluation of such programs warrant further investigation.

Summary

In summary, this chapter discussed key findings from the field of weight stigma research, which has overwhelmingly indicated that weight stigma is detrimental to the

lives of individuals, particularly women, with overweight and obesity. From this chapter, it is evident that weight stigma is a highly prevalent and distressing experience, and one that is associated with many psychosocial difficulties. As outlined above, there is evidence implicating internalised weight stigma in the relationship between weight stigma from external sources and several associated harmful effects, including decreased mental health, weight and body-related difficulties, and reduced quality of life. Fortunately, there is evidence indicating the malleability and possible treatment of internalised weight stigma. As noted, there are a limited number of treatment programs currently available, the majority of which have used an ACT framework, with one program utilising a CBT approach to reducing the effects of weight stigma. A review of current evidence indicates that self-compassion plays an inherent role in treatment efficacy, and that compassion-focused interventions may add an extra dimension to the pursuit of alleviating the effects of weight stigma for individuals with overweight and obesity. Further evidence supporting this argument is presented in Chapter 2.

Chapter 2: The Science of Self-Compassion

The concept of compassion can be understood as an orientation of the mind that has existed in Eastern religious and philosophical thought for thousands of years (Tsering, 2006). Over the past several decades there has been increased interest and research regarding the concept of compassion, and self-compassion specifically, among the Western psychological community (Gilbert, 2009; Neff, 2003a). The aim of this chapter is to introduce the concept of self-compassion, and present empirical evidence which increasingly demonstrates the benefits of self-compassion for health and well-being. Evidence for the malleability of self-compassion is also discussed, as well as a review of empirically supported interventions designed to assist individuals develop their capacity for self-compassion. A key aim of this chapter is to highlight gaps in the existing literature, and it is argued that the role of self-compassion within the context of weight stigma is an important and yet understudied area of investigation. Specifically, it is argued that self-compassion can serve to buffer the negative effects of weight stigma, and that compassion-focused interventions designed to alleviate the effects of weight stigma for individuals with overweight and obesity are warranted. Firstly, however, an understanding of self-compassion must be established.

Definitions of Self-Compassion

In the field of compassion research, self-compassion is broadly described as the ability to extend compassion to oneself, particularly during instances of suffering, despite perceived inadequacies, flaws or failures (Feldman & Kuyken, 2011; Gilbert, 2010; Neff, 2003a) While it appears that this general understanding of self-compassion is widely accepted, some differences can be observed among definitions offered by leading researchers in the field. The most widely cited definition of self-compassion within the field of compassion research has been proposed by Neff (2003). According to

Neff (2003), self-compassion involves "being touched by and open to one's own suffering, not avoiding or disconnecting from it, generating the desire to alleviate one's suffering and to heal oneself with kindness" (p. 87). Neff (2003a) has conceptualised self-compassion as a multidimensional construct, which consists of key components involving self-kindness versus self-judgement; mindfulness versus over-identification; and shared humanity versus isolation (Neff, 2003a). Self-kindness refers to the ability to accept imperfection in ourselves and our circumstances, and to engage in supportive actions and calming inner dialogue, rather than being harshly judgemental and critical (Neff, 2003a; Gilbert, Clarke, Hemple, Miles & Irons, 2004). Common humanity involves recognising that mistakes, imperfections and failures are all part of the human experience. Rather than feeling that we are alone when experiencing failure or weakness, which may lead to further suffering, it is instead understood that struggles are experienced universally, and thus we may feel more connected to others during challenging times. Finally, mindfulness involves being aware of the reality of the present moment, particularly in regards to one's own suffering.

Gilbert (2014), another leading figure within the field of compassion research, describes compassion as "the sensitivity to suffering in self and others, with a commitment to try to alleviate and prevent it" (p. 19). According to Gilbert (2005, 2009), self-compassion is best understood within the broader context of compassion, which involves dimensions of care and soothing that can flow from self to self (i.e,. receipt of compassion from oneself towards oneself); self to other (i.e., extending compassion to others); and other to self (i.e., receipt of compassion from others). Based on evolutionary, attachment, and neuroscientific research, Gilbert (2009; 2014) theorised that the capacity for self-compassion has evolved from our ability to care for others. Gilbert asserts that self-compassion is a complex task which involves individuals

observing and responding to one's own needs, as they would for another beloved individual. More specifically, Gilbert posits that self-compassion involves several innate capacities which have the potential to be developed, including: the ability to recognise, have empathic understanding for, tolerate, and be motivated to engage non-judgementally with our suffering; as well as having the capacity to take compassionate action to alleviate one's own suffering when it arises (Gilbert et al., 2014, 2017).

Such views highlight differences in the conceptualisation of self-compassion, and there is debate in the field as to how best to define and therefore measure the construct. However, what is common to all definitions is the acknowledgment that self-compassion is a complex construct, and fundamentally involves mindfully acknowledging our own suffering, and behaving towards oneself with kindness, self-soothing and reassurance during times of difficulty, despite perceived personal flaws (Gilbert, 2010; Neff, 2003a). Varying definitions can together serve to increase our understanding of the different elements of the self-compassion construct. For example, both Neff and Gilbert agree that self-compassion involves the capacity for self-kindness, and Gilbert's view adds to this by highlighting the importance of first being motivated and willing to behave self-compassionately. Also, Neff's model informs us that self-compassion is a multidimensional concept comprising different yet interrelated parts, but the approach appears to be lacking an underlying theoretical model to explain the nature of self-compassion. Gilbert's model strengthens Neff's conceptualisation by providing a rich theoretical framework through which we can better understand the nature of compassion, and our capacity to be self-compassionate due to evolved human care-giving systems. Therefore, while there are variations in definitions of self-compassion, the different views most prominent in the current literature are indeed

complementary and serve to increase our knowledge in the area of self-compassion research.

Barriers to Self-Compassion

It would seem intuitive that treating yourself with kindness and nurturing when faced with life's challenges would be helpful for most people. However, research has shown that individuals hold different beliefs about self-compassion, and it is not uncommon for individuals to be fearful of, or resist, directing compassion toward the self. Several reasons for this have been identified in the literature (Gilbert & Procter, 2006; Kirby, Day, & Sagar, 2019). For example, individuals may believe that they are undeserving of receiving love and kindness from themselves and others, which can be the case particularly among those with a history of adversity and criticism from primary caregivers (Gilbert & Procter, 2006). Individuals may also be unfamiliar with, or misunderstand, the meaning and value of compassion. For example, self-compassion can be misunderstood as being 'weak' or 'soft' among clinical and community populations (Gilbert, 2005; Robinson et al., 2016). On the contrary, exercising compassion towards oneself requires courage, psychological flexibility, and mental strength (Gilbert, 2010). Self-compassion involves several emotional, cognitive and motivational factors, and requires the ability to be sensitive and mindfully aware of one's own suffering (e.g., perceived failures) (Gilbert, 2014; Gilbert, 2017; Neff, 2015). As noted above, it also involves the difficult task of tolerating distress, coupled with the willingness to engage in compassionate action to alleviate this distress (Gilbert 2010, Gilbert et al., 2017).

Additionally, some individuals have positive beliefs about self-criticism, and fear that without an inner critic they will become complacent, self-indulgent, and less motivated for self-improvement (Gilbert, McEwan, Matos, & Rivis, 2011). However,

self-compassion is not to be confused with complacency. Although it may seem somewhat paradoxical that a more accepting approach would increase self-improvement motivation, such findings have been demonstrated in the literature (Magnus, Kowalski, & McHugh, 2010). For instance, Brienes and Chen (2012) conducted a series of studies and found that when considering past weaknesses, failures or previous indiscretions, individuals who were asked to reflect using compassion and understanding (self-compassion condition) reported greater motivation to make positive changes, and dedicated more time to practicing a difficult task, compared to individuals asked to consider their strengths (self-esteem group), or to reflect on an enjoyable hobby (control). Of note, Neff and Vonk (2009) makes the distinction between self-compassion and self-esteem, suggesting that high self-esteem is often contingent upon successful performance and comparisons with others, whereas self-compassion is not dependent upon external circumstances.

A further study by Moffitt, Neumann and Williamson (2018) highlights the role of self-compassion on motivation. Specifically, in this study the authors investigated the efficacy of self-compassion and self-esteem writing tasks to improve self-improvement motivation and body dissatisfaction for a group of 153 female participants. During the study, participants were exposed to a threatening body image scenario (i.e., exposure to thin body 'ideal' images), and then randomised to either a self-esteem, self-compassion, or positive distraction control group. Results indicated that those who engaged in a self-compassionate writing task condition experienced significantly higher self-improvement motivation (as well as significantly lower weight dissatisfaction and appearance dissatisfaction), compared to those in the self-esteem and control groups. Research in this area tells us that rather than inducing complacency, practicing a more encouraging, supportive and kind approach to the self may increase our ability to make positive life

changes. As discussed in subsequent sections, self-compassion is associated with a range of psychosocial benefits and is malleable with intervention. Thus, as noted by Gilbert (2010), understanding the benefits of, and barriers to, compassion has important implications for clinical practice, in terms of assisting individuals to effectively identify beliefs and fears, and overcome obstacles to becoming more self-compassionate.

Benefits of Self-Compassion

Psychological benefits.

There is evidence demonstrating that self-compassion is a positive predictor of psychological health for individuals across a wide age spectrum, including adolescents, young adults, and the elderly (Homan, 2016; Marsh, Chan, & MacBeth, 2018). For example, a meta-analysis involving 79 samples with 16,416 participants found that self-compassion was positively related to psychological well-being (r = .62), cognitive well-being (r = .47), positive affect well-being (r = .39), and overall well-being (r = .47) (Zessin et al., 2015). Another meta-analysis involving 20 participant samples was conducted by MacBeth and Gumley (2012) and found that higher self-compassion was related to lower levels of anxiety (r = -.51), depression (r = -.52), and stress (r = -0.54). Studies have also found an inverse association between self-compassion and substance use disorder risk (Phelps, Paniagua, Willcockson, & Potter, 2018); bipolar disorder (Døssing et al., 2015), and PTSD symptoms (Hiraoka et al., 2015). Finally, self-compassion has been shown to be positively associated with a diverse range of positive outcomes including happiness, optimism, creativity, personal initiative, curiosity and exploration, life satisfaction, and greater relationship satisfaction (Neff & Beretvas, 2013; Neff & Pommier, 2013; Neff, Rude, Kirkpatrick, 2007; Yarnell & Neff, 2013; Zabelina & Robinson, 2010; Zhang, Chen & Shakur, 2020).

Not only is self-compassion linked to psychological health in a variety of ways, benefits have also been found for numerous populations including healthy individuals, and among patients with medical issues (Pinto-Gouveai, Duarte, Matos, & Fraquas, 2014). In the context of cancer, studies have found that oncology patients (e.g., breast, lung, prostate) with higher levels of self-compassion reported lower levels of depression, anxiety and stress symptoms, and greater quality of life, compared to patients with lower self-compassion (Gillanders, Sinclair, Maclean, & Jardine, 2015; Pinto-Gouveia et al., 2014). Higher self-compassion has also been found to play a protective role for family carers of lung cancer patients suffering from caregiver stress (Chen-Hsieh et al., 2019). Further studies involving populations suffering a diverse range of medical conditions and illnesses have also demonstrated psychological benefits associated with self-compassion. For example, self-compassion is positively associated with adaptive health management behaviours (e.g., medication adherence, blood glucose monitoring, physical activity and dietary control), and psychological well-being among individuals with diabetes (Ferrari, Dal Cin, & Steele, 2017). Higher self-compassion has also been linked to reduced anxiety, depression, and greater resilience and quality of life, among individuals with epilepsy and psychogenic nonepileptic seizures (Baker, Caswell & Eccles, 2019; Clegg, Sirois & Reuber, 2019). Additionally, self-compassion is associated with reduced pain disability, pain catastrophising, and negative affect, as well as greater positive affect, among individuals with obesity and persistent pain (Wren et al., 2012).

Self-compassionate individuals also experience greater resilience and ability to cope with stress. Empirical studies indicate that self-compassion can foster emotional well-being and adaptive coping in the face of stressful events, both in daily life (Barlow et al. 2017; Kyeong 2013; Terry et al. 2013), and in acutely stressful situations that are

induced experimentally (Arch, Landy, & Brown, 2016; Johnson & O'Brien 2013; Leary et al. 2007; Moffitt et al., 2018; Neff et al., 2007). Higher self-compassion is associated with greater emotion-focused and less avoidant coping strategies (i.e., denial and mental disengagement) when dealing with failure (Neff, Hsieh, & Dejitterat, 2005); a lesser tendency to suppress unwanted thoughts and emotions (Neff, 2003a); greater ability to engage in positive cognitive restructuring (Leary, Tate, Adams, Allen & Hancock, 2007); increased adaptive coping (e.g., positive reframing, acceptance); and decreased engagement in maladaptive coping in the context of chronic stress (Sirois, Molnar, & Hirsch, 2015).

Higher self-compassion is associated with a greater ability to cope effectively with difficult and challenging situations across various contexts. Indeed, greater self-compassion is linked to greater coping among individuals experiencing divorce (Sbarra, Smith, & Mehl, 2012); medical trainees (Richardson et al. 2016); psychologist trainees (Finlay-Jones, Rees, & Kane, 2015); undergraduate students (Neff, Hsieh, & Dejiterat, 2005); in the context of challenges and pressure experienced by athletes and sporting professionals (Mosewich, Sabiston, Kowalski, Gaudreau, & Crocker, 2019; and among individuals experiencing mild and severe health crises (Sirois et al., 2015; Terry, Leary, Mehta & Henderson, 2013). There is also psychophysiological evidence demonstrating a link between self-compassion and the ability to cope with challenging situations (Kirby, Doty, Petrocchi, & Gilbert, 2017). For example, a study conducted by Breines and colleagues (2015) assessed levels of salivary alpha-amylase (i.e., a stress hormone found in saliva, and a marker of sympathetic nervous system activation) following an induced stressful situation involving a novel and repeated public speaking task. Results indicated that participants higher in self-compassion demonstrated lower salivary alpha-amylase, indicating a

lower physiological impact of stress. In sum, there is now overwhelming evidence demonstrating the benefits associated with treating oneself with compassion. A consistent body of research has revealed that the capacity to engage in self-compassion is associated with mental health and well-being, and is a powerful resource which can enable us to cope effectively when faced with life's challenges.

Body image and weight-related issues.

In addition to the abovementioned positive outcomes, self-compassion is associated with a healthier evaluation and appreciation of one's body. Indeed, studies have indicated that self-compassion is associated with a healthier body image in clinical and non-clinical populations, as well as among women at risk of experiencing body image disturbance in the context of breast cancer (Przezdziecki et al., 2013; Schoenefeld & Webb, 2013). Self-compassion has also been associated with greater body appreciation and lower body contingent self-worth (Homan & Tylka, 2015), greater body image flexibility (Schoenefeld & Webb, 2013), lower body dissatisfaction (Braun, Park, & Gorin, 2016), and lower body shame (Breines, Toole, Tu, & Chen, 2014; Daye, Webb, & Jafari, 2014). It appears that the ability to self-soothe and direct compassion to the self when negative body-related thoughts or emotions arise, may assist individuals to develop a healthier body image and greater acceptance of one's own body despite perceived flaws or imperfections (Albertson, Neff, & Dill-Shackleford, 2015).

Research also demonstrates that self-compassion is negatively associated with weight and eating-related problems, including weight regulation, and may be a protective factor for eating disorder pathology (Mantzios, Wilson, Linnell, & Morris, 2014; Webb & Forman, 2013). Higher self-compassion has been found to predict lower BMI (Taylor, Daiss, & Kreitsch, 2015), and negatively predict weight gain (Mantzios et al., 2014). Several studies with both clinical eating disorder patients and non-clinical

populations, have found negative associations between self-compassion and eating disorder pathology (Braun et al., 2016). Indeed, a large systematic review of 28 studies investigating links between self-compassion, body image, and disordered eating found significant support for self-compassion as a protective factor against negative body image and eating disorder pathology (Braun et al., 2016). Importantly, studies have found self-compassion to negatively predict disordered eating, beyond that of BMI and age (Geller, Srikameswaran, & Zelichowska, 2015). Studies have also found that eating disorder patients demonstrate lower self-compassion than non-clinical participants (Kelly, Vimalakanthan, & Carter, 2014). Low levels of self-compassion have also been linked to poorer treatment outcomes for individuals with disordered eating (Kelly, Carter, Zuroff, & Borairi, 2013). These findings highlight the potential for self-compassion to play a role in terms of alleviating suffering for individuals in the context of body and weight-related issues.

Mechanisms of Change

The research outlined above demonstrates that self-compassion promotes a range of psychosocial benefits. It is therefore of interest to researchers to understand the mechanisms through which self-compassion may exert its effects. There is evidence indicating that emotion regulation may be one such factor. Emotion regulation refers to cognitive processes that influence an individual's ability to effectively manage and respond to emotional experiences (Gratz & Roemer, 2004). Self-compassion has been hypothesised to foster psychological health by promoting adaptive emotion regulation, particularly when faced when stressful and challenging situations (Finlay-Jones, Rees, & Kane, 2015; Finlay-Jones, 2017). Rather than engaging in unhelpful emotional patterns such as worry and rumination, a more self-compassionate approach involves having a balanced, mindful and non-judgemental response to one's difficulties, as well

as actively directing warmth and reassurance towards the self, which may attenuate stress and facilitate well-being. Empirical evidence supports this view. In one study involving 100 individuals with a history of recurrent depression, the negative relationship between self-compassion and depressive symptoms was mediated by emotion regulation (i.e., brooding rumination, experiential avoidance and acceptance) (Bakker, Cox, Hubley, & Owens). Additionally, a systematic review of five studies involving community and clinical samples, demonstrated that self-compassion had a positive effect on mental health outcomes of stress and clinical depression by facilitating adaptive emotional regulation (i.e., enhanced tolerance and processing of negative emotions) (Inwood & Ferrari 2018). Further studies have investigated the effect of experimentally induced self-compassion on both cortisol and heart-rate variability, which is an index of parasympathetic nervous system functioning and is associated with adaptive emotion regulation and the ability to self-soothe when experiencing distress (Holzman & Bridgett 2017; Kirby et al., 2017). For example, findings from a study by Rockliff and colleagues (2008) indicated that participants who engaged in a compassion-focused imagery task had lower levels of cortisol and greater heart rate variability compared to a control group (Rockliff, Gilbert, McEwan, Lightman, & Glover, 2008).

There is also research which has sought to understand how self-compassion may protect against disordered eating and overweight more specifically. A review of the literature indicates self-compassion may assist in several ways. According to the large-scale review by Braun et al. (2016), self-compassion is protective in terms of: preventing the onset of risk factors associated eating disorders; moderating risk factors associated with eating disorder pathology; and decreasing outcomes associated with eating disorders directly though compassion training. Studies also demonstrate that the

ability to direct compassion towards the self serves to disrupt eating disorder cognitions and emotions that precipitate binge eating (Goss & Alan; 2010, 2011). Further studies also indicate that treating oneself with self-compassion may lead to eating and weight regulation due to: a greater capacity to engage in adaptive emotion regulation; increased intrinsic motivation to exercise (Magnus, Kowalski, & McHugh, 2010); improved eating behaviours (Schoenefeld & Webb, 2013; Webb & Forman, 2013); and being more likely to adhere to a diet when faced with set-backs (Adams & Leary, 2007). Further research is needed to increase our understanding of underlying mechanisms associated with self-compassion. However, studies thus far provide evidence which suggests that self-compassion exerts its effects on well-being in various ways, with several studies pointing to its influence on one's ability to more effectively regulate emotions when faced with difficult situations. The ability to effectively manage emotional experiences is particularly important for individuals who experience stressful stigmatising situations.

Self-Compassion and Stigma

Research focusing on the effects of self-compassion in the context of stigma is limited. However, preliminary findings from studies investigating the effects of self-compassion among different stigmatised populations have revealed that self-compassion can be an effective protective factor. For example, an online study involving 777 males investigated the relative moderating effects of self-compassion in the association between college men's masculine gender role stress (MGRS) (i.e., stress related to violations of stereotypical masculine role norms); and self-stigma (Booth, McDermott, Cheng, & Borgogna, 2019). Results indicated that self-compassion was negatively associated with both men's gender role stress and self-stigma, and that self-compassion moderated the association between MGRS and self-stigma, such that the association

between gender role stress and self-stigma was significantly weaker among those participants with higher levels of self-compassion. The authors concluded that self-compassion may serve as a buffer against self-stigma associated with a stressful experience of violating traditional masculine norms.

The role of self-compassion for stigmatised individuals has also been investigated in the context of sexual minorities. A study involving 213 adults not identifying as heterosexual investigated potential mediating roles of self-compassion, internalised weight stigma and authenticity, in the relationship between public stigma and quality of life (Fredrick, Williams, LaDuke, 2019). Findings revealed that self-compassion was negatively associated with internalised stigma and positively associated with quality of life. Furthermore, stigma (both public and internalised) was not directly related to quality of life but was indirectly related to quality of life through authenticity and self-compassion.

Another study investigated the possible mediating roles of self-compassion and bias-based bullying in the relationship between sexual and/or gender minority adolescents (SGMi) and those not deemed to be minorities (SGMa), and outcomes of anxiety and depressive symptoms (Vigna, Poehlmann-Tynan, & Koenig, 2018). Findings revealed that self-compassion mediated the relationship between minority identity and mental health symptomology (i.e., anxiety and depressive symptoms). Results also indicated that SGMi youth reported significantly lower self-compassion than their SGMa peers, and that self-compassion accounted for more variance in depressive symptoms than bias-based bullying. This means that if sexual minority youth struggle to experience self-compassion, this may impact on their mental health even more than being exposed to stigma messages. Results also suggest that minority youth

with higher self compassion may be more resilient to the negative effects of stigma on mental health.

The protective role of self-compassion when faced with stigma has also been observed in the context of chronic health problems. A study by Skinta and colleagues (2019) investigated the role of self-compassion in a sample of 90 gay males living with HIV. Of note, research indicates that gay men living with HIV (MLWH) are often stigmatised for both their sexual preferences and their illness, and as a result may internalise homophobic beliefs (Berger, Ferrans, & Lashley, 2001; Skinta et al. 2019). The authors found that greater HIV related stigma was indirectly associated with greater mental health problems (i.e., depression and anxiety) and increased levels of internalised homophobia. Moreover, self-compassion was found to moderate this mediational relationship, such that the indirect effect of HIV-stigma on psychological well-being was only significant for those with low levels of self-compassion. This is important because it provides evidence which indicates that self-compassion can assist to reduce the impact of HIV-stigma on well-being for men living with HIV.

Another study aimed to examine the possible moderating roles of self-compassion and mindfulness on the relationship between self-stigma content (i.e., extent to which stigma is endorsed) and frequency, and subjective well-being in samples of individuals living with various mental illnesses including depression, bipolar disorder, schizophrenia (n = 169) and HIV (n = 291) (Yang, & Mak, 2017). The results suggested that mindfulness moderated the relationship between self-stigma process and life satisfaction among individuals with mental illness, and that self-compassion moderated the relationship between self-stigma and life satisfaction among individuals living with HIV. This finding indicates that for individuals with higher self-compassion,

stigmatising thoughts have less of an impact on their well-being, compared to those who are less compassionate towards themselves.

Finally, benefits of self-compassion have been revealed in the context of stigma among family caregivers of children with a developmental disorder. In a study involving 180 parents of children with autistic spectrum disorders, it was found that the relationship between affiliate stigma (i.e. the internalisation of negative evaluations toward parents and children with stigmatising conditions) and psychological distress was only significant for parents with low levels of self-compassion (Wong, Mak, & Liao, 2016). Such findings in this area of research are important, as together they provide evidence which demonstrates that self-compassion can serve as a buffer against the harmful effects of stigma. There is also research which supports self-compassion as a protective factor for individuals who are stigmatised due to their weight.

Self-Compassion and Weight Stigma

Despite accumulating academic literature in the fields of weight stigma and self-compassion research, limited research has merged these important areas of enquiry. Although limited, the available evidence has suggested that self-compassion may potentially buffer the effects of stigmatising situations for individuals with overweight and obesity. The protective role of self-compassion was demonstrated in a study of 322 females investigating the impact of recalling childhood experiences of criticism received from caregivers relating to eating, on current body shame and body consciousness (Daye et al., 2014). Results indicated that the relationship between critical messages and higher current body shame was stronger for those with lower levels of self-compassion. Another study by Hilbert et al. (2015) investigated the role of self-compassion in the relationship between internalised weight stigma and various psychological and physical health factors using a sample of 1,158 individuals with

overweight and obesity. It was found that self-compassion partially mediated the relationship between internalised weight stigma and participant's health status, quality of life, somatic symptoms and depressive symptoms. Importantly, it was found that self-compassion reduced the effect of internalised weight stigma on these outcomes by approximately 30%.

A further study sought to investigate the relationships between explicit weight bias (i.e., anti-fat attitudes, fear of fat, and willpower beliefs), body shame, fat talk (i.e., frequency of engaging in negative fat/body talk with peers), and self-compassion in a group of 309 undergraduate females of diverse weight (Webb, Fiery, & Jafari, 2016). Results indicated that self-compassion was negatively associated with body shame, fat talk, and all three components of weight bias. In addition, body shame was found to mediate the positive associations between anti-fat attitudes and engaging in fat talk after adjusting for BMI. Moreover, the significant indirect effect of anti-fat attitudes on fat talk via body shame declined with increasing levels of self-compassion. The authors concluded that self-compassion may serve to reduce the impact of weight stigma by reducing the tendency to engage self-degrading body talk, as a way of regulating body shame.

As noted in Chapter 1, weight stigma is a highly prevalent, painful and distressing experience. Studies designed to investigate the role of self-compassion in the context of stigma suggest that self-compassionate individuals may be better equipped to cope effectively with stigmatising situations. Self-compassion promotes affiliative and prosocial behaviours such as seeking social support (Gilbert, 2005), which according to Wong et al. (2019) may facilitate greater coping when faced with stigma. Evidence also demonstrates the self-regulatory quality of self-compassion, which is particularly helpful in the context of stressful and threatening situations. As noted above, self-

compassionate individuals have the capacity to provide oneself with kindness, reassurance and self-soothing despite perceived imperfections. It is therefore argued that individuals who respond to weight stigma with self-compassion, would be more likely to cope effectively, and less likely to attribute negative and derogatory stigmatising messages to the self. As the capacity for self-compassion varies from person to person, it is therefore encouraging to note that self-compassion is malleable through intervention.

The Malleability of Self-Compassion

As evidence highlighting the numerous advantages of self-compassion continues to grow, so too has scientific and clinical interest in the cultivation of self-compassion. Several programs have been developed, which have provided evidence for the malleability of self-compassion through intervention, as well as demonstrating associated psychosocial benefits. A meta-analysis of 21 randomised controlled trials (RCTs) found compassion-based interventions led to benefits for both compassion for other and compassion for oneself, as well as improved psychological outcomes such as depression, anxiety, and well-being (Kirby, Tellegan, & Steindl, 2017). Similar outcomes were found in a recent meta-analysis of 27 RCTs involving self-compassion interventions for a range of psychological problems. Large effect sizes were observed for improvements in eating behaviours and reductions in rumination, as well as moderate effects sizes for increases in self-compassion and mindfulness, and reductions in depression, anxiety, stress, and self-criticism (Ferrari et al., 2019). Additionally, a systematic review of self-compassion interventions for health behaviours conducted by Biber and Ellis (2017) found evidence for efficacy in the areas of disordered eating, physical activity, self-care behaviours and smoking cessation. Indeed, the results of this

review indicated that self-compassion interventions were as effective as other behaviour change approaches (e.g., CBT) in achieving improvements on these outcomes.

As noted in Chapter 1, several authors have suggested that self-compassion may be a contributing factor to benefits observed from participation in ACT-based interventions, although not specifically targeted in practical aspects of the intervention (Luoma & Platt, 2015; Tirch, Schoendorff, & Silberstein, 2014). In addition to approaches that may affect self-compassion indirectly, there are also programs which have an explicit focus on developing compassion for the self and others. Several programs which have been developed and investigated for their efficacy are presented below.

The Mindful Self-Compassion (MSC; Neff and Germer, 2013) program is one such intervention which has a central focus on enhancing self-compassion. Originally designed for use mostly within the general population, the program typically comprises eight 2.5 hour sessions conducted weekly, plus a half day retreat. The program aims to build skills of mindfulness and self-compassion. It includes exercises and instruction in both formal and informal self-compassion meditation techniques, based on Buddhist meditative practices, such as loving-kindness mediation, which directs individuals to have compassion for oneself and all living beings. Further components include homework assignments, and group discussions. Empirical studies have demonstrated the efficacy of the program to assist individuals to increase self-compassion (Neff & Germer, 2013; Gaiswinkler et al., 2019). As well as increased self-compassion, several other psychological and physical health benefits have been reported following completion of the program including; increased life satisfaction, mindfulness, and reduced in stress, anxiety, depression and emotional avoidance (Neff & Germer, 2013); greater reductions in depression and diabetes-related distress, (Friis, Johnson, Cutfield,

& Consedine, 2016); reduced stress, fear of cancer recurrence, loneliness, and increased mindfulness, (Brooker et al., 2019); and improvements in body appreciation, body dissatisfaction and body shame (Albertson, Neff, & Dill-Shackleford, 2014).

The Compassion Cultivation Training program (CCT; Jazaieri et al., 2013) is an alternative program which was originally developed to assist adults in the community to cultivate self-compassion. The CCT program is largely based on Buddhist meditation, but techniques have been adapted to be presented as nondenominational and secular, meaning that program content is not connected to any religion. The interactive program comprises nine weekly, 2-hour, structured sessions and daily compassion-focused meditation practice. The program aims to cultivate compassion for the self and others through mindfulness, meditation, group discussion, psychoeducation and experiential practices. Several studies, including RCTs have evaluated the effectiveness of the program in non-clinical populations, and have reported benefits including: increased compassion for the self and others (Jazaieri et al., 2013), increased mindfulness skills and happiness, decreased worry and emotional suppression (Jazaieri et al, 2014); less interpersonal conflict (Scarlet, Altmeyer, Knier, & Harpin, 2017), decreased pain levels and anger, and increased well-being (Chapin et al., 2014).

A further program, the Cognitively Based Compassion Training (CBCT) program (Pace et al., 2009) was developed for a university student population, with the aim of assisting individuals to cultivate self and other-focused compassion, and to develop emotional resilience in the face of adversity. CBCT is a 6-week program which is a secular alternative to Tibetan Buddhist meditation which aims to cultivate compassion for the self and others. Several studies, including RCTs have been conducted, results of which have supported the efficacy of the program to increase self-compassion (Gonzalez-Hernandez et al., 2018), as well as demonstrating reduced

psychosocial stress (Pace, 2009), improvements in depression, avoidance of intrusive thoughts, worry, mindfulness, and vitality (Dodds et al., 2015), and reductions in suicidal ideation (LoParo et al., 2018).

A further compassion-based program known as Attachment-Based Compassion Therapy (Garcia-Campayo, Navarro-Gil, & Demarzo, 2016), developed for Spanish-speaking countries, has also demonstrated the malleability of self-compassion through intervention. The program is primarily based on attachment theory and was designed for use in both clinical and non-clinical populations. It comprises eight weekly 2 hour sessions comprising psychoeducation as well as a variety of practices designed to cultivate self-compassion and address maladaptive attachment. Studies have demonstrated its efficacy to assist individuals to increase self-compassion (Montero-Marin et al., 2018), as well as benefits such as increased mindfulness, decreased psychological disturbance, anxiety and experiential avoidance (Montero-Marin, 2020; Montero-Marin et al., 2018); reduced depression, greater psychological flexibility and increased quality of life (Montero-Marin et al., 2018).

Each of the programs outlined above provided researchers with evidence of the malleability of self-compassion through intervention. All approaches noted are structured group programs and were developed with the aim of targeting compassion explicitly. Also common to all, to varying degrees, has been the influence of Buddhist philosophy and practice. Differences in the length of program are noted, and there is some variation in specific content. With the exception of Attachment-Based Compassion Therapy, the programs were not originally developed as therapies for treatment in clinical populations. They have, nevertheless, demonstrated efficacy to increase self-compassion among community and some non-clinical populations.

In addition to manualised protocols, a further approach, known as Compassion Focused Therapy (CFT) was developed by Gilbert (2009, 2014; Gilbert & Irons, 2005) to assist individuals cultivate compassion both for the self and others. CFT was originally designed for individuals suffering complex mental health issues, and often presenting with high levels of self-criticism and shame. As a psychotherapy model developed originally for clinical populations, CFT differs from the structured programs noted above, in that it allows for flexibility in terms of the way it can be adapted and used for various clients, including clinical populations. The identified advancements of CFT will be further discussed in detail below. It also differs in terms of its underlying theory. CFT is a secular protocol to teaching compassion, which is informed by Buddhist influences, as well as evolutionary and social psychology, attachment theory, and contemporary neuroscience.

According to Gilbert (2010), CFT is well suited for individuals who may struggle to experience emotional change in therapy. Indeed, CFT was created by Gilbert (2009) following clinical observations of highly self-critical individuals who continued to experience a hostile internal stream of thinking when attempting to use cognitive reappraisal strategies often used in Cognitive Behaviour Therapy. Gilbert (2005) asserts that individuals can train their mind to improve well-being by learning how to respond to challenging situations and emotions with self-compassion. The underlying theory of Gilbert's approach involves the notion that compassion may facilitate adaptive emotion regulation (Gilbert, 2014). According to CFT principles, when faced with various situations (i.e., external events or internal stimuli), three main emotion regulation systems can be activated. Gilbert (2014) posits that self-compassion can be understood in the context of these three key systems. The first is the soothing and safeness system. This system is associated with affiliation and feelings of being calm, safe, securely

attached, and affiliated with others, and involves hormones such as oxytocin, as well as activation of the parasympathetic nervous system. The second emotion regulation system is the drive and excitement system, a system that is associated with motivation and resource-seeking and that is linked to the reward system and the release of dopamine. The third emotion regulation system is the threat-protection system that is linked to anger, anxiety and disgust. Cortisol plays a role in this system and involves the regulation of adrenaline (Gilbert, 2009; Gilbert, 2014).

CFT aims to assist individuals to cultivate a compassionate relationship with the self by developing one's soothing, care-giving emotion regulation system. According to Gilbert (2014), self-compassion protects against adverse clinical psychological outcomes by tapping into our soothing care-giving system, and serves to reduce threat system activity, and restores balance among the three emotion regulation systems. Indeed, studies have demonstrated the effect of engaging in compassionate practices to elicit adaptive parasympathetic responses, and reduced sympathetic nervous system activity (Arch, 2014; Matos, 2017). As such, CFT utilises a range of strategies designed to stimulate feelings of soothing and safeness, and address imbalance among the three affect regulation systems (Gilbert, 2014).

In the CFT paradigm, the process of training the mind to more explicitly experience compassion (i.e., receiving compassion from others, directing compassion toward others, and generating compassion for the self) is referred to as compassionate mind training (CMT). CFT assists individuals to cultivate compassionate attributes which are aligned with the understanding that self-compassion involves an awareness and sensitivity to one's own suffering, and a commitment to alleviate it. In line with this understanding, CFT offers several strategies and skills including: psychoeducation about the brain's evolution; exploration of fears and resistance to compassion; and

strategies such as compassionate imagery, behavioural experiments, compassionate-focused writing tasks, soothing rhythm breathing, and relaxation techniques, designed to activate the soothing system. CFT is appropriate for use as either a stand-alone treatment or as an adjunct to other theoretical approaches, such as CBT, and can be delivered in either an individual or group format (Gilbert, 2014). CFT group interventions (CMT) are typically structured as 8 to 12 weekly 2- hour sessions, but CFT group programs have been adapted for various presenting issues and range from 1 session to over 20 sessions. Bates (2005) asserts that teaching compassion in a group setting is advantageous, as it offers opportunities to practice and express compassion among group members. Similarly, Gilbert (2010) states that group-based CFT offers several benefits as the group format facilitates the identification of common human conditions (i.e., common struggles and suffering) and provides an opportunity for compassionate practice with others.

CFT has been successfully adapted for use with different populations and is the most extensively evaluated approach to developing self-compassion among both clinical and community samples. Intervention studies that form the basis for its empirical backing have included RCTs, uncontrolled trials, case studies, group and individual interventions, with most conducted face-to-face, and some conducted as online or digital interventions. CFT has been found to be effective in terms of increasing self-compassion in many studies (Kirby et al., 2017), and a widely used Self Compassion Scale (Neff, 2003a) has been utilised in several CFT studies for this purpose (e.g. Arimitsu, 2016; Beaumont, Irons, Tayner, & Dagnall, 2016; Chau et al., 2020; Frostadottie & Dorjee, 2019; Gharraee, Tajrishi, Farani, Bolhari, & Farahani, 2018;. Horcajo, Quiles, & Quiles, 2019; Kelly & Carter, 2015; Kelly, Wisniewski, Martin-

Wagar, & Hoffman, 2017; Mitchell, Whittingham, Steindl, & Kirby, 2018; Parry & Malpu, 2017).

In addition to increasing self-compassion, several studies have demonstrated the efficacy of CFT interventions to alleviate a range of psychological issues, such as depression, anxiety and stress. This was highlighted in a systematic review of 14 CFT interventions studies which concluded that CFT can be effective for the treatment of psychological disorders, particularly among highly self-critical individuals (Leaviss and Uttley, 2015). Moreover, increased self-compassion and psychosocial benefits have been observed for various populations including: individuals with high self-criticism (Gilbert, 2004); outpatients with chronic and severe mental health problems (Gilbert, 2006); individuals with complex mental health issues including schizophrenia, bipolar disorder, and personality disorders (Ascone, Sundag, Schlier, & Lincoln, 2017); Braehler et al., 2013; Judge, Cleghorn, McEwan, & Gilbert, 2012; Laithwaite et al., 2009); Lucre & Corten, 2013; Mayhew & Gilbert, 2008); individuals with chronic acne (Kelly, Zuroff, Shapira, 2009); smokers seeking to quit (Kelly, Zuroff, Foa, & Gilbert, 2010); individuals with acquired brain injury (Ashworth, Gracey, & Gilbert, 2011); fire personnel with trauma symptoms (Beaumont, Jenkins, & Galpin, 2012); women with breast cancer (Sadeghi, Yazdi-Ravandi, & Pirnia, 2018); school teachers and support staff (Maratos, 2019), and mothers of infants (Mitchell et al., 2018).

Table 1 summarises a selection of recent CFT intervention studies conducted in the past approximately five years. The table illustrates the utility of CFT for different populations and presenting issues, including studies which aimed to increase self-compassion and alleviate a number outcomes including, psychological distress, anxiety, depression, stress, shame; and eating and weight-related issues. It is evident from Table 1, that several CFT studies have been evaluated using RCT designs and these

intervention studies have found that compared to wait list control groups or treatment as usual, CFT interventions achieved significant improvements in self-compassion, negative thoughts and emotions, fears of self-compassion, fears of receiving compassion, shame, psychological inflexibility, self-criticism, and severity of social anxiety symptoms. As shown, there have been some CFT programs developed specifically to target weight and eating issues. These studies have included digital self-compassion adjuncts to weight loss groups, and group programs for individuals with eating disorders (Duarte et al., 2019). Two RCTs have been conducted to evaluate CFT for managing eating disorders, both of which observed greater improvements in self-compassion and reduced eating disorder pathology compared to wait list or treatment-as-usual control groups. As revealed in Table 1, no CFT programs have been developed to target stigma, and more specifically, CFT programs for weight stigmatised populations are yet to be developed.

Table 1

Aims and Outcomes of CFT Studies

Study (first author, year)	Sample Characteristics and Size	Aim of Study	Design[a]	Key Results
Gale, 2014	Adult individual with eating disorders. n = 139	To evaluate the use of CFT to improve eating disorder symptomatology.	RM Four 2-hour weekly psychoeducation + 20 weekly sessions CFT F/U = Nil	- Significant improvement in eating disorder symptoms. - People with bulimia nervosa improved significantly more than people with anorexia nervosa. - Significant reduction of psychological distress.
Kelly, 2015	Adult individuals with eating disorders. n = 15	To compare a CFT-based self-help intervention for binge eating disorder to a behaviourally based intervention.	RCT T-Group 1: CFT session + 3-weeks of self-guided practice T-Group 2: CBT session + 3-weeks of self-guided practice C-Group: WL F/U: Nil	- Significant reduction in number of binge days per week in both conditions compared to control condition. - Self-compassion intervention reduced global eating disorder pathology, eating concerns, and weight concerns more than the other conditions. - Self-compassion intervention increased self-compassion more than the other conditions.

Study (first author, year)	Sample Characteristics and Size	Aim of Study	Design[a]	Key Results
Arimitsu, 2016	Japanese university students reporting low levels of self-compassion. n = 40	To examine the effects of an enhancing self-compassion (SC) program in an interdependent culture.	RCT Seven weekly 1.5-hour sessions T-Group : SC C-Group : WL F/U: 3 months	- Significant improvements in each of the subscales of the SCS except for mindfulness compared to the control group. - Greater reductions in negative thoughts and emotions in the SC group. No significant changes from post treatment.
Beaumont, Irons, 2016	Fire fighters experiencing symptoms of trauma, depression, anxiety and low levels of self-compassion. n = 17	To investigate the effectiveness of using CFT as an adjunct to Trauma-Focused Cognitive Behavioural Therapy (TF-CBT) in reducing symptoms of trauma, anxiety and depression and increasing self-compassion.	Non-RCT 12 weekly 1-hour sessions T-Group 1: TF-CBT +CFT T-Group 2 :TF-CBT F/U: Nil	- Significant reductions in symptoms of depression, anxiety, hyperarousal, intrusion and avoidance. - TF-CBT combined with CFT was more effective than TF-CBT alone on measures of self-compassion. - Statistically significant increase in self-compassion.
Beaumont, Durkin, 2016	Health care providers and educators. n = 28	To explore whether self-compassion training would increase self-compassion and reduce self-criticism and self-persecution.	RM 3-day workshop CFT training F/U: Nil	- Statistically significant increase in self-compassion and reduction in self-critical judgment. - Non-statistically significant reduction in self-persecution or self-correction.

Study (first author, year)	Sample Characteristics and Size	Aim of Study	Design[a]	Key Results
Anderson, 2017	Adult individuals with various psychiatric diagnosis (affective, anxiety, and personality disorders). n = 102	To explore the effectiveness of CFT to reduce symptoms of psychiatric disorders.	RM 10 weekly 2-hour session + 1 follow up session CFT training F/U : Nil measurement at FU	- Significantly reduction in symptoms of depression and anxiety. - Significant increase in participants' self-esteem. - No significant difference in outcome between the various diagnostic categories. - Protocol-based CFT is an effective treatment for affective, anxiety, and personality disorders.
Kelly, 2017	Outpatients with binge eating disorder. n = 41	To compare the effectiveness of a CFT-based self-help intervention to a behaviourally based intervention for treatment of binge eating disorder.	RCT 12 weekly 1.5-hour training T-Group 1: food planning plus SC exercises T-Group 2: food planning plus behavioural strategies C-Group 3: WL F/U: Nil	- Both interventions reduced weekly binge days more than the control condition. - Self-compassion intervention reduced global eating disorder pathology, eating concerns, and weight concerns more than the other conditions. - Self-compassion intervention increased self-compassion more than the other conditions.

Study (first author, year)	Sample Characteristics and Size	Aim of Study	Design[a]	Key Results
Beaumont, 2017	University students with Post Graduate Diploma in CBT. n = 21	To explore whether CFT increases self-compassion, compassion for others, dispositional empathy and reduce self-critical judgement.	RM 3-day, 15-hour workshop CFT training F/U: Nil	- Statistically significant increase in self-compassion and reduction in self-critical judgement. - No statistically significant difference on interpersonal reactivity index or compassion for others.
Clapton, 2018	Adult individuals with mild intellectual disability. n = 6	To examine the feasibility and acceptability of group CFT for adults with intellectual disabilities.	RM Six weekly 1.5-hour sessions CFT treatment F/U: Nil	- Significant reductions in both self-criticism and unfavourable social comparisons. - CFT can be adapted and beneficial for individuals with intellectual disability
Cuppace, 2018	Transdiagnostic in and out patients. n = 87	To examine the effectiveness of CFT in a group of transdiagnostic patients, as compared to treatment as usual (TAU).	Non-RCT 14 twice weekly sessions for 5 weeks and once weekly for 4 weeks Group 1: CFT Group 2: TAU F/U: 2 months	- CFT groups showed significantly greater improvements in levels of psychopathology, fears of self-compassion and social safeness compared to TAU. - Only the CFT group had improvements in shame and self-criticism. All improvements were maintained at 2-month follow-up.

Study (first author, year)	Sample Characteristics and Size	Aim of Study	Design[a]	Key Results
Parry, 2017	Outpatients with persistent pain. n = 8	To investigate the usefulness of CFT for the management of chronic pain.	RM Eight sessions, unstated session length CFT training F/U: Nil	- Decreased pain-related anxiety and depression. - Increased self-kindness and self-compassion, pain willingness and activity engagement.
Collins, 2018	Individuals with dementia and spouses. n = 32	To evaluate the effectiveness of CFT on reducing anxiety, depression, and respiratory rate (RR) in people with dementia and their spouses, and improving quality of life.	RM Six weekly two-hour sessions CFT treatment F/U: Nil	- Significant reduction in depression. - Patients showed clinically significant improvement in anxiety and depression. - Spouses showed clinically significant improvement in depression and in anxiety. - RR reduced for patients and spouses

Study (first author, year)	Sample Characteristics and Size	Aim of Study	Design[a]	Key Results
Gharraee, 2018	Adult individuals with formal diagnosis of social anxiety disorder (SAD). n = 32	To evaluate the effectiveness of CFT to decrease symptoms of SAD and self-criticism, and improve mindfulness levels, self-compassion, and quality of life.	RCT 12 weekly one-hour sessions T-Group: CFT C-Group: WL F/U = 2 months	- Significant increase of mindfulness levels, self-compassion, and quality of life. - CFT significantly more effective than non-treatment in reducing psychological inflexibility, self-criticism, and severity of social anxiety symptoms. No significant changes in CFT group from post treatment scores to follow up scores.
Duarte, 2019	Adult individuals attending commercial weight management programme (WMP) group. n = 974	To investigate the effectiveness of adding compassion principles to a WMP to improve control of eating, self-evaluation and weight outcomes.	Non-RCT 3 months, 1.5-hour weekly sessions T-Group: WMP + CF exercises C-Group: CWMP as usual F/U = 6 and 12 months	- Significant reduction in binge eating symptomatology. - Improvement in psychological adjustment and self-evaluation, shame, and self-criticism. - Compassion, self-reassurance and reductions in shame and self-criticism mediated the effect of the intervention on reductions of binge eating symptomatology. - Not effect on weight outcomes. No significant changes in CFT group gains from post-treatment.

Study (first author, year)	Sample Characteristics and Size	Aim of Study	Design[a]	Key Results
Penlington, 2019	Pain Clinic outpatients with persistent pain. n = 58	To explore patients' engagement with CFT and effects of CFT on self-reported pain intensity, pain distress, anxiety, depression and pain-related self-efficacy.	RM Eight weekly two-hour sessions CFT treatment F/U: Nil	- Engagement of patients was reasonable. - Significant improvements in pain distress, intensity, anxiety, depression and self-efficacy.
Frostadottir, 2019	Rehabilitation centre patients with mild to moderate anxiety, depression, and stress. N = 58	To compared the impact of MBCT and CFT on symptom change, mindfulness, self-compassion, and rumination.	Non-RCT Four weekly 2-hour sessions T-Group 1: MBCT T-Group 2: CFT C- Group: WL F/U = 1 month	- Significant increases in mindfulness and self-compassion and decreases in rumination, depression, anxiety, and stress for CFT and MBCT groups. No significant changes from post treatment scores to follow up

Study (first author, year)	Sample Characteristics and Size	Aim of Study	Design[a]	Key Results
Navab, 2019	Mothers of children with ADHD, with non-psychiatric symptoms, attending Health Centres (in Iran) for support. n = 20	To determine the effects of CFT on psychological symptoms of mothers of ADHD children.	Non-RCT Eight weekly 1.5-sessions T-Group: CFT C-Group: WL F/U: Nil	- Significant decrease of depression and anxiety symptoms. - No significant change was observed in the control group. - No change in stress levels in both groups.
Horcajo, 2019	Female young adults with diagnosis of anorexia, bulimia, and eating disorders no specified. n = 10	To develop and apply an intervention program based on CFT in a group of patients with eating disorders.	RM 10 weekly 2.5-hour sessions CFT treatment F/U = Nil	- Significant increase in self-esteem, self-respect, and self-worth. - Improvement in eating behaviours, and reduction of restrictive behaviours.
Torbati, 2020	Male adult patients from a clinic specialised in drug abuse. n = 40	To investigate the efficacy of CFT on blood cortisol and cognitive-emotion regulation among drug abusers.	Non-RCT 10 weekly sessions; 90 minutes each T-Group: CFT C-Group: WL F/U = Nil	- Significant decrease of blood cortisol levels - Significant increase of cognitive-emotion regulation.

Study (first author, year)	Sample Characteristics and Size	Aim of Study	Design[a]	Key Results
Chou, 2020	Individuals with compulsive hording (CH) who had completed a round of CBT. n = 20	To provide an initial evaluation on the potential of CFT as an intervention for CH.	Non-RCT 16 weekly 2-hour sessions T-Group 1: CFT T-Group 2: CBT F/U = Nil	-Significant reduction in symptoms, below clinical cut off for CH in 77% of participants in the CFT compared to 23% in the CBT group - CFT may be a promising treatment option, in particular to individuals who did not respond well to CBT.

Note. CFT = compassion-focused therapy; CMT = compassionate mind training; CBT = cognitive behavioural therapy; TAU = treatment as usual; RCT = randomised controlled trial; RM = repeated measures; F/U: follow up; WL = waiting list; MBCT = Mindfulness based cognitive therapy; T-Group = treatment group; C-Group = control group

[a.] All studies included group based treatments

Chapter Summary

This chapter introduced the reader to self-compassion from a psychological science perspective. As has been identified in the chapter, research has consistently demonstrated positive associations between self-compassion and a range of psychosocial benefits for individuals with various presenting issues including health and weight-related problems. Regarding underlying mechanisms of change, it was also demonstrated that self-compassionate individuals cope more effectively when faced with challenging situations, which appears to be due to the self-regulating qualities of self-compassion. It was shown that this is relevant in the context of stigma, and specifically for managing weight stigma. It has been argued that self-compassion can exert its protective effect by serving as a buffer against associated pain and distress.

Furthermore, this chapter has also presented evidence to demonstrate the malleability of self-compassion through intervention and has provided a discussion and summary of key structured programs that have been developed and evaluated to assist individuals cultivate self-compassion. Compassion-Focused Therapy was then presented as an empirically supported therapeutic approach to cultivating compassion, developed for use with clinical populations, which, as a form of therapy, differs from the other structured programs that have been presented in the literature. Evidence was provided which demonstrated the efficacy of CFT to assist individuals to increase their capacity for self-compassion, alleviate suffering, and facilitate greater psychological health and well-being. It was also shown that CFT has effectively been adapted for various populations, including among individuals with eating and weight-related difficulties. From the evidence provided in this chapter it has been argued that weight stigmatised individuals who struggle to cope with the stressful and painful nature of stigma, and often internalise negative and hurtful stigmatising messages may be likely

to benefit from CFT intervention. However, as interventions designed specifically for this purpose have not yet been developed, this presents as a valuable opportunity for research in this field.

SECTION 2 – A SERIES OF RESEARCH STUDIES

Chapter 3 (Study 1): The Role of Internalised Weight Stigma and Self-Compassion in the Psychological Well-Being of Women with Overweight and Obesity

Chapter 4 (Study 2): Not Defined by Weight: Development of a Self-Compassion Intervention to Build Resilience to Weight Stigma, with Two Case Illustrations.

Chapter 5 (Study 3): Unburdening the Weight of Stigma: Findings from a Compassion-Focused Group Program for Women with Overweight and Obesity

Preamble

As presented in *Section 1,* there is compelling evidence demonstrating the detrimental effects of weight stigma in the lives of individuals with overweight and obesity. Concurrently, researchers have identified self-compassion as being highly beneficial to psychological well-being. Academic literature which highlights the many advantages associated with self-compassion provides a persuasive rationale to suggest that self-compassion has the potential to attenuate the painful effects of weight stigma, particularly given its associations with greater emotion regulation and adaptive coping in the face of stressful situations. However, as is evident from the literature reviewed in *Section 1*, there has been limited empirical enquiry merging the two important fields of self-compassion and weight stigma research.

Specifically, several gaps in the literature have been identified and require investigation. First, further understanding of the mechanisms that underlie associations between external weight stigma and adverse outcomes is needed, in order to identify ways to minimise its negative effects. In particular, the extent to which both self-compassion and internalised weight stigma may separately influence the relationship between external weight stigma and associated negative effects has not yet been investigated. This has important implications in terms of increasing our knowledge of potential modifiable factors associated with weight stigma, which may be targeted in clinical practice for individuals with overweight and obesity presenting with psychological difficulties.

Second, as demonstrated in *Section 1,* evidence indicates the widespread and painful nature of weight stigma, and together with increasing rates of overweight and obesity in many countries around the world, underscores the need for interventions that better address psychosocial aspects of obesity. Based on literature from both fields of

self-compassion and weight stigma research, fostering self-compassion through intervention has tremendous potential to mitigate the negative effects of weight stigma for individuals with overweight and obesity. As discussed, research has found a negative association between self-compassion and internalised weight stigma, suggesting that highly self-compassionate individuals are: aware of negative weight stereotypes and beliefs, but less likely to attribute these beliefs to the self; and more likely to experience psychological health benefits by not internalising other-projected stigma. As noted in Chapter 2, CFT is a therapeutic approach that has been developed and tested for use in clinical populations. Given the known relationship between weight stigma and psychological difficulties, it is arguably the most appropriate approach for use in a weight stigmatised population of individuals with overweight and obesity. Given the success of CFT to increase self-compassion and improve psychological health among various clinical populations, including highly self-critical and shame prone individuals, and people with eating and weight-related problems, it is anticipated that CFT would be a feasible and efficacious intervention to alleviate the negative effects associated with weight stigma for individuals with overweight and obesity.

In terms of understanding weight stigma from the perspective of CFT theory, weight stigmatised individuals are at high risk of having unbalanced emotion regulation systems, which can lead to psychological difficulties. First, individuals with a history of experiencing criticism (weight or otherwise) can be predisposed to developing highly sensitised threat-monitoring systems (Gilbert, 2010, 2014). When faced with external weight stigmatising situations, in response, the emotion regulation systems may alert individuals with overweight and obesity to this as a potential threat. With the threat system activated, individuals can be motivated to take action (via the drive system) and engage in behaviours such aversion (avoid the situation), or self-attacking (Gilbert,

2014). At the same time, individuals may also either have difficulty accessing their soothing systems or attempt to respond with self-soothing in unhelpful ways that have unwanted consequences (e.g., emotional eating and weight gain). Weight stigmatised individuals may osculate between the threat and drive system, and without a well-developed soothing system to provide a sense of safety and reassurance, may experience a range of emotions such as fear and shame. Moreover, individuals with such unbalanced systems may be at risk of believing weight stigma is warranted, and either implicitly or deliberately accept and internalise weight stigma, which can further exacerbate psychological difficulties. As such it is argued that CFT is well suited to assist weight stigmatised individuals as it offers a range of empirically supported strategies that have been specifically designed to develop the soothing system and restore balance to the emotion regulation systems. By developing the capacity for self-compassion, individuals would be able to develop the capacity to adapt emotional responses to stressful weight stigmatising events (external and internal), and cope more effectively. It is argued that a CFT approach to weight stigma offers an important addition not offered by other approaches currently available, in that by explicitly targeting self-compassion as its primary focus, strategies designed to reduce internalised weight stigma and develop a more realistic self-appraisal, can not only be logically understood, but enhanced when individuals have access to their soothing system, and engage with a compassionate mind.

Section 2 of this thesis presents a compendium of three research studies, aimed at addressing these gaps in the literature. Study 1 (published in *Australian Psychologist*) aimed to investigate the relative contribution of internalised weight stigma and self-compassion as mediators in the relationship between external weight stigma and associated psychosocial outcomes.

Findings from Study 1, together with literature from fields of compassion and weight-stigma research, subsequently informed Study 2 (under review in *Journal of Cognitive Psychotherapy*), which involved the development of a CFT group program for weight stigmatised women (Self-Compassion for Women Program). Self-compassion and internalised weight stigma were tested as separate mediators in Study 1, as the program of research initially sought to investigate the unique role of these factors in the relationship between experienced weight stigma and negative psychological outcomes. The results of Study 1 suggested that both internalised weight stigma and self-compassion each play a different and important role in the way in which external weight stigma impacts on the well-being of individuals with overweight and obesity. These findings have important implications for clinical practice, and indicate that strategies designed to both reduce internalised weight stigma, and develop a more self-compassionate way of behaving towards oneself in the face of stigmatising situations, should be considered as part of psychological intervention for individuals with overweight and obesity.

The findings of Study 1 highlighted the importance of targeting both of these factors in programs designed to alleviate the effects of weight stigma for individuals with overweight and obesity. Building on Study 1, together with a further consideration of literature from both fields of self-compassion and weight stigma, evidence suggested that a Compassion Focused Therapy (CFT) based approach to weight stigma may be beneficial in terms of targeting both self-compassion and internalised weight stigma. As noted in Chapter 2 there is growing evidence supporting the efficacy of CFT to increase self-compassion, and improve well-being for individuals with a range of presenting issues. Research has also demonstrated a negative association between self-compassion

and reduced internalised weight stigma, and indicated that self-compassion may serve as a buffer against self-stigma among other stigmatised groups.

Furthermore, as discussed above, a review of current evidence suggests that self-compassion may play a role in treatment efficacy to reduce internalised weight stigma for approaches currently available. Indeed as argued in Chapter 1, existing ACT and CBT interventions may produce gains in part through promoting self-compassion implicitly or by including components of self compassion training into protocols. However, as noted above, CFT programs for weight stigmatised populations are yet to be developed, and therefore studies 2 and 3 aimed to fill this gap in the literature.

Study 2 aimed to provide researchers and clinicians with a description of the CFT intervention (Self-Compassion for Women Program) developed with the aim of targeting self-compassion, internalised weight stigma and a range of outcomes associated with weight stigma, as well as presenting two brief case illustrations. Study 3 (under review in *Clinical Psychologist*) presents findings from a group pilot study of the Self-Compassion for Women Program, which sought to investigate the potential feasibility and efficacy of the program for a group of weight stigmatised women with overweight and obesity.

Chapter 3: Study 1

The role of Internalised Weight Stigma and Self-Compassion in the Psychological Well-Being of Women with Overweight and Obesity

Statement of Contribution to Co-authored Published Paper

This chapter includes a co-authored paper. The bibliographic details of the co-authored paper, including all authors, are:

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My contribution to the paper involved: research design; half of recruitment and data collection procedures; selection of assessment measures; collation of the data, data analyses, and results; writing of the manuscript including interpretation and discussion of findings; implementing feedback provided by secondary authors and journal reviewers.

(Signed) _____ (Date) 7/04/2020

Yvette Forbes (PhD candidate and corresponding author)

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Abstract

Weight-based stigma is often experienced by individuals with overweight and obesity, and is associated with a range of deleterious physical and mental health outcomes. Research is lacking on the mechanisms through which these relationships occur. This paper examines two potential mechanisms: internalised weight stigma and self-compassion. A sample of 147 Australian females with overweight and obesity aged between 18 to 45 years completed a series of self-report questionnaires measuring: experienced weight stigma, internalised weight stigma, self-compassion, psychological distress, body shame, loneliness and life satisfaction. Results indicated internalised weight stigma mediated the relationship between experienced weight stigma and body shame, such that greater experienced weight stigma led to greater internalised weight stigma, which in turn led to greater body shame. Additionally, self-compassion mediated the relationship between experienced weight stigma and several psychosocial factors, such that greater experienced weight stigma led to lower self-compassion, which led to greater psychological distress, higher perceived loneliness and lower satisfaction with life. Findings support previous research indicating that internalised weight stigma plays a mediating role in the relationship between experienced weight stigma and adverse outcomes. This study extends upon prior research by investigating previously unexamined outcome variables, and exploring the simultaneous mediating role of self-compassion. The findings suggest that both internalised weight stigma and self-compassion each play a different but important role in the way in which weight stigma impacts on women with overweight and obesity. Results from this study have implications in terms of psychological intervention for individuals with overweight and obesity in clinical practice.

The Role of Internalised Weight Stigma and Self-Compassion in the Psychological Well-Being of Women with Overweight and Obesity

Overweight and obesity is a national health problem in Australia, with data from the Australian Bureau of Statistics (2015) indicating that 11.2 million (63.4%) Australian adults are considered overweight or obese. Negative physical and mental health consequences associated with adiposity such as cardiovascular diseases (Ni Mhurchu, Rodgers, Pan, Gu, & Woodward, 2004); type II diabetes (Vazquez, Duval, Jacobs, & Silventoinen, 2007); depressive symptoms (Sutin & Zonderman, 2012); anxiety disorders (Scott, McGee, Wells, & Oakley Browne, 2008); and impaired levels of health-related quality of life (Fontaine, Barofsky, & Cheskin, 1997) are well documented. Furthermore, the associated economic burden of overweight and obesity is substantial, with a report published by PwC Australia (2015) estimating the combined direct and indirect cost of overweight and obesity in Australia during the period 2011-2012 at $8.6 billion (costs in 2014-2015 dollars).

In addition to health and economic costs, overweight and obese status has significant social consequences, and individuals often experience weight-based stigma (Andreyeva, Puhl, & Brownell, 2008), which involves the devaluation of overweight and obese individuals, based on negative stereotypes and attitudes (Carr & Friedman, 2005; Puhl & Heuer, 2009; Puhl, Moss-Racusin, Schwartz, & Brownell, 2008). Various forms of stigmatisation may be experienced, including: overt criticism; subtle or indirect stigma, such as ridiculing other obese individuals in the company of an overweight person; and/or threatening environmental cues, which may involve facing constraints in public settings such as lack of adequate sized seating and clothing (Lewis et al., 2011; Puhl & Brownell, 2006; Sikorski, Luppa, Luck, & Riedel-Heller, 2015). Weight stigma is common for individuals with overweight and obesity (Seacat, Dougal,

& Roy, 2014). In an Australian study of 46 individuals with overweight and obesity using ecological momentary assessment, Vartanian and colleagues (2014) found that 91% of participants experienced weight-related stigmatising situations, with individuals reporting an average of 11.12 incidents across a two-week period. It would seem that weight stigmatisation occurs for some more than others, with evidence that it is more commonly experienced among younger adults and women (Fikkan & Rothblum, 2012; Hatzenbuehler, Keyes, & Hasin, 2009; Puhl, Andreyeva, & Brownell, 2008; Papadopoulos & Brennan, 2015; Roehling, Roehling, & Pichler, 2007).

Individuals with overweight and obesity report weight stigma across multiple domains, including interpersonal settings, which can involve negative comments and criticisms from family, romantic partners, friends, children and strangers (Boyes & Latner, 2009; Lewis et al., 2011). Additionally, weight-related stigma has been well documented in professional settings, including areas of education and employment (Puhl & Luedicke, 2012; Rudolf, Wells, Weller, & Baltes, 2009; Vanhove & Gordon, 2014). There is also accumulating evidence demonstrating obesity is a stigmatised characteristic within clinical healthcare settings and professionals (Puhl & Heuer, 2010). For example, Puhl and colleagues (2014) sought to investigate weight stigma among 329 professionals who specialise in treating eating disorders, including psychologists, therapists, registered dieticians, social workers, and other professionals such as psychiatrists and nurses. Results indicated that while the majority of professionals (88%) felt confident to provide treatment for clients with obesity, 52% reported they were aware (i.e. heard or witnessed) of professionals within their field making negative remarks about obese clients, and 35% believed providers were not comfortable caring for obese clients. Further studies have also demonstrated negative attitudes held by health care providers, including a study involving 620 primary care physicians, which

found approximately half considered patients with obesity to be noncompliant, unattractive, ugly and awkward (Foster, et al., 2003).

Researchers have also investigated the impact of weight stigma within the health care context from the stigmatised person's perspective. For example, in an Australian study investigating the lived experiences individuals with overweight and obesity, 72 of 76 participants reported weight related stigma experiences, with approximately half reporting they had been humiliated by health professionals because of their weight (Thomas et al., 2008). Weight stigma within a healthcare context has been shown to impact on the lives of individuals with overweight and obesity in several ways including: reduced quality of care provided to health care consumers, for example, less time provided to obese versus normal weight clients; decreased patient trust toward providers; and compromised health care utilisation including increased reluctance and/or delay to seek health care including medical screenings and examinations among obese individuals (Amy, Aalborg, Lyons, & Keranen, 2006; Bertakis & Azari, 2005; Brown, Thompson, Tod & Jones, 2006; Phelan et al., 2015).

In addition to interpersonal and institutional contexts, weight stigma has also been documented within the broader context of society via news media and public health campaigns (Ata & Thompson, 2010; Puhl, Luedicke, & Peterson, 2013). For example, an Australian study by Couch, Fried and Komesaroff (2018) examined an obesity prevention campaign titled LiveLighter, which aimed to encourage healthy living practices and healthy weight through mass media advertising. Despite the multifaceted etiology of obesity, analysis revealed key themes including: risk and individual responsibility; stigmatising obesity as "disgusting"; and the use of fear to encourage behaviour change. Campaigns designed to target the undesirability of obesity have limited support (Walls, Peeters, Proietto, & McNeil, 2011) and may have

unintended consequences such as eliciting shame and guilt, and further stigmatising individuals with overweight and obesity (Couch et al., 2018, Puhl et al., 2013).

Weight stigma has also been investigated within the context of news media. In a study involving visual content analysis, Heuer and colleagues (2011) assessed the depiction of obese individuals in images from online news stories about obesity across a two week period. Results indicated that a greater number of negative versus positive images of overweight persons were found, and 72% of images that portrayed an individual with overweight or obesity were stigmatising (e.g. "portrayed as overweight/obese person eating/drinking an unhealthy food/drink"). A further study conducted in Australia sought to investigate the perceptions of 142 obese individuals toward obesity news reporting (Couch et al., 2015). The majority of participants (N = 122) believed news coverage was: "superficial", "unrealistic", "inaccurate", "unfair" or "unhelpful"; conveyed personal blame and undesirability; and were considered dehumanising and stigmatising among participants. It is becoming increasingly evident that stigmatisation of overweight and obesity is widespread, with research indicating that individuals are potentially exposed to stigmatising situations and messages across interpersonal, institutional, and societal domains.

Importantly from a clinical perspective, weight-based stigma is associated with numerous negative health-related and mental-health related consequences, such as disordered eating (Almeida, Savoy, & Boxer, 2011), decreased motivation to exercise (Vartanian & Shaprow, 2008), obesity (Jackson, Beeken, & Wardle, 2014; Sutin & Terracciano, 2013), mood and anxiety disorders (Hatzenbuehler et al., 2009), shame (Lewis et al., 2011; Westermann, Rief, Euteneuer, & Kohlmann, 2015); decreased quality of life (Lillis, Levin, & Hayes, 2011); loneliness, and social isolation (Lewis et al., 2011). Indeed, individuals experiencing weight stigma have been found to limit their

participation in social and leisure activities and isolate themselves in order to cope with the impact of stigma (Lewis et al., 2011; Myers & Rosen, 1999). Furthermore, research indicates that weight stigma contributes to adverse psychological and physical health outcomes independently of body weight (see Papadopoulos & Brennan (2015) for review). For example, a recent longitudinal study (N = 2036) found that females who reported experiencing weight stigma at age 14 years (e.g. labelled "too fat" by family, peers and/or teachers), reported greater body dissatisfaction and drive for thinness at age 19 years, compared to those not exposed to weight stigma 5 years earlier. Findings remained significant even when controlling for BMI, baseline levels of disordered eating, parental level of income and education, and race (Hunger & Tomiyama, 2018).

It is evident that weight stigma is experienced frequently by those with overweight, and that it is associated with a range of adverse physical and mental health outcomes. However, although it is important to know that these relationships exist, it is perhaps more important from a clinical perspective, to understand the mechanisms through which these relationships occur so that they may be targeted in treatment. This paper examines two such potential mechanisms: internalised weight stigma and self-compassion, and their potential role as mediators in the relationship between experienced weight stigma and negative outcomes.

Turning first to internalised weight stigma, research suggests individuals with overweight and obesity not only experience weight stigma, but they also internalise it. That is, they may endorse the negative weight-based stereotypes, and attribute the negative evaluations to themselves (Durso & Latner, 2008). Not surprisingly perhaps, internalised weight stigma has been shown to be positively associated with anxiety, depression, stress, body image concern and problematic eating behaviours (Durso & Latner, 2008; Durso, Latner, & Ciao, 2016), as well as negatively associated with

health-related quality of life (Latner, Durso, & Mond, 2013). There has been some preliminary investigation of the mediating role of internalised weight stigma in the relationship between experienced weight stigma and negative outcomes. Internalised weight stigma has been found to mediate the relationships between weight stigma and reduced exercise (Pearl, Puhl, & Dovidio, 2015) and disordered eating (O'Brien et al., 2016). Internalised weight stigma has also been found to mediate the relationships between perceived weight discrimination and depression and anxiety (Magallares et al., 2017). However, research in this area is limited, and further studies designed to investigate the potential mediating effects of internalised weight stigma on additional psychological outcomes is required. This paper extends upon previous research by examining the mediating role of internalised weight stigma in the relationship between weight stigma and a range of negative outcomes including psychological distress, shame, loneliness and life satisfaction, all of which have been implicated with weight stigma. It is anticipated that external weight stigma may be internalised, which may in turn lead to several difficulties including increased emotional distress, loneliness, body shame, and reduced life satisfaction. Furthermore, this study seeks to examine the role of internalised weight stigma on these relationships relative to a second potential mediating factor: self-compassion.

Self-compassion can be described as a way of relating positively to the self despite perceived personal flaws and inadequacies (Neff, 2003). Studies have shown associations between greater levels of self-compassion and healthier body image (Wasylkiw, MacKinnon, & MacLellan, 2012); greater body appreciation (Homan & Tylka, 2015); lower body shame (Breines, Toole, Tu, & Chen, 2014); lower BMI (Taylor, Daiss, & Krietsch, 2015), lower psychopathology (MacBeth & Gumley, 2012), greater psychological well-being (Zessin, Dickhäuser, & Garbade, 2015), increased

social connectedness (Neff, Kirkpatrick, & Rude, 2007); and more effective coping when faced with stressful events (Leary, Tate, Adams, Allen, & Hancock, 2007). Moreover, large effect sizes have been observed, including results of a meta-analysis of 14 studies which found a large effect size (r = -0.54) for the relationship between self-compassion and psychopathology, specifically anxiety, depression and stress (MacBeth & Gumley, 2012). Research investigating the relationship between self-compassion and experienced weight stigma is in its infancy. Preliminary scholarship has demonstrated negative associations between self-compassion and weight stigma, including restrictive/critical eating messages from others (Daye, Webb, & Jafari, 2014), however, further investigation is required to better understand the potential role of self-compassion in the relationship between weight stigma and various outcomes.

As noted above, weight-stigmatising messages may be experienced from multiple sources including criticism from family members, and "anti-fat" messages on social media. However, despite differing mediums, weight stigma often involves the belief that overweight and obesity is an undesirable state, and that despite the complex nature of obesity, weight gain is largely the fault of the individual, resulting in overweight people often deemed as lazy, unmotivated, unattractive and weak-willed (Brochu & Esses, 2011; Puhl & Brownell, 2001; Puhl et al., 2015; Puhl & Heuer, 2009). It is possible that exposure to such negative weight-related stereotypes and casual attributions may negatively impact an overweight individual's ability to behave in compassionate, soothing ways toward themselves when faced with stigmatising situations. There is also evidence to suggest that this may in turn lead them to experience further difficulties. Self-compassion has been found to play an important role in promoting resilience when faced with negative and stressful life experiences (Neff, 2003; Neff & McGeehee, 2010; MacBeth & Gumley, 2012), and, as noted above,

scholarship has increasingly found self-compassion to be inversely linked to a range of mental health problems. Such findings provide compelling support for the potential mediating role of self-compassion in the relationship between experienced weight stigma and adverse outcomes. The present investigation anticipates that exposure to weight stigma will lead to decreased self-compassion, which will in turn lead to adverse outcomes of distress, body shame, loneliness, and reduced life satisfaction.

The Current Study

Given the deleterious psychological and physical effects of weight stigma for overweight and obese individuals, it is important to investigate the processes involved so that they can be targeted in therapy for those overweight and obese individuals presenting with psychological difficulties. This study aims to test the relative contribution of two modifiable (and treatable) psychological processes, internalised weight stigma and self-compassion, as mediators in the relationship between weight stigma and the psychosocial outcomes of psychological distress, loneliness, body shame and life satisfaction. Thus, it is predicted that greater experienced weight stigma will lead to greater internalisation of weight stigma and lower self-compassion, which in turn will lead to greater psychological distress, loneliness and body shame as well as lower life satisfaction. Figure 1 illustrates the proposed associations.

Method

Participants

The sample comprised 147 Australian females with overweight and obesity aged between 18 to 45 years (M = 30.74, SD = 8.91. The majority (86.4%) of participants were born in Australia. Their Body Mass Index (BMI) ranged from 25.08 to 54.07 (M = 31.23, SD = 5.80), with 51.02% overweight (BMI 25.0 to 29.9), and 48.97% considered obese (BMI $\geq$ 30). Within the sample, 97.96 % of participants reported experiencing weight stigma at least once in their life. Of the sample, 36.1% were single, 25.2% married and 31.9% in a relationship, with 85% of women completing tertiary education.

Procedures

Ethical approval was granted from the University Human Research Ethics Committee prior to data collection. Participants were recruited via convenience sampling method to participate in an online survey hosted by Limesurvey. The study was seeking participants to complete questionnaires related to health, well-being and self-compassion. Participants accessed the survey via a link provided on recruitment information, and informed consent was sought prior to commencement. The survey took approximately 20 minutes to complete. Upon completion, participants were given the option to provide their email address should they wish to enter into a draw for a chance to win one of five $20AUD prizes as a gesture of appreciation for participating.

Measures

Psychological Distress. Psychological distress was assessed using the 21-item Depression Anxiety Stress Scale – short form (DASS-21) (Lovibond & Lovibond, 1995). The DASS-21 requires respondents to rate the extent to which they have experienced each emotional state during the previous week on a 4-point scale ranging from 0 (“did not apply to me at all”) to 3 (“applied to me very much, or most of the

time"). Items are summed to produce a composite score representing general psychological distress, with higher scores representing greater symptom severity. Sound psychometric properties have been reported (Brown, Chorpita, Korotitsch, & Barlow, 1997). Internal reliability in the current study was excellent (α= .94).

Weight Stigma. The Stigmatizing Situations Inventory (SSI) (Myers & Rosen, 1999) was used to measure experiences of weight-stigma. The SSI comprises 50 items reflecting 11 types of weight stigma. Items are rated on a 10-point scale from 0 = "never" to 9 = "daily". Item scores are averaged to provide a total overall score ranging from 0 to 9, with higher scores indicating a greater frequency of experienced weight stigma. High internal consistency has been reported previously (α = .95; Myers & Rosen, 1999). Cronbach's alpha in the current study was excellent (α = .97).

Internalised Weight Stigma. The Weight Bias Internalization Scale (WBIS) (Durso & Latner, 2008) is an 11-item scale designed to measure the extent to which individuals with overweight and obesity agree that negative statements and stereotypes apply to the self. Responses to items are measured on a 7-point Likert scale ranging from 1 = "strongly disagree" to 7 = "strongly agree". Items are averaged to provide an overall scale score ranging from 1 to 7, with higher scores indicating higher levels of internalisation. Psychometric analyses have demonstrated good internal consistency (Cronbach's alpha = .90; Durso & Latner, 2008), and internal reliability for the current sample was excellent (α = .94).

Self Compassion. Self-compassion was measured using the 26-item Self-Compassion Scale (SCS) (Neff, 2003). Individuals are required to report levels of compassionate responding on a 5-point Likert scale ranging from 1 = "almost never", to 5 = "almost always". Average total self-compassion scores range from 1 to 5, with higher scores indicating greater levels of self-compassion. The SCS has demonstrated

good internal consistency (Cronbach's alpha = 0.93; Neff, 2003), and good test-retest reliability (*r* = .93; Neff, 2003). Internal consistency in the current study was excellent (α = .95).

Body Shame. The 6-item Shame subscale of the Weight and Body-Related Shame and Guilt Scale (WEB-SG; Conradt et al., 2007) assesses the extent to which individuals experience shame related to the body. Respondents rate on a 5-point Likert scale ranging from 0 = "never" to 4 = "always". Item scores are averaged to provide an overall score ranging from 0-4, with higher mean scores indicating greater body shame. The measure has demonstrated good psychometrics including high internal consistency (α =.92; Conradt et al., 2007). Internal reliability in the current study was good (α = .89).

Life Satisfaction. The Satisfaction With Life Scale (SWLS; Diener, Emmons, Larsen, & Griffin, 1985) is a brief five-item measure of life satisfaction. Individuals respond to a series of statements on a 7-point Likert scale from 1 = "strongly disagree" to 7 = "strongly agree" (e.g., "I am satisfied with my life"). Scores are summed to produce a total scale score that may range from 5 to 35, with higher scores indicating greater life satisfaction. Good internal consistency has been demonstrated (Deiner et al., 1985; α = .87). Internal reliability for the current sample was excellent (α = .93).

Loneliness. The short-form version of the UCLA Loneliness scale (ULS-8; Hays & DiMatteo, 1987) is an eight-item measure on which participants are required to indicate how often each item is descriptive of the self, on a 4-point Likert scale from 0 = "never" to 3 = "always". Items are summed to produce a total score ranging from 0 to 24, with higher scores indicating greater loneliness. The measure has demonstrated good internal consistency (Hays & DiMatteo, 1987; Cronbach's alpha = .84), and internal reliability in the current study was also good (α = .84).

Data Analyses

Bivariate correlations between weight stigma, internalised weight stigma, self-compassion, psychological distress, loneliness, shame and life satisfaction were first conducted. A series of four (one for each dependent variable) multiple mediation models were then conducted to test the simultaneous mediating roles of internalised weight stigma and self compassion in the relationship between the independent variable of weight stigma and the dependent variables of psychological distress, loneliness, life satisfaction and shame. Variables were standardised prior to running the analyses to obtain standardised coefficients. Internalised weight stigma and self compassion were entered simultaneously as mediators as shown in Figures 2, 3, 4, and 5. Mediation analyses were conducted using the SPSS PROCESS macro, model 4 (Hayes, 2013) using bias-corrected bootstrap confidence intervals (95%) procedures with 10,000 resamples. Indirect effects were deemed significant if confidence intervals did not span zero. An estimate of the overall indirect effect of the mediators as a group, and estimates of each mediator while controlling for others was obtained using this approach.

Results

Descriptives

The means, standard deviations, and correlations for continuous variables used in this study are presented in Table 1. As is evident from Table 2, weight stigma was significantly associated with internalised weight stigma, self-compassion, and each of the dependent variables (psychological distress, loneliness, body shame, and life satisfaction). Significant relationships were also found between internalised weight stigma and each of the dependent variables, as well as between self-compassion and each of the dependent variables. As body shame scores were significantly associated

with BMI (r = .37), BMI was used as a covariate in the analyses involving body shame as an outcome variable.

Psychological distress

Figure 2 outlines the mediating effects of self-compassion and internalised weight stigma on the relationship between weight stigma and psychological distress. Standardised model, direct and indirect effects of weight stigma and outcomes via internalised weight stigma and self-compassion can be found in Table 2. The overall total indirect effect of weight stigma and psychological distress via the mediators (internalised weight stigma and self-compassion combined) was significant, (total indirect effect = .12; SE = .06; 95CI = .03; .25). The overall model accounted for 43% of the variance in psychological distress. In testing for specific indirect effects (controlling for shared variance), it was found that only self-compassion was significant (unique indirect effect = .12; SE = .05; 95CI = .04; .25). Direct and indirect effects of weight stigma and outcomes via internalised weight stigma and self-compassion can be found in Table 2. Of the variance accounted for in the model, 30% was due to the mediation effect, and 70% was accounted for by the direct effect.

Body Shame

The mediating effects of self-compassion and internalised weight stigma on the relationship between weight stigma and body shame is presented in Figure 3. The overall total indirect effect of weight stigma and shame via the mediators was significant (total indirect effect = .23; SE = .07; 95CI = .13; .38) and the overall model accounted for 65% of the variance in shame. Subsequent testing for specific indirect effects (controlling for shared variance) indicated that only internalised weight stigma was significant (unique indirect effect = .20; SE = .07; 95CI = .11; .35). Results indicated that the indirect effects via internalised weight stigma remained significant

when controlling for BMI. Of the variance accounted for in the model, 68% was due to the mediation effect, and 32% was accounted for by the direct effect.

Loneliness

Figure 4 outlines the mediating effects of self-compassion and internalised weight stigma on the relationship between weight stigma and loneliness. The overall total indirect effect of weight stigma and loneliness via the mediators was significant, (total indirect effect = .14; SE = .05; 95CI = .05; .26) and the overall model accounted for 39% of the variance in loneliness. Testing for specific indirect effects (controlling for shared variance) indicated that only self-compassion was significant (unique indirect effect = .09; SE = .04; 95CI = .03 to .20). Of the variance accounted for in the model, 42% was due to the mediation effect, and 58% was accounted for by the direct effect.

Life Satisfaction

The mediating effects of self-compassion and internalised weight stigma on the relationship between weight stigma and life satisfaction are shown in Figure 5. The overall total indirect effect of weight stigma and life satisfaction via the mediators was significant (total indirect effect = -.14; SE = .05; 95CI = -.25; -.06). The overall model accounted for 32% of the variance in life satisfaction. Testing for specific indirect effects (controlling for shared variance) indicated that only self-compassion was significant (unique indirect effect = -.08; SE = .04; 95CI = -.18; -.02). Of the variance accounted for in the model, 51% was due to the mediation effect, and 49% was accounted for by the direct effect.

Discussion

The present study examined the mediating roles of internalised weight stigma and self-compassion on the relationship between experienced weight stigma and outcomes relating to psychological distress, body shame, life satisfaction and loneliness, in a group of women with overweight and obesity. It was found that internalised weight stigma mediated the relationship between experienced weight stigma and body shame, such that greater experienced weight stigma led to greater internalised weight stigma, which in turn led to greater body shame. It was also found that self-compassion mediated the relationship between experienced weight stigma and the other outcome variables, such that greater experienced weight stigma led to lower self-compassion, which in turn led to greater psychological distress, higher perceived loneliness and lower satisfaction with life. Finally, it was found that externalised weight stigma also had a significant direct effect on psychological distress, body shame and loneliness independent of the mediators.

The results of this study support previous research indicating that internalised weight stigma plays a mediating role in the relationship between experienced weight stigma and negative psychological outcomes. However, it extends upon this research by not only examining previously unexamined outcome variables, but also by examining the potential and simultaneous mediating role of self-compassion. Taken together, the results suggest that internalised weight stigma is more important in the relationship between experienced weight stigma and more body-oriented outcome variables (i.e. body shame), whereas self-compassion plays a more important role in the relationship between weight stigma and outcomes that are less body specific (i.e. psychological distress, life satisfaction, and loneliness). Indeed, it stands to reason that individuals who believe negative stereotypical views of overweight being unattractive and

undesirable would feel a sense of shame in relation to their own body, just as it makes sense that individuals who find it difficult to respond to challenging situations with self-compassion may experience reduced well-being. These findings suggest that both internalised weight stigma and self-compassion each play a different but important role in the way in which weight stigma impacts on individuals with overweight and obesity. Given the direct effect of externalised weight stigma on psychological distress, body shame and loneliness, the results also highlight the strong impact of externalised weight stigma on these outcome variables.

Clinical implications

Results of the current study suggest that the impact of weight stigma on mental health factors operates through one's beliefs about themselves (internalised weight stigma), and the way in which one behaves (self-compassion) towards themselves in difficult situations. These findings have important implications for clinical practice and suggest that when working individuals with overweight and obesity, practitioners should assess (through psychometric testing and discussion), the extent to which clients have internalised weight stigma, as well as their capacity to be self-compassionate. The results suggest that when clients with overweight and obesity present with body-related problems (such as body shame), targeting internalised weight stigma may be a useful treatment direction. Additionally, clients with overweight and obesity present with other psychological difficulties (such as anxiety, depression, low life satisfaction etc), treatment targeting their self-compassion may be of benefit. Thus, it is recommended that strategies designed to a) reduce weight-related stereotypical attitudes and self-beliefs, and b) develop a more soothing and supportive way of behaving towards oneself, particularly when faced with stigmatising situations, should be considered as part of psychological intervention for individuals with overweight and obesity.

Limitations and Suggestions for Future Research

The current study's findings should be considered within the context of a number of limitations. First, the current study relies on self-report, and variables such as experienced weight stigma may be affected, and possibly underreported, due to problems associated with retrospective reporting (Bradburn, Rips, & Shevell, 1987). Future studies should employ data collection methods that reduce problems associated with retrospective reporting such as ecological momentary assessment. Second, although this study offers theoretical support for temporal precedence of the variables, the cross-sectional design does not definitively indicate the direction of causation. Future research should incorporate longitudinal designs to better test temporal progression and causality. It should also be noted that use of a convenience sample may limit the generalisability of the results. Future research should utilise sampling methods informed by stigma theory to target a more diverse sample of obese participants. Also, the study's sample comprised only females, which limits generalisability of the results in terms of gender. Future research should ensure that males are also included and compared to their female counterparts. A further limitation of the study was that the questionnaire was only available online. Although 86% of Australians have access to the internet at home (ABS, 2018) there may have been some potential participants who were inadvertently excluded. Future studies should ensure that both paper and online versions of questionnaires are available. Furthermore, this study did not gather information on the geographical location of participants. Future research should obtain this information due to the high rates of obesity in rural areas that have been found in some studies. Finally, future research should explore additional mediators and / or moderators in the relationship between externalised weight stigma and the outcome

variables. The significant direct effects of externalised weight stigma on outcome variables in this study suggest that other mechanisms may also be at play.

Conclusions

The impact of weight stigma on psychological and physical well-being is substantive, and is being increasingly recognised (Brewis, SturtzSreetharan, & Wutich, 2018). A compelling body of evidence indicates that stigmatising messages across various interpersonal, institutional and societal contexts, which reinforce negative stereotypes of overweight and obesity, are contributing to both obesity and mental health problems (Papadopoulos & Brennan, 2015). It is possible that several potential processes may be at play in understanding the complex nature of weight stigma on the well-being of obese and overweight individuals. By investigating specific processes, this study provides us with a greater understanding of the relationship between weight stigma and its negative consequences, by highlighting the role of internalised weight stigma and self-compassion. Such findings have implications for clinical practice in terms of assisting individuals with overweight and obesity to reduce weight stigma internalisation, develop self-compassion, and build resilience to harmful stigmatising situations.

Table 1

Descriptive Statistics and Correlations among Variables

	M	*SD*	1	2	3	4	5	6	7
1. BMI	31.23	5.80	-						
2. Weight Stigma	1.02	1.21	.45**	-					
3. Internalised Weight Stigma	4.46	1.46	.21*	.31**	-				
4. Self-Compassion	2.82	.78	-.16	-.22**	-.68**	-			
5. Psychological Distress	18.70	12.64	.01	.39**	.46**	-.60**	-		
6. Body Shame	2.37	1.03	.37**	.34**	.79**	-.62**	.42**	-	
7. Loneliness	10.88	5.30	.04	.34**	.51**	-.57**	.56**	.43**	-
8. Life Satisfaction	21.50	8.26	-.13	-.27**	-.48**	.52**	-.51**	-.39**	-.58**

Note. * p <.05, ** p < .01

Table 2

Standardised Model, Direct and Indirect effects of Weight Stigma and Outcomes of Psychological Distress, Shame, Loneliness and Life Satisfaction via Internalised Weight Stigma and Self-Compassion

Psychological Distress	β	SE	BC 95% CI Lower	BC 95% CI Upper
Internalised Weight Stigma	.001	.029	-.057	.062
Self Compassion	.117*	.051	.042	.249
Total Indirect effect	.118*	.055	.031	.251
Direct effect	.275*	.066	.144	.405
Total effect	.394*	.076	.243	.545
Shame				
Internalised Weight Stigma	.204*	.061	.111	.347
Self Compassion	.029	.022	-.001	.092
Total Indirect effect	.233*	.066	.126	.384
Direct effect	.107*	.051	.005	.210
Total effect	.341*	.078	.187	.495
Loneliness				
Internalised Weight Stigma	.050	.034	-.003	.132
Self Compassion	.090*	.042	.029	.202
Total Indirect effect	.140*	.052	.054	.261
Direct effect	.194*	.068	.058	.330
Total effect	.335*	.078	.180	.490
Life Satisfaction				
Internalised Weight Stigma	-.057	.037	-.145	.003
Self Compassion	-.078*	.038	-.179	-.024
Total Indirect effect	-.136*	.048	-.248	-.056
Direct effect	-.134	.072	-.278	.009
Total effect	-.270*	.080	-.428	-.112

Note. Based on 10000 bootstrap samples. β = standardised coefficients, BC = bias corrected; SE = bootstrapped SE of the standardised coefficients, CI = Confidence Interval. *Indirect effect is significantly different from zero.

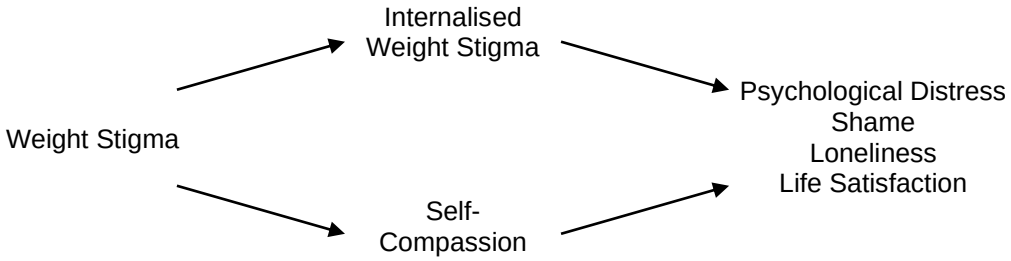

Figure 1. Conceptual mediation model.

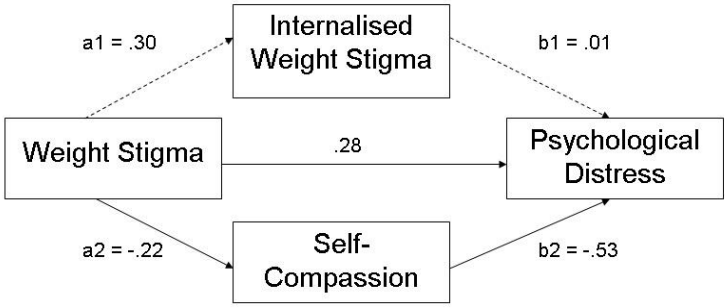

Figure 2. Indirect effects of weight stigma and psychological distress via internalised weight stigma and self-compassion. Note. Values presented in Figures 2 to 5 are standardized regression coefficients. Solid lines indicate significant effects. Dotted lines indicate non-significant effects.

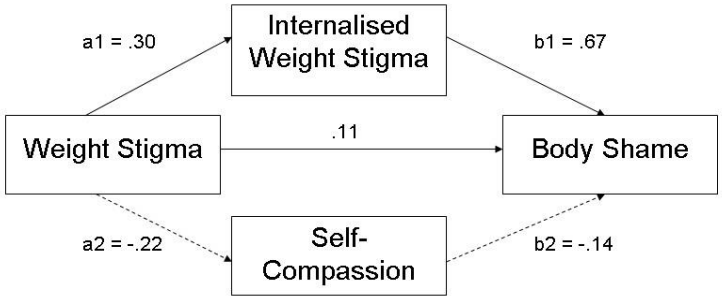

Figure 3. *Indirect effects of weight stigma and shame via internalised weight stigma and self-compassion*

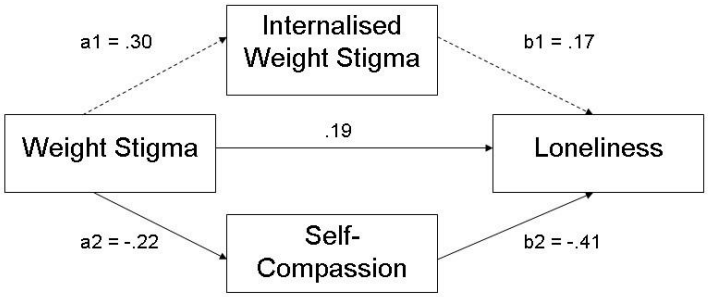

Figure 4. Indirect effects of weight stigma and loneliness via internalised weight stigma and self-compassion.

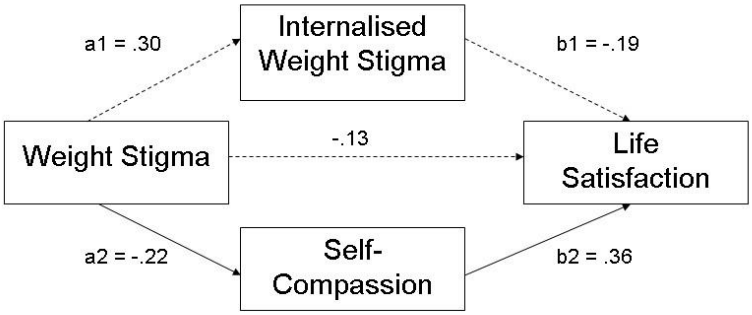

Figure 5. Indirect effects of weight stigma and life satisfaction via internalised weight stigma and self-compassion.

Chapter 4: Study 2

Not Defined by Weight: Development of a Self-Compassion Intervention to Build Resilience to Weight Stigma, with Two Case Illustrations.

Statement of contribution to co-authored published paper

This chapter includes a co-authored paper. The bibliographic details of the co-authored paper, including all authors, are:

Forbes, Moffitt, Van Bokkel, & Donovan (*under review*). Not Defined by Weight: Development of a self-compassion intervention to build resilience to weight stigma, with two case illustrations.

My contribution to the paper involved: study conceptualisation and research design; intervention development (80% candidate, 20% supervisor), half of recruitment and data collection procedures; selection of assessment measures; collation of the data, data analyses, and results; writing of the manuscript including interpretation and discussion of findings; implementing feedback provided by secondary authors.

(Signed) _____ (Date) 7/04/2020

Yvette Forbes (PhD candidate and corresponding author of paper)

(Countersigned) _____ (Date) 7/04/2020

Caroline Donovan (Primary supervisor and co-author)

Abstract

Weight stigma refers to negative stereotypes and ideologies targeted towards individuals due to their weight and size. Weight stigma internalisation involves directing such attributions toward the self. Research has highlighted the deleterious effects of internalised weight stigma on the mental and physical health of individuals with overweight and obesity, particularly for women. Concurrently, research indicates self-compassion is associated with a range of beneficial outcomes including lower internalised weight stigma. This paper aimed to provide a detailed description of a Compassion- Focused Therapy (CFT) based intervention designed to increase self-compassion and reduce internalised weight stigma, and two case studies are presented to illustrate the potential feasibility of the intervention. Cases were assessed prior to the intervention, at post-intervention, and three months following the intervention on measures of self-compassion, internalised weight stigma, depression, body shame, loneliness, weight self efficacy, body dissatisfaction, life satisfaction and weight. Results indicated improvements in all measures, as well as weight loss. This study contributes to existing stigma research which increasingly highlights the detrimental effects of weight stigma, and the need for interventions designed to ameliorate the negative effects of stigma for individuals with overweight and obesity.

Not Defined by Weight: Development of a Self-Compassion Intervention to Build Resilience to Weight Stigma, with Two Case Illustrations

The thin body ideal has been held as the panacea of female beauty for decades in Western culture (Swami & Tovée, 2005; Wiseman, Gray, Mosimann, & Ahrens, 1992). Women who are thin are not only seen as more beautiful, but are also viewed as holding a range of other positive attributes such as intelligence, social competence, popularity, self-discipline and a hard working nature (Engeln-Maddox, 2006; Wade & DiMaria, 2003;). Although most women fail to conform to this unrealistic beauty standard, those with overweight and obesity fall particularly short of the ideal and often suffer at the hands of weight stigma.

Weight stigma refers to implicit or explicit devaluation or stereotyping based on a person's weight. Despite the complex and multifaceted aetiology of obesity, the dominant obesity discourse emphasises personal responsibility, and individuals are often stigmatised for their weight in a myriad of ways (Himmelstein, Puhl, & Quinn, 2018; Puhl & Brownell, 2006). The stigmatisation of those who are overweight or obese is widespread, and occurs across various contexts including education, healthcare, employment and personal settings (Phelen et al., 2015; Puhl et al., 2015; Puhl & Heuer, 2009; Rudolf, Wells, Weller, & Baltes, 2009). Evidence also indicates that weight stigma is more prevalent for women (Fikkan & Rothblum, 2012; Puhl, Andreyeva, & Brownell, 2008) and is associated with a range of adverse short and long-term consequences including physical and mental health difficulties (Friedman et al., 2005; Puhl & Heuer, 2009). Importantly, weight stigma has been shown to be a risk factor for psychological problems such as anxiety, depression and substance abuse, even when accounting for body mass index (BMI; Hatzenbuehler, Keyes, & Hasin, 2009). Thus, there is evidence that the diminished health and well-being of overweight and obese

individuals may be due at least in part to the impact of weight stigma, rather than just the physical aspects of obesity itself.

Unlike other stigmatised groups for which in-group identification may provide resilience to the effects of stigma (Crabtree, Haslam, Postmes, & Haslam, 2010; Hughes, Kiecolt, Keith, & Demo, 2015), identification with obesity does not appear to offer such support (Major, Eliezer, & Rieck, 2012; Puhl & Heuer, 2009). For example, according to Major and colleagues (2012), weight stigma differs to other dimensions of stigma (e.g. race and ethnicity) in which family members may share features, and provide support and security. Whereas, in the context of weight stigma, other close family members and peers who do not share similar characteristics of overweight may be unsupportive and a source of threat and shame.

Individuals with overweight often report engaging in ineffective coping strategies when faced with stigmatising situations, including limiting engagement in social and leisure activities (Lewis et al., 2011; Puhl & Brownell, 2003), and engaging in obesogenic behaviours such as emotional and over-eating (Schvey, Puhl, & Brownell, 2011). Furthermore, weight stigma may be internalised whereby individuals with overweight and obesity begin to endorse negative weight stereotypes, and devalue themselves because of their weight (Salas, Forhan, Caulfield, Sharma, & Raine, 2019). Research has shown that greater internalised weight stigma is associated with increased body image concerns and binge eating frequency (Durso & Latner, 2008; Durso et al., 2011), and reduced health-related quality of life, even when controlling for factors such as BMI, age, exercise, and medical conditions (Latner, Durso, & Mond, 2013; Schvey, Roberto & White, 2013). Importantly, there are studies which have shown that internalised weight stigma significantly contributes to psychosocial problems independent of weight, and may be a more robust predictor of mental health difficulties

than experienced weight stigma (Hilbert et al., 2014; Pearl & Puhl, 2016). Such findings suggest that applying negative weight-based stereotypes to oneself and engaging in self-blame makes those who have experienced external weight stigma more vulnerable to negative psychological outcomes.

Research demonstrating the harmful effects of weight stigma highlights the need to pay greater attention to stigma in the treatment and care of individuals with overweight and obesity. Interventions specifically designed to alleviate the effects of, and develop resilience to, weight stigma for overweight individuals are limited. However, some preliminary studies have found positive outcomes. For example, Levin and colleagues (2018) designed a 7-week guided self-help Acceptance and Commitment Therapy (ACT) intervention, and found: reductions in internalised weight stigma, emotional eating and depression; and improvements in weight management behaviours and quality of life. Group interventions are few, but show promise. For example, in further a study by Lillis, Hayes, Bunting, & Masuda (2009), participants allocated to a 1-day mindfulness and acceptance program demonstrated greater improvements in distress tolerance, quality of life, weight-related stigma, and weight loss compared to an Education-Control group. A further study involving an 8-week Cognitive Behavioural Therapy (CBT) intervention for weight stigma, the authors found a greater reduction in internalised weight stigma, reduced fat phobia and increased weight efficacy for participants receiving treatment, compared to those in a quasi-control group (Pearl, Hopkins, Berkowitz, & Wadden, 2016). Although further research is required, such outcomes provide evidence for the malleability of the effects of weight stigma with treatment, particularly with respect to internalised weight stigma.

Compassion-Focused Therapy (CFT; Gilbert, 2005) may represent a particularly useful, yet to date untested approach to reducing internalised weight stigma.

Compassion can be understood as the recognition of suffering, and a commitment to try to alleviate and prevent it (Gilbert, 2014; Goetz, Keltner, & Simon-Thomas, 2010). Self-compassion is compassion directed inward, and involves the ability to be mindfully aware of one's own suffering, and to behave toward the self with kindness and care despite perceived flaws and inadequacies Neff (2003; Gilbert, 2009).

Higher levels of self-compassion are associated with a range of positive mental states, including: lower anxiety, depression, distress, and greater psychological well-being (Kirby, Tellegen & Steindl, 2017; MacBeth & Gumley, 2012; Zessin, Dickhauser, & Garbade, 2015); and greater proactive and adaptive coping (Allen & Leary, 2010; Abbondandolo & Sigal, 2018). It is also an important resource for individuals who have eating and weight-related issues (Duarte et al., 2019), with studies showing greater self-compassion to be associated with healthier body image (Moffitt, Neumann, & Williamson, 2018), greater body appreciation (Homan & Tylka, 2015), higher body image flexibility and distress tolerance (Schoenefeld & Webb, 2013), lower body shame (Albertson, Neff & Dill-Shackleford, 2015) and lower internalised weight stigma (Hilbert et al., 2014). Self-compassion is also associated with fewer weight and shape concerns, less disordered eating (Geller, Srikameswaran, & Zelichowska, 2015; Webb & Forman, 2013), and lower BMI (Taylor, Daiss, & Krietsch, 2015).

The benefits of practicing self-compassion are substantial, and several interventions have been developed to increase compassion in clinical and community populations (see Kirby, 2017 for a review). Among these interventions, CFT has emerged as an empirically supported approach that explicitly focuses on the development of compassion. Findings from an increasing number of effectiveness trials have demonstrated that CFT can assist individuals to generate self-compassion, improve well-being, reduce distress, and alleviate a range of problems including mood disorders,

smoking, and disordered eating (Leaviss & Uttley, 2015; Kirby, 2017; Gilbert & Procter, 2006). Components of self-compassion training have been integrated into programs with other therapeutic approaches focusing on unhealthy eating patterns and stigma. For example, Palmeira and colleagues (2017) developed a 10-week ACT program integrating mindfulness and self-compassion components targeting weight self-stigma and eating patterns for women with obesity. Results indicated reduced weight self-stigma, unhealthy eating, self-criticism, and BMI, as well as increased health-related quality of life and exercise. Although encouraging, multi-component interventions involve several processes which may interact, and therefore limit the ability to determine the specific impact of compassion-based interventions on weight stigma and associated outcomes independent of other approaches. To our knowledge, a CFT group intervention adapted specifically to target weight stigma has not yet been evaluated. The aims of this paper were to present details of the program's development, and report preliminary case study findings from a group-based, CFT intervention, specifically designed to increase self-compassion and reduce internalised weight stigma for women with overweight and obesity.

The Self Compassion for Women Program.

The Self-Compassion for Women Program is a CFT-based, face-to-face, group intervention targeting weight stigma in overweight and obese females, that is delivered as two full-day workshops conducted one week apart, with each workshop consisting of five 'sessions' (see Table 1 for details). The intensive, 2-day format differs markedly from CFT interventions that are often offered over a period of several weeks. The intensive format circumvents some of the commonly cited barriers to treatment seeking noted in previous intervention research, including busy lifestyles, lack of time, and inconvenience (Moffitt & Mohr, 2015). Furthermore, the group-based format offers

several benefits including receiving support and feedback from other participants, and the opportunity to generate affiliative experiences between group members (Gilbert, 2010). Finally, the environment therapists create is extremely important, as a safe, comfortable and supportive learning environment is considered a necessary requirement for the development of compassion (Gilbert, 2014; Neff, 2003). For weight stigmatised individuals, a non-stigmatising and compassionate environment is essential, and is achieved through provision of an encouraging, reassuring and non-judgemental interpersonal approach, and ensuring environmental factors such as adequately sized seating are considered.

Each of the two day workshops consist of five 'sessions' separated by breaks to enhance engagement and prevent participant fatigue. Figures 1 and 2 provide details of the activities involved in the intervention. Session 1 involves group introductions and activities that are designed to assess, and develop, an understanding of compassion. Session 2 assists participants to explore self-compassion through psychoeducation and practice. Fears and misunderstandings of compassion are explored. Activities are also designed to increase participants' awareness of stigmatising beliefs, and to increase motivation for change. Session 3 aims to assist participants to develop self-compassion through psychoeducation on the mind from a CFT perspective, followed by the introduction of a self-soothing experiential exercise. Activities are designed to increase participant understanding of the brain and its malleability, as well as to develop hopefulness for change. Self-compassion skills are practiced to develop the soothing system and are applied in the context of internal and external stigma. Session 4 provides further opportunity to develop self compassion through guided imagery, with activities designed to assist participants in developing compassion towards the self and one's body, and to reduce internalised stigmatising attitudes and beliefs of overweight and

obesity. Session 5 consolidates learning from Day 1 and reinforces the importance of regular practice of self-compassion.

At commencement of Day 2, the initial session (Session 6) involves a review and reflection on Day 1, an outline of Day 2, and a review of homework from Day 1. Session 7 involves an activity designed to develop self-compassionate ways of thinking, and works through a series of stepped writing exercises aimed at practicing other-directed and self-compassion and reducing internalised weight stigma. Session 8 prepares participants for ongoing self-compassion practice through a group planning exercise to minimise relapse. Session 9 focuses on creating individualised compassion plans, discussed in the context of both daily living in general and specifically for managing weight stigma. Activities assist participants to identify personal practice goals, plans and barriers for ongoing practice. The intervention concludes with session 10, which assists participants to consolidate learning and encourages continued practice beyond intervention completion.

Case Illustration Disclaimer

To illustrate preliminary feasibility and acceptability of the CFT intervention (Self-Compassion for Women), two case illustrations are presented below. These cases were chosen to demonstrate the potential of the intervention with women of different weight status (i.e. overweight and obesity). The illustrations serve to provide a greater depth of understanding of individual changes over time, and are representative of overall group findings.

Data indicates positive outcomes for the participants presented in the current case illustrations. However, such findings may not be achieved by all individuals who engage in this therapeutic intervention. The participants described in the case

illustrations provided written consent to participate in this study and to the publication of their data.

Case Illustration 1: Ms M

Presenting Problem and Background

Ms M was a 56-year-old, Caucasian female, who was born in Australia, was in a defacto relationship at the time of intervention, and had TAFE certificate-level education. Her BMI at commencement of the study was 34.60, placing her within the obese weight range. Ms M perceived her weight as "quite overweight" and reported that she had been overweight for approximately 26 years. She reported a history of experiencing weight stigma in various forms, including: being stared at in public; being exploited by a romantic partner because he assumed she was 'desperate' and would put up with it; having family members feel embarrassed or ashamed of her; and having people assume she would overeat or binge eat because she was overweight. Ms M self-referred to the intervention following recruitment via social media. Prior to commencing the intervention, Ms M reported a high level of internalised weight stigma as indicated by a score of ≥ 4, (midpoint of 4) on the Weight Bias Internalisation Scale (Durso & Latner, 2008); and reported low self-compassion as measured by a score of ≤ 2.5 (lower than the midpoint) on the Self-Compassion Scale (Neff, 2003). Ms M described herself as highly self-critical, particularly in the context of her weight, and was seeking help to develop self-compassion.

Method

Measures

Ms M completed the following self-report questionnaire package one week prior to the intervention (baseline, T1), at post-treatment (T2) and at 3-month follow-up (T3).

Demographic Information. Ms M reported on her age, country of birth, relationship status, education, height and weight. BMI was calculated using the formula BMI = kg/m^2.

Self-Compassion. Self-compassion was measured using the 26-item Self-Compassion Scale (SCS: Neff, 2003). The SCS requires respondents to rate the frequency with which they engage in each item (e.g. I try to be loving towards myself when I'm feeling emotional pain), on a 5-point scale from 1 (almost never) to 5 (almost always). The mean scores on each of the 5 subscales were summed to produce a total score that could range from 6 to 30, with higher scores indicating higher self-compassion. The SCS has demonstrated good internal consistency (Cronbach's alpha = 0.93; Neff, 2003).

Internalised Weight Stigma. The 11-item Weight Bias Internalization Scale (WBIS) (Durso & Latner, 2008) was used to measure internalised weight stigma. Respondents were required to rate on a 7-point Likert scale ranging from 1 (strongly disagree) to 7 (strongly agree), the degree to which they agreed with each item. Items scores were averaged to provide an internalised weight stigma score ranging from 1 to 7, with higher scores indicating higher levels of internalisation. Psychometric analyses have demonstrated good internal consistency (Cronbach's alpha = .90; Durso & Latner, 2008).

Body Shame. The 6-item Shame subscale of the Weight and Body-Related Shame and Guilt Scale (WEB-SG; Conradt et al., 2007) was used to measure body shame. Respondents were asked to rate each item on a 5-point Likert scale from 0 (never) to 4 (always). Items were averaged to provide an overall score ranging from 0 to 4, with higher scores indicating greater body shame. The measure has demonstrated

good psychometric properties, including high internal consistency (α =.92; Conradt et al., 2007).

Life Satisfaction. The 5-item Satisfaction With Life Scale (SWLS; Diener, Emmons, Larsen, & Griffin, 1985) was used to measure global life satisfaction. Respondents were required to rate their agreement with each item on a 7-point Likert scale from 1 (strongly disagree) to 7 (strongly agree). Items were summed to produce a total score that ranged from 5 to 35, with higher scores indicating greater life satisfaction. Scores of 30 – 35 indicate high life satisfaction; 25 – 29 indicates satisfaction, 20 – 24 indicates the individual is mostly satisfied, 15 – 19 indicates slight satisfaction, 10 – 14 indicates dissatisfaction, and 5 – 9 indicates extreme dissatisfaction (Diener, 2009). The SWLS has been found to have good internal consistency, with a Cronbach's coefficient alpha of .87 (Diener et al., 1985).

Loneliness. The 8-item short-form version of the UCLA Loneliness scale (ULS-8; Hays & DiMatteo, 1987) was used to measure loneliness. Respondents were required to indicate how often each statement described them on a 4-point Likert scale from 0 (never) to 3 (always). Items were summed to produce a total score ranging from 0 to 24, with higher scores indicating greater loneliness. Good internal consistency has been reported (Cronbach's alpha = .84; Hays & DiMatteo, 1987).

Depression. The 7-item Depression subscale of the 21-item, Depression Anxiety and Stress Scale – Short Form (DASS-21: Lovibond & Lovibond, 1995) was used to measure depressive symptoms. Respondents were required to rate on a 4-point scale ranging from 0 (did not apply to me at all) to 3 (applied to me very much, or most of the time), the degree to which each item applied to them over the past week. Items were summed to produce a total score that may range from 0-21, with higher scores indicating greater levels of depressed mood. Scores from 0 – 4 indicate 'normal' mood;

5 – 6 indicate ‘mild’ depression; 7 – 10 indicates ‘moderate’ depression; 11 – 13 indicates severe depression; and 14 or higher indicates ‘extremely severe’ depression. The measure has good psychometric properties, including good internal consistency (Cronbach’s alpha = .88; Henry & Crawford, 2005).

Body dissatisfaction. A 12-item modified version of the Body Image Concern subscale (BIC) of the Body Image and Body Change Questionnaire (Ricciardelli & McCabe, 2002), used previously (Bell, Donovan & Ramme, 2016); Ramme, Donovan & Bell, 2016) was used to measure body dissatisfaction. Respondents were required to rate satisfaction with their weight, body shape, muscle size, and each of nine different body parts (hips, thighs, chest, abdominal region and/or stomach, shoulders, legs and arms, back and buttocks) on a 5-point Likert scale from 1 (extremely satisfied) to 5 (extremely dissatisfied). Item scores were summed to produce a total scale score that may range from 12 to 60, with higher scores indicating greater body dissatisfaction. Bell et al. (2016) reported a Cronbach’s coefficient alpha of .91 for the modified scale.

Eating Self Efficacy. The 8-item Weight Efficacy Lifestyle Questionnaire Short Form (WEL-SF) was used to measure perceived self-efficacy for controlling eating behaviours (Ames, Heckman, Grothe, & Clark, 2012). Items were rated on an 11-point Likert Scale from 0 (not at all confident that I can resist the desire to eat) to (very confident I can resist the desire to eat). Items were summed, yielding a total score ranging from 0 to 88, with higher scores indicating a greater level of confidence in one’s ability to control eating behaviour. Psychometric analyses have demonstrated good internal consistency (Cronbach’s alpha of .92; Ames, Heckman, Diehl, Grothe & Clark, 2015).

External Weight Stigma. The 10-item Stigmatising Situations Inventory-Brief (SSI-B; Vartanian, 2015) was used to measure lifetime experiences of weight-related

stigmatising experiences. The measure allows respondents to rate on a 10-point scale from 0 (never) to 9 (daily) the frequency with which each item applies to them. The measure was used in the current study to collect qualitative information on the types of stigmatising situations previously experienced.

Data Analysis.

Changes in scores from pre-treatment to post-treatment, pre-treatment to 3-month follow-up, and post-treatment to 3-month follow-up were examined using the Reliable Change Index (RCI; Jacobson & Truax, 1991). The RCI is calculated by taking the product of the scale's test-retest reliability and standard deviation (Jacobson & Truax, 1991). The RCI demonstrates whether changes for each case are significantly greater than that due to measurement error, and an RCI that is greater than 1.96 denotes a statistically significant difference. Test-retest reliability scores are not available for the WEL-SF or modified BIC measures, and therefore RCI analyses were not able to be conducted for these measures.

Results

Ms M attended each of the 10 sessions, engaged in all homework tasks assigned, and completed all measures across each assessment point. Table 1 outlines the possible range of scores, Ms M's pre- post- and 3-month follow-up scores, and the RCI for each outcome measure, where it could be calculated. As is evident from Table 1, self-compassion scores increased from pre- to post-treatment, from pre-treatment to 3-month follow-up, and from post-treatment to 3-month follow-up. Indeed, Ms M's scores increased from the 'low' self-compassion range at pre-treatment to within the 'moderate' self-compassion range at post-treatment and 3-month follow-up.

There was no significant change in internalised weight stigma scores from pre- to post-treatment. However, there was a decrease from pre-treatment to 3-month follow-

up and from post-treatment to 3-month follow-up. A reduction in depression scores was found from pre-treatment to post-treatment and from pre-treatment to 3-month follow-up, but not from post-treatment to 3-month follow-up. Indeed, Ms M's depression scores decreased from within the "severe" range at pre-intervention, to within the "mild" range at post-intervention, to within the "normal" range at 3-month follow-up. There was no change in loneliness from pre- to post-treatment or from post-treatment to 3-month follow-up. However, there was a significant reduction in loneliness from pre-treatment to 3-month follow-up. There were no significant changes found for life satisfaction or body shame.

As noted above, reliable change was unable to be calculated for measures of body dissatisfaction or eating self-efficacy. However, mean scores indicated that body dissatisfaction scores decreased from pre- to post-treatment and from post-treatment to 3-month follow-up. Eating self-efficacy scores increased from pre- to post-treatment, but then decreased again at 3-month follow-up. Finally, Ms M demonstrated a total weight loss of 2.6 kilograms from pre-treatment to 3-month follow-up, although she remained within the obese range.

Case Illustration 2: Ms K

Presenting Problem and Background.

Ms K was a 49-year-old, married, Caucasian female, born in Australia, with a postgraduate degree-level education. Her BMI at commencement of the study was 27.64, placing her in the overweight range. Ms K perceived her weight as "quite overweight" and reported having been overweight for 14 years. She reported a history of experiencing weight stigma in several forms, including being stared at in public, having a doctor recommend a diet even though she did not attend to discuss weight loss, and overhearing other people making rude remarks in public. Ms K reported a high

level of internalised weight stigma, and had low self-compassion (see measures used in Case Illustration 1). Ms K was seeking help through the intervention to develop self-compassion and become more resilient to stigmatising situations.

Method

The measures and procedures were identical to those for Ms M.

Results

Ms K completed all aspects of treatment, including attending each of the 10 sessions, engaging in all homework tasks assigned, and completing all measures across each assessment point. Table 2 outlines the possible range of scores on each measure, Ms K's pre-treatment, post-treatment and 3-month follow-up scores on each measure, and the RCI for those measures where it could be calculated.

Improvements in self-compassion were found from pre- to post-treatment, pre-treatment to 3-month follow-up, and post-treatment to 3-month follow-up. Indeed, Ms K's self-compassion scores increased from the 'moderate' range at pre-treatment, to the 'high' range at 3-months follow-up. There was no significant change in internalised weight stigma from pre- to post-treatment. However, there were reductions found from pre-treatment to 3-month follow-up and from post-treatment to 3-month follow-up. There were no changes in depression scores at any time point (although it should be noted that Ms K's depression scores were extremely low at pre-treatment). Reductions in loneliness were found from pre-treatment to post-treatment, and pre-treatment to 3-month follow-up, but not from post-treatment to 3-month follow-up. Improvements in life satisfaction and body shame were found from pre-treatment to 3-month follow-up, but not from pre- to post-treatment or from post-treatment to 3-month follow-up.

Although reliable change was unable to be calculated, Ms K's body dissatisfaction scores decreased from pre- to post-treatment and from post-treatment to

3-month follow-up, and her eating self-efficacy scores increased from pre- to post-treatment and from post-treatment to 3-month follow-up. Finally, Ms K reported a reduction of 1.6 kilograms from pre-treatment to 3-month follow-up, although she remained in the overweight range.

Discussion

The aims of this paper were two-fold. The first aim was to provide researchers and clinicians with a description of a 2-day Compassion-Focused Therapy (CFT) intervention (Self-Compassion for Women Program) targeting self-compassion and internalised weight stigma. The second aim was to present two brief case illustrations to demonstrate the feasibility of this program for weight stigmatised women with overweight and obesity.

The outcomes of both case studies presented here were positive and largely consistent. Given that the Self-Compassion for Women Program was designed to reduce internalised weight stigma and increase self-compassion, it was particularly important to demonstrate improvements on these variables. For both cases, self-compassion improved following treatment, and continued to improve at 3-month follow-up. These findings corroborate previous research illustrating the malleability of self-compassion and are consistent with studies in which self-compassion interventions for diverse outcomes have led to sustained improvements in self-compassion over time (Ferrari et al., 2019). Moreover, although not significant, improvements in internalised weight stigma were observed following treatment, with further improvement reaching significance at 3-month follow-up. The immediate significant improvements in self-compassion and slower improvements in internalised weight stigma could be a process of effect, whereby changes in self-compassion occur first and bring about changes in stigma. Through a variety of evidenced-based methods, the intervention aimed to

cultivate self-soothing, warm, and more supportive internal dialogue, which appears to have assisted individuals to reduce the tendency to attribute hurtful, negative weight based stereotypes to themselves over time.

It was also of interest to the study to assess whether the CFT intervention would be successful in reducing symptoms of depression given that weight stigma has been found to be associated with psychiatric problems such as depressed mood. Given Ms K's depression scores were in the normal depression range and low at pre-treatment, she did not show significant improvements in depression over time. However, Ms M demonstrated a decrease in depression symptom severity following completion of the two-day intervention that was maintained at 3-month follow-up. Indeed, she improved from being in the 'severely depressed' range at pre-treatment to the 'normal' range at 3-month follow-up. This finding is encouraging and supports a large body of research indicating a negative association between self-compassion and psychopathology (MacBeth & Gumley, 2012), as well as studies demonstrating that CFT interventions positively impact mood in both clinical and nonclinical populations (Gilbert & Procter, 2006; Kirby, 2017). It is of note that depression symptoms, thoughts and behaviours were not discussed or targeted directly in the intervention, thus suggesting that improving self-compassion can, by extension, alleviate depressive symptoms. This study adds to existing literature in the field by demonstrating the efficacy of CFT interventions for improving severely depressed mood within the context of weight stigma.

In addition to improvements in self-compassion and internalised weight stigma, the results also revealed improvements in loneliness scores for both cases. This is important given that there is a growing evidence-base demonstrating that loneliness is related to a myriad of negative health outcomes (Shankar, McMunn, Banks & Steptoe,

2011), and that weight stigmatised individuals are vulnerable to experiencing social exclusion and loneliness (Lewis et al., 2011). Findings of this study support previous correlational studies that have demonstrated a negative association between self-compassion and loneliness (Akin, 2010). This study also adds to existing literature by providing preliminary support for the CFT intervention to reduce feelings of loneliness for weight stigmatised women. It may be that developing a compassionate understanding that difficulties and struggles (i.e. both generally and in the context of weight) are universal (Neff, 2003, Gilbert, 2010), together with benefits associated with a group learning context (i.e. shared experiences, camaraderie) provided a reduced sense of loneliness for the cases presented.

Although improvements in life satisfaction scores were evident for both cases, only Ms K's scores improved reliably. Research has demonstrated positive relationships between self-compassion and better quality of life and greater well-being (Allen, Goldwasser, & Leary, 2012; Pinto-Gouveia, Duarte, Matos & Fraguas, 2014). Moreover, studies investigating CFT have shown positive effects for a wide range of well-being outcomes (Leaviss & Uttley, 2015). In the current study, it appears that improvements in life satisfaction differed between the two cases, which may have been due to individual differences, circumstances and psychosocial factors impacting on general life satisfaction that were not addressed during the intervention. A larger trial is required to determine the ability of the intervention to improve life satisfaction.

With respect to body shame, significant improvements were not evident for Ms K immediately following treatment but were evident by 3-month follow-up. There was also a reduction in body shame scores over time for Ms M, however, these changes were not reliable. This finding suggests that reducing a sense of shame in regards to one's body can be challenging and requires effort to change over time. This is

unsurprising given the pervasive nature of weight stigma and societal body shaming messages. Although reliable change indices were not available for body dissatisfaction, observation of raw scores for both women indicated improvements across the course of the study. This is encouraging given both women initially presented with negative and critical evaluations of themselves, especially in the context of weight. During the intervention, both women were encouraged to direct compassion and understanding towards themselves despite any perceived flaws or imperfections, and these preliminary findings suggest this intervention may have been beneficial in this regard.

Again, reliable change indices were not available for eating self-efficacy, however there was diversity in patterns of eating self-efficacy across the two case illustrations. While Ms K's scores indicated greater changes at post-intervention and further improvement at follow-up, Ms M experienced a smaller degree of change at follow-up, and reverted back to near pre-intervention scores at 3-month follow-up. The reasons for the differences between women with respect to eating self-efficacy are unclear. The results suggest that Ms K believed she was better able to resist turning to food when attempting to cope with distress, which may be due to an increased ability to engage in alternative and more self-compassionate strategies. Such findings point to the importance of conducting a larger randomised controlled trial to more accurately assess changes in constructs over time.

Finally, it was of secondary interest to this study to investigate whether the intervention may lead to a reduction in weight despite weight loss not having been directly targeted throughout the intervention. Prior research indicates the stressful nature of weight stigma, and the tendency for some individuals to cope with stigmatising situations by engaging in obesogenic behaviours such as overeating (Puhl & Brownell, 2006). It was considered possible therefore, that a more compassionate approach to the

self would better equip individuals to behave in more beneficial, self soothing and compassionate ways in difficult and stressful situations, and to change their eating and exercise habits accordingly. Previous research has indeed indicated that engaging in self-compassion can motivate a desire for self-improvement (Moffitt et al., 2018). The results presented here indicated only a small reduction in weight for both cases, however, the decline observed may be considered quite substantial given the short timeframe of the intervention. The results again highlight the need for a larger trial to more adequately assess the CFT intervention's efficacy with respect to weight loss.

Overall, the results of the case studies presented were positive. Both women engaged in, and responded well to, the intervention. Each case experienced increased self-compassion and decreased internalised weight stigma at the completion of the study, along with reliable improvements in several psychosocial outcomes. Some limitations of these case illustrations should be noted, however. Both cases represented a female and Caucasian participant, and therefore caution should be taken when generalising the results beyond this demographic. Furthermore, although useful, a case-study design is limited, and randomised controlled trials are required before firm conclusions can be made regarding the efficacy of the intervention. Despite these limitations, the case illustrations are encouraging, and represent a valuable first step in addressing the need for interventions designed to ameliorate the effects of weight stigma for individuals with overweight and obesity. Research increasingly indicates the deleterious effects of external and internalised weight stigma beyond that of weight alone, for individuals in many countries around the world. It is hoped that this paper will provide clinicians with information and strategies to assist overweight clients to build resilience to the harmful effects of weight stigma, by reducing self-stigmatising

beliefs and developing more self-compassionate ways of relating to the self, when faced with challenging stigmatising situations.

Table 1

Ms M: Score Ranges, Outcome Scores, and Reliable Change Index (RCI) scores

	Score Range	Pre	Post	3 Months	RCI Pre-post	RCI Pre-3Month	RCI Post- 3 months
Self Compassion	6 - 30	9.15	13.00	18.05	2.75*	6.36*	3.61*
Internalised Weight Stigma	1 - 7	6.27	5.91	4.18	-0.42	-2.46*	-2.04*
Depression	0 - 21	13	5	3	-3.54*	-4.42*	-0.88
Loneliness	0 – 3	2.5	2.25	1.75	-0.89	-2.66*	-1.77
Life Satisfaction	5 – 35	5	5	10	0.0	1.35	1.35
Body Shame	0 – 24	18	15	12	-0.70	-1.39	-0.70
Body Dissatisfaction	12 - 60	54	49	47	-	-	-
Weight Efficacy	0 – 80	40	50	43	-	-	-
Weight in Kgs	-	100	99	97.40	-	-	-

* RCI value indicates a reliable improvement

Table 2

Ms K: Score Ranges, Outcome Scores, and Reliable Change Index (RCI) scores

	Score Range	Pre	Post	3-Months	RCI Pre-post	RCI Pre-3Month	RCI Post- 3 months
Self Compassion	6 - 30	15.60	19.10	27.30	2.50*	8.36*	5.86*
Internalised Weight Stigma	1 - 7	5.27	3.82	1.91	-1.71	-3.96*	-2.25*
Depression	0- 21	2	2	0	0.0	-0.88	-0.88
Loneliness	0 – 3	2	1.25	0.88	-2.66*	-3.98*	-1.31
Life Satisfaction	5 – 35	19	25	30	1.62	2.98*	1.35
Body Shame	0 – 24	17	13	5	-0.93	-2.78*	-1.85
Body Dissatisfaction	12 - 60	51	41	31	-	-	-
Weight Efficacy	0 – 80	24	37	67	-	-	-
Weight in Kgs	-	69	69	67.4	-	-	-

* RCI value indicates a reliable improvement

Session 1	Session 2	Session 3	Session 4	Session 5
1. 'ice-breaker' activities 2. the topic of compassion is introduced 3. participants write or draw what compassion means to them individually which is then discussed as a group 4. psychoeducation on the meaning of compassion from a psychological science perspective is provided	1. participants complete a two-item measure indicating the extent to which participants believe (a) self-compassion and (b) self-criticism are helpful for well-being (repeated on Day 2). Psychoeducation on self-compassion is provided 3. participants engage in a guided imagery exercise to experience compassion directed towards others (i.e. a loved one) and themselves 4. psychoeducation on weight and weight stigma and self criticism is followed by group discussion 5. participants engage in a guided imagery exercise (i.e. The Two Teacher's Story – see Gilbert, 2009a; Kolts, 2016 for details), that focuses on benefits of self-compassion vs self-criticism as a motivator for change	1. psychoeducation on the human brain according to CFT protocols, and group discussion 2. psychoeducation on CFT's Three Circles Model of Emotion Regulation (i.e. drive, threat and soothing systems (see Gilbert, 2009a for detailed explanation) in the context of weight stigma (e.g. stigma as external and internal threats) 3. psychoeducation on evidence based compassion focused exercises (e.g. imagery, breathing etc) to activate soothing system 4. participants engage in Soothing Rhythm Breathing (see Gilbert 2009a; Kolts 2016 for details)	1. participants engage in an author-developed guided imagery exercise to experience compassion directed towards the self and one's body, despite any perceived flaws or imperfections, and focusing on function instead of outward appearance	1. participants are provided with an overview of topics covered on Day 1 2. set homework tasks, followed by a group discussion. Homework tasks comprise: a). engage in at least one self-compassionate behaviour (i.e. an activity that provides both enjoyment and fosters well-being) prior to Day 2, and b). Participants to consider a compassionate figure (e.g. a person known to them or historical or imagined), who they consider embodies compassion which forms the basis of a CFT imagery activity (Gilbert, 2009a) on Day 2

Figure 1. Day 1 of the Self-Compassion for Women Program

Session 6	Session 7	Session 8	Session 9	Session 10
1. group discussion of topics covered in Day 1, followed by questions, reflections and experiences since Day 1. Overview of topics to be covered in Day 2 2. review of homework tasks, discuss challenges and experiences 3. repeat exercises from Day 1 - to write/draw meaning of compassion/, and complete a two-item measure indicating the extent to which (a) self-compassion and (b) self-criticism are helpful for well-being, followed by a group discussion 4. CFT guided imagery exercise to direct compassion towards themselves via a compassionate figure (first introduced as homework task on Day 1), with a focus on self-compassion in the context of weight stigma	1. participants engage in an author developed series of three stepped letter writing tasks, involving compassionate writing in response to case scenarios presented. Cases involved: (1) a rescue animal experiencing suffering; 2. an overweight woman with a history of weight stigma and weight related difficulties; and (3) participants instructed to look at a picture of themselves from a compassionate perspective	1. group activity to plan continued self-compassion practice which includes: identifying situations in which self-compassionate thinking and behaviours may be beneficial (e.g stigmatising situations; regular self-care activities); exploring previous coping in challenging situations (e.g. self-criticising, comfort eating, avoidance, etc), and exploring more helpful and compassionate ways of responding; and exploring barriers to self-compassion	1. participants engage in an exercise involving the completion of worksheets to develop individualised plans for continued compassion practice, based on ideas generated as a group in session 8. Facilitators provide individual support and guidance throughout	1. topics from Days 1 and 2 are presented, followed by a group discussion on key take home points, and importance of continued practice is emphasised for the continued development of self-compassion. 2. participants engage in final Q & A and share reflections on learning and participation

Figure 2. Day 2 of the Self-Compassion for Women Program

Chapter 5: Study 3

Unburdening the Weight of Stigma: Findings from a Compassion-Focused Group Program for Women with Overweight and Obesity

Statement of contribution to co-authored published paper

This chapter includes a co-authored paper. The bibliographic details of the co-authored paper, including all authors, are:

Forbes, Moffitt, Van Bokkel, & Donovan (*under review*). Unburdening the weight of stigma: Findings from a compassion-focused group program for women with overweight and obesity.

My contribution to the paper involved: study conceptualisation and research design; intervention development (80% candidate, 20% supervisor), half of recruitment and data collection procedures; selection of assessment measures; collation of the data, data analyses, and results; writing of the manuscript including interpretation and discussion of findings; implementing feedback provided by secondary authors.

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Abstract

This study tested the feasibility and acceptability of a 2-day, Compassion-Focused Therapy (CFT) program designed to increase self-compassion and reduce internalised weight stigma for a group of weight stigmatised females with overweight and obesity. Participants were 15 Australian females aged 18 and 62 years (M = 43.60, SD = 12.38), who completed measures of self-compassion, internalised weight stigma, psychological distress, body dissatisfaction, eating self-efficacy, loneliness, body shame, and life-satisfaction. Significant improvements were found from pre-treatment to post-treatment for self-compassion and internalised weight stigma, with gains maintained at 3-month follow-up. Significant improvements were also found on measures of psychological distress, life satisfaction, eating self-efficacy, body dissatisfaction and loneliness at the post-treatment assessment. A non-significant trend of mean group weight loss from pre-treatment to 3-month follow-up was also found. Credibility ratings of the program were high. The findings are discussed in terms of the promise of CFT in assisting women to develop resilience to the harmful effects of weight stigma, and the directions that future research should take to further develop and evaluate this approach.

Unburdening the Weight of Stigma: Findings from a Compassion-Focused Group Program for Women with Overweight and Obesity

According to the World Health Organization (WHO; 2018a), more than 1.9 billion adults worldwide are overweight, with 650 million of those classed as obese. Individuals with overweight and obesity are often exposed to weight-based stigma, whereby negative attitudes, beliefs, and behaviours are directed towards them (Puhl, Himmelstein & Quinn, 2018). Despite the complex causal nature of weight gain, people are often blamed for being overweight, and unfavourable evaluations placed upon them. Indeed, children as young as three years of age have been shown to evaluate overweight individuals negatively (Cramer & Steinwert, 1998), and adults have reported that in preference to being obese they would rather shorten their life, be divorced, or be unable to have children (Schwartz, Vartanian, Nosek & Brownell, 2006).

Research has shown that individuals with overweight, and particularly women, are treated differently compared to their average weight peers in many areas of life. Overweight individuals are less likely to be chosen as romantic partners (Chen & Brown, 2005), are more likely to receive verbal abuse from strangers in public settings, and report having been teased and criticised by family members and close friends about their weight (Lewis et al., 2011; Puhl & Heuer, 2009). Individuals with overweight have also reported being stigmatised by health care providers specialising in the treatment of obesity, whereby such providers have been found to make derogatory comments and blame overweight people for their weight status (Puhl, Moss-Racusin, Schwartz & Brownell, 2007; Schwartz, Chambliss, Brownell, Blair, & Billington, 2003). Unsurprisingly therefore, weight-based stigmatisation is associated with numerous adverse psychosocial consequences including higher levels of anxiety and stress, reduced quality of life, higher rates of depression, increased suicidal ideation, increased

mortality risk, avoidance of social activities, greater substance abuse, and greater loneliness and isolation (Sutin, Stephan, & Terracciano, 2015; Hatzenbuehler, Keyes & Hasin, 2009; Incollingo Rodriguez, Heldreth & Tomiyama, 2016; Lewis et al., 2011).

In addition to being at risk for the aforementioned myriad of psychosocial factors, weight stigma may also increase obesity risk. Results from several large longitudinal studies have found that weight stigmatising experiences can predict future weight gain, independent of baseline BMI (Jackson, Beeken, & Wardle, 2014; Hunger & Tomiyama, 2014). In addition, weight stigma has been found to impede efforts to adopt and maintain healthy behaviours that are promoted by weight loss programs. For example, Wott and Carels (2010) investigated the results of a 14-week weight loss intervention and found that greater frequency of weight stigmatisation was associated with significantly poorer treatment outcomes such as increased calorie consumption and lower calorie expenditure through activity. Research suggests that stress associated with weight stigma contributes to weight gain through physiological changes (e.g., increased cortisol) and behavioural responses (obesogenic behaviours i.e., increased eating) (Himmelstein, Incollingo Belsky & Tomiyama, 2015; Major, Hunger, Bunyan & Miller, 2014; Schvey, Puhl & Brownell, 2014). Indeed, in a sample of almost 2,500 women recruited from a national weight-loss support group, 80% reported eating as a coping strategy in response to weight stigma (Puhl & Brownell, 2006).

Individuals with higher weight not only experience external weight stigma (e.g. criticism from others), they can also internalise stigma, such that they blame and devalue themselves because of their weight (Puhl et al., 2018). Internalised weight stigma has been shown to be extremely detrimental to people with overweight, and is associated with depression, anxiety, poor self-esteem, reduced self-efficacy, body dissatisfaction, and eating disorder pathology (Carels et al., 2013; Durso & Latner,

2008; Hilbert et al., 2014; Papadopoulos & Brennan, 2015). Research has also demonstrated that associations between internalised weight stigma and mental and physical health are more robust than external weight stigmatising experiences in some studies (Durso & Latner, 2008; Latner, Barile, Durso, & O'Brien, 2014; Pearl & Puhl, 2016). Furthermore, there is evidence indicating that overweight women internalise weight stigma more than their male counterparts (Himmelstein, Puhl, & Quinn, 2017), thus suggesting that overweight women may suffer the consequences of internalised weight stigma more than men. Together, such findings provide evidence to suggest that the diminished health and well-being of individuals with overweight and obesity is due in part to the impact of weight stigma, and that women who have internalised weight stigma are particularly vulnerable.

Evidence demonstrating the deleterious effects of experienced and internalised weight stigma is compelling, and has prompted calls to action, including suggestions for the development and implementation of interventions designed to alleviate the effects of weight stigma for overweight populations (Pearl, 2018). Although such interventions are currently limited in number, studies have demonstrated promising preliminary results. For example, in a study conducted by Lillis and colleagues (2009), participants in a 1-day program targeting weight stigma with an Acceptance and Commitment Therapy (ACT) and mindfulness approach for overweight individuals, demonstrated significantly greater improvements in distress tolerance, quality of life, and weight related self-stigma following intervention compared to a control group. Additionally, significant differences in weight loss were found between groups at 3-month follow-up, with 35% of the intervention group losing over five pounds (2.27 kilograms) compared to 11% of controls. Positive outcomes were also found for a seven-week guided self-help ACT intervention targeting weight stigma for a sample of 13 overweight or obese

individuals, where improvements in weight self-stigma, emotional eating, weight management behaviours, depression and quality of life were found (Levin, Potts, Haeger & Lillis, 2018). A further study involved a 10-week ACT program which integrated mindfulness and self-compassion components targeting eating patterns and weight stigma (Palmeira, Pinto-Gouveia, & Cunha, 2017). The intervention reduced weight self-stigma, unhealthy eating, self-criticism, and BMI, as well as increased health-related quality of life and exercise. In a further study involving an 8-week Cognitive Behavioural Therapy (CBT) intervention for weight stigma in a sample of individuals with obesity, Pearl and colleagues (2016) found greater reductions in internalised weight stigma, reduced fat phobia and increased weight efficacy for participants receiving treatment, compared to those in an education-control group. Together these studies provide evidence for the malleability of internalised weight stigma. Given consistent findings demonstrating the negative effects of weight stigma, further research is warranted to investigate the feasibility and acceptability of evidence-based approaches to alleviate the effects of weight stigma for individuals with overweight and obesity.

One approach to reducing internalised weight stigma that is worthy of investigation is Compassion-Focused Therapy (CFT; Gilbert, 2005; Gilbert & Proctor, 2006). Compassion refers to the ability to alleviate suffering in the self and others (Gilbert, 2014; Tsering, 2006). Compassion directed toward the self, also known as self-compassion, is described as the ability to self-soothe with kindness and non-judgemental understanding when confronted with threats or negative emotions (Gilbert, 2005). Self-compassion has been consistently linked to a range of positive physical and psychological benefits including: greater overall psychological well-being, healthier body image, lower disordered eating, lower BMI and lower internalised weight stigma

(Hilbert et al., 2015; Kelly, Vimalakanthan & Miller, 2014; MacBeth & Gumley, 2012). Research has also found that individuals higher in self compassion demonstrate greater emotional resilience and effective coping, and experience less negative emotions and more accepting thoughts when faced with adversity (Chishima, Mizuno, Sugawara, & Miyagawa, 2018; Leary, Tate, Adams, Batts Allen, & Hancock, 2007; Chishima et al., 2018; Sirois, Molnar & Kirsch, 2015). Research has also indicated self-compassion can serve to buffer the effects of stigma for different stigmatised populations, including sexual minority groups (Vigna, Poehlmann-Tynan, & Koenig, 2018), and individuals with mental illness (Yang, & Mak, 2017). Taken together, these results suggest that a more compassionate relationship with the self may play a protective role, buffering against the negative effects of weight stigma for overweight and obese individuals.

CFT has demonstrated the malleability of self-compassion in various contexts, and has been found to effectively increase self-compassion and alleviate a range of difficulties for individuals with: depression and anxiety (Judge, Cleghorn, McEwan & Gilbert, 2012), eating disorder pathology (Kelly & Carter, 2015), psychotic symptoms (Braehler et al., 2013), and personality disorders (Lucre & Corten, 2013). However, the efficacy of a CFT intervention designed for the primary purpose of reducing internalised weight stigma and symptoms associated with weight stigma has not yet been explored. This study addressed this gap in current knowledge by piloting a CFT group intervention designed to develop self-compassion and reduce internalised weight stigma, in a group of stigmatised females with overweight and obesity. The primary hypotheses were that the intervention would (1) increase self-compassion and (2) reduce internalised weight stigma when comparing scores on these variables at pre- and post-intervention time-points, with improvements maintained at 3-month follow-up. It was further hypothesised that the intervention would result in improvements to secondary

outcomes associated with weight stigma including psychological distress, body dissatisfaction, eating self-efficacy, loneliness, body shame, and life-satisfaction. Finally, and although not targeted directly within the intervention, a subsidiary interest was to explore possible weight loss over the course of the follow-up period. Although it was not a focus of the study, it was of interest to assess weight loss, due to evidence indicating that developing the capacity for more self-compassionate ways of coping and behaving, both in the context of weight stigma and in daily life, may lead to changes in health behaviours.

Methods

Participants

Participants were recruited via social media, paper flyers, and word of mouth. The study invited women aged 18 years and over to participate in a free-of-charge, interactive program designed for women who had experienced self and other stigma, and were seeking to develop self-compassion. To be included in the study, participants were required to: be female; be aged 18 years or over; have a current weight category of overweight or obese as indicated by a Body Mass Index (BMI) of 25 or above; and report at least one previous experience of external weight stigma. Given a key aim of the study was to reduce internalised weight stigma, individuals with high levels of internalised weight stigma, were invited to participate. In line with prior research (e.g. Pearl, Hopkins, et al., 2018; Pearl et al., 2020), high internalised weight stigma was indicated by a score of ≥ 4, (midpoint of 4) on the Weight Bias Internalisation Scale (Durso & Latner, 2008). As a further aim of the study assess the feasibility of the program to assist individuals develop their capacity for self-compassion, individuals with low self-compassion as measured by a score of ≤ 2.5 on the Self-Compassion Scale (Neff, 2003) were included in the current study. Exclusion criteria included current

suicidal/homicidal ideation, substance abuse, or psychosis. Given the secondary aim of exploring potential weight changes, women who were pregnant or who had bariatric surgery planned within 6-months were excluded to limit confounding effects. The flow of participants through the study is shown in Figure 1. Of note, the study achieved 100% participation rate, and all measures were completed across each time point for all participants who undertook the study. Study participants did not receive monetary compensation for their participation in the program.

Participants were allocated to one of three groups that received the intervention, which ran in succession. The study comprised a total of 15 females aged between 18 and 62 years (M = 43.60, SD = 12.38), the majority (80%) of whom were born in Australia. Of the sample, 46.7% were married, 28.9% were single, 15.6% were divorced, and 8.9% were separated. In terms of highest education level obtained, 33.3% reported a postgraduate degree, 33.3% reported an undergraduate degree, 13.3% reported a TAFE certification, 13.3% reported a tertiary diploma, and 6.7% reported high school completion. Participant Body Mass Index (BMI) at pre-intervention ranged from 27.64 to 58.14 kilograms (M = 31.23, SD = 5.80), with one participant falling within the overweight category (BMI 25.0 – 29.9), and the remaining participants falling within the obese category (BMI ≥ 30).

Procedure

Ethical approval was granted from the University Human Research Ethics Committee prior to study commencement. Following initial telephone screening for suitability based on inclusion and exclusion criteria, participants were provided with an information sheet, and were asked to provide their written informed consent. Participants were assured that participation was voluntary and that they were free to withdraw from the study at any time without penalty, prejudice, or need for explanation.

Eligible participants were asked to complete a questionnaire package at baseline one week prior to treatment (T1), at one week post-treatment (T2), and at 3-month follow-up (T3) via the online survey site, Lime Survey, where all data for the study was collected.

The program was delivered by two psychologists with provisional or general registration. The lead facilitator was trained in CFT by an international expert, and the co-facilitator for each group was provided with a minimum of three hours training prior to commencement. The study was overseen by a clinical psychologist, and supervision was provided to each facilitator throughout the study.

Measures

Demographic Information. Participants provided information on their age, country of birth, relationship status, and education. Height and weight were self-reported at pre, post and 3-month follow up. BMI was calculated as BMI = kg/m^2.

Primary Outcome Measures

Self-Compassion. Self-compassion was measured using the 26-item Self-Compassion Scale (SCS; Neff, 2003). Respondents were required to report levels of compassionate responding on a 5-point scale from 1 (almost never) to 5 (almost always). Scores were averaged to provide a global self-compassion score that may range from 1 to 5, with scores of 1 – 2.5 indicating low self-compassion; scores between 2.5 - 3.5 indicating moderate levels of self-compassion; and scores between 3.5 – 5.0 indicating high self-compassion (Neff, 2003). The SCS has been found in previous studies to have good internal consistency (Cronbach's alpha = 0.93; Neff, 2003). The Cronbach's alpha for the SCS in this study was .95 which is excellent.

Internalised Weight Stigma. The 11-item Weight Bias Internalisation Scale (WBIS) (Durso & Latner, 2008) measured the extent to which individuals agreed that negative

statements and stereotypes about overweight applied to the self. Responses were measured on a 7-point Likert scale ranging from 1 (strongly disagree) to 7 (strongly agree). Items were averaged to provide an overall Weight Bias Internalisation score ranging from 1 to 7, with higher scores indicating higher levels of weight bias internalisation. Psychometric analyses have demonstrated good internal consistency in prior studies (Cronbach's alpha = .90; Durso & Latner, 2008). The Cronbach's alpha in the current study for the WBIS was .91 which is excellent.

Secondary Outcome Measures

Body Shame. The 6-item Shame subscale of the Weight and Body-Related Shame and Guilt Scale (WEB-SG; Conradt et al., 2007) was used to measure shame related to the body. Respondents were required to rate on a 5-point Likert scale from 0 (never) to 4 (always), the extent to which they experienced shame related to their body. Items were averaged to provide an overall score ranging from 0-4, with higher scores indicating greater body shame. The Shame subscale of the WEB-SG has demonstrated good internal consistency (Cronbach's alpha = .92; Conradt et al., 2007). The Cronbach's alpha of the WEB-SG in the current study is good (α = .80).

Life Satisfaction. The 5-item Satisfaction With Life Scale (SWLS; Diener, Emmons, Larsen, & Griffin, 1985) was used to measure global satisfaction with life. Respondents were required to rate their agreement with each item on a 7-point Likert scale from 1 (strongly disagree) to 7 (strongly agree). Items were summed to provide a total score that ranged from 5 to 35. Scores of 30 – 35 indicated that a person was highly satisfied with life; 25 – 29 indicated they were satisfied; 20 – 24 indicated they were mostly satisfied, 15 – 19 indicated that they were slightly dissatisfied with their life, 10 – 14 indicated they were dissatisfied, and 5 – 9 indicated extreme life dissatisfaction (Diener et al. 2006). Good internal consistency has been demonstrated in previous studies

(Cronbach's alpha = .87; Deiner et al., 1985). The Cronbach's alpha in the current study for the SWLS was .91, which is excellent.

Loneliness. The 8-item short-form of the UCLA Loneliness scale (ULS-8; Hays & DiMatteo, 1987) measured participant loneliness. Respondents rated how often each item was descriptive of the self on a 4-point Likert scale from 0 (never) to 3 (always). Items were summed to produce a score which ranged from 0 to 24. Higher scores indicated greater loneliness. Good internal consistency has been found previously (Cronbach's alpha = .84; Hays & DiMatteo, 1987). The Cronbach's alpha of the ULS-8 in the current study was good, with value .88.

Psychological Distress. The 21-item, Depression Anxiety Stress Scale – short form (DASS-21) developed by Lovibond and Lovibond (1995) was used to measure psychological distress. Participants rated the extent to which each item applied to them over the previous week on a 4-point scale ranging from 0 (did not apply to me at all) to 3 (applied to me very much, or most of the time). Items were summed and multiplied by two to produce a total score that ranged from 0-126, with higher scores indicating greater psychological distress. Good internal consistency has been demonstrated for the DASS-21 total scale (Cronbach's alpha = .93; Henry & Crawford, 2005). The Cronbach's alpha for the DASS in the current study is .94, which is excellent.

Body dissatisfaction. A modified version of the Body Image Concern subscale (BIC) of the Body Image and Body Change Questionnaire (Ricciardelli & McCabe, 2002), used previously by Ramme, Donovan and Bell (2016) and Bell, Donovan and Ramme (2016) was used to measure body dissatisfaction. Participants completed the 12-item measure by reporting level of satisfaction with their weight, body shape, muscle size, and each of nine different body parts (hips, thighs, chest, abdominal region and/or stomach, shoulders, legs and arms, back and buttocks) on a 5-point Likert scale from 1

(extremely satisfied) to 5 (extremely dissatisfied). Items were summed to produce a total scale score that ranged from 12 to 60, with higher scores demonstrating greater body dissatisfaction. Good internal consistency has been demonstrated in prior studies (Cronbach's alpha = .91; Bell et al. 2016). The Cronbach's alpha in the current study was .93, which is excellent.

Eating Self Efficacy. The 8-item Weight Efficacy Lifestyle Questionnaire Short Form (WEL-SF) measured self-efficacy for controlling eating behaviours when faced with challenging situations (Ames, Heckman, Grothe, & Clark, 2012). Items were rated on an 11-point Likert Scale from 0 (not at all confident that I can resist the desire to eat) to 10 (very confident I can resist the desire to eat). Scores were summed to yield a total score ranging from 0 to 88, with higher scores indicating a greater level of confidence in the ability to control eating behaviour. Psychometric analyses have demonstrated good internal consistency (Cronbach's alpha of .92; Ames, Heckman, Diehl, Grothe & Clark, 2015). The Cronbach's alpha for the WEL-SF in the current study is good ($\alpha = .87$)

External Weight Stigma. The 10-item Stigmatising Situations Inventory-Brief (SSI-B; Vartanian, 2015) was used to assess weight stigma experiences. Respondents were required to rate on a 10-point scale from 0 (never) to 9 (daily) the frequency with which each item applied to them. Item scores were averaged to provide a total score ranging from 0 – 9, with higher scores indicating higher levels of stigmatising experiences. High internal consistency has been reported ($\alpha = 0.90$; Vartanian, 2015), and the Cronbach's alpha for the SSI-B in the current study is .92 which is excellent.

Program Credibility. A modified version of the 7-item Credibility Scale (CS; Addis & Carpenter, 1999) was used to measure participants' perceptions of the credibility of the intervention immediately post-intervention (See Table 1). Five of the original items were retained, one additional item was added, and two items were removed, which

resulted in a 6-item measure. Items were modified to measure perceptions of the credibility of the current program designed to increase self-compassion, from the original measure which was used to assess perceptions of the credibility of different treatments for depression. Participants rated the extent to which they believed the intervention was logical, evidence-based and effective on a 7-point response scale ranging from 1 (not at all) to 7 (extremely). Scores were summed to produce a total score ranging from 6 to 42, with higher scores indicating higher perceived credibility. Good internal consistency was found, with a Cronbach's alpha = .86. Participants were also invited to provide open-ended written feedback following completion of the intervention.

Therapeutic Program

The Self-Compassion for Women Program is a group-based treatment program for females with overweight and obesity that aims to improve self-compassion and reduce internalised weight stigma using a compassion-focused approach. Table 2 provides an overview of the key topics covered in the program. A more detailed account can be found in (*manuscript/publication information withheld to ensure current authors are de-identified as per manuscript review process*). The program was conducted face-to-face through two full-day workshops held one week apart. Each full-day workshop consisted of 5 'sessions' or topics. The intervention comprised key elements of CFT (Gilbert, 2010) adapted for use within a weight stigmatised female population. Although there were no planned sessions, given the nature of the group, the topic of eating was raised informally at times by participants. However, nutritional/eating counselling and exercise programs were not prescribed in the program protocol.

Results

Data Analysis

Analyses were conducted using the Statistical Package for Social Sciences (SPSS, version 25). One-way repeated measures ANOVAs, and pair-wise comparisons with Bonferroni adjustments (i.e. using standard $p < .05$ and adjusted within SPSS) were conducted to assess for differences across the three time-points (i.e. pre-intervention, post-intervention and 3-month follow-up) on each of the outcome variables. Partial eta squared (η_p^2) was used to determine effect sizes. Table 2 provides the means and standard deviations for all variables at pre-treatment, post-treatment and 3-month follow-up. Figure 2 provides graphic illustrations of the changes for each variable over time. This analysis was deemed

Primary Outcome Measures

Results indicated a significant increase in self-compassion over time, $F(2, 28) = 44.80$, $p < .001$, with a large effect size, $\eta_p^2 = 0.76$. Pairwise comparisons revealed significant increases in self-compassion from pre- to post-intervention ($p < .001$), and from pre-intervention to 3-month follow-up ($p < .001$). The change in self-compassion from post-intervention to 3-month follow up was not significant ($p = .16$).

Internalised weight stigma was found to decrease significantly over time, $F(2, 28) = 15.26$, $p < .001$, with a large effect size, $\eta_p^2 = 0.52$. Pairwise comparisons indicated significant decreases in internalised weight stigma from pre- to post-intervention ($p = .001$), and from pre-intervention to 3-month follow-up ($p = .001$). The change in internalised weight stigma from post-intervention to 3-month follow up was not significant ($p = .78$).

Secondary Outcome Measures

A significant decrease was found for psychological distress, $F(2, 28) = 9.29$, $p = .001$, with a large effect size, $\eta_p^2 = 0.39$. Pairwise comparisons indicated significant decreases in psychological distress from pre-intervention to post-intervention ($p = .025$), and from pre-intervention and 3-month follow-up ($p = .006$). The change in psychological distress from post-intervention to 3-month follow up was not significant ($p = 1.00$).

Body shame was found to significantly decrease over time, $F(2, 28) = 9.25$, $p = .001$, with a large effect size, $\eta_p^2 = 0.39$. The changes in body shame from pre- to post-intervention ($p = .108$), and from post-intervention to 3-month follow-up ($p = .179$) were not significant. However, there was a significant decrease in body shame found between pre-intervention and 3-month follow-up ($p = .002$).

A significant reduction in body dissatisfaction over time was also found, $F(2, 28) = 15.97$, $p < .001$, with a large effect size, $\eta_p^2 = 0.53$. Pairwise comparisons indicated significant decreases in body dissatisfaction from pre-intervention to post-intervention ($p = .023$), and from pre-intervention to 3-month follow up ($p = .001$). The change in body dissatisfaction from post-intervention to 3-month follow-up was significant ($p = .009$).

A significant increase in life satisfaction was found over time, $F(2, 28) = 11.39$, $p < .001$, with a large effect size, $\eta_p^2 = 0.45$. Pairwise comparisons indicated significant increases in life satisfaction from pre-intervention to post-intervention ($p = .006$), and from pre-intervention to 3-month follow-up ($p = .007$). The change in life satisfaction from post-intervention to 3-month follow-up was not significant ($p = .649$).

Eating self-efficacy was found to increase significantly over time, $F(2, 28) = 11.41$, $p < .001$, with a large effect size, $\eta_p^2 = 0.45$. Pairwise comparisons indicated

significant increases in eating self-efficacy from pre-intervention to post-intervention (p = .001), and from pre-intervention to 3-month follow up (p = .001). The change in eating self-efficacy from post-intervention to 3-month follow-up was not significant (p = .80).

Analysis for loneliness indicated Mauchly's Test of Sphericity was significant (p = .001). And the Greenhouse Giesser correction was applied. A significant decrease was found for loneliness over time, $F(1.18, 16.60) = 5.83$, p = .023, with a large effect size, η_p^2 = .29. Pairwise comparisons indicated a significant decrease in loneliness from pre-intervention to post-intervention (p < .001). However, the changes in loneliness were not significant from pre-intervention to 3-month follow-up (p = .263), or from post-intervention to 3-month follow-up (p = 1.00).

Changes in participant weight across the three time-points were also analysed. Initial results indicated a significant mean group weight loss from pre-treatment to 3-month follow-up, $F(2, 26) = 4.16$, p = .027, η_p^2 = .24. However, results indicated Mauchly's Test of Sphericity was significant (p < .001), therefore the Greenhouse Geisser correction was applied. Subsequently, the results indicated a non-significant trend of mean group weight loss from pre-treatment to 3-month follow-up, $F(1.05, 13.66) = 4.16$, p = .06. Of the sample, one participant experienced no change, two participants reported weight gain (i.e. 1kg, 0.92% weight loss, and 1.5kg, 1.69% weight loss), and eleven participants achieved weight loss ranging from 0.20 kgs to 24kg (0.16% to 13.79% weight loss) from pre-intervention to 3-month follow-up.

Program Credibility

Participant evaluations indicated high treatment credibility (M = 40.13; SD = 2.72). Table 3 outlines mean ratings of intervention credibility for each item.

Discussion

The current study investigated the feasibility and acceptability of a Compassion Focused Therapy (CFT) intervention aimed at increasing self-compassion and reducing internalised weight stigma in a group of females with overweight and obesity. In addition to increasing self-compassion and reducing internalised weight stigma, it was also hypothesised that the program would lead to improvements in psychological distress, life satisfaction, loneliness, body shame, body dissatisfaction, and eating self-efficacy. A secondary interest was to assess whether the program, despite no nutritional counselling or exercise information included in the protocol, may result in an incidental reduction in BMI.

The results were highly supportive of program feasibility. For most outcomes (self-compassion, internalised weight stigma, psychological distress, life satisfaction and eating self-efficacy), significant improvements were observed from pre-treatment to post-treatment. Importantly, these improvements were maintained three months later. Furthermore, body dissatisfaction was found to significantly decrease from pre- to post-treatment and to reduce significantly further again from post-treatment to 3-month follow-up. Loneliness was the only variable whereby the initial significant improvement evident immediately following treatment was not maintained at 3-month follow-up. However, some gains were maintained and loneliness scores did not return to pre-intervention levels.

Self-compassion and internalised weight stigma were the key outcomes in this study. The results provide preliminary support for the feasibility of the program to assist weight stigmatised women increase their capacity for self-compassion. Indeed, the amount of change in self-compassion reported here in a 2-day intervention is comparable to previous CFT group interventions, including a 12-week CFT group

intervention developed as an adjunct to evidence-based outpatient treatment for eating disorders (Kelly, Wisniewski, Martin-Wagar, Hoffman, 2017), and a 6-week CFT intervention for highly self-critical individuals (Rose, McIntyre & Rimes, 2018). This study therefore provides further support for the efficacy of CFT and illustrates the malleability of self-compassion for a group of stigmatised women with overweight and obesity. Findings also add to the literature by demonstrating that gains in self-compassion can be maintained over time in a CFT based intervention that is conducted in a more intensive format over a relatively short duration.

Importantly, the self-compassion program demonstrated feasibility in terms of reducing internalised weight stigma. Indeed, the magnitude of reduction in internalised weight stigma in the current study was similar to that found in the study by Pearl et al. (2016) who conducted an 8-week CBT group program for internalised weight stigma. That similar reductions in internalised weight stigma were found with such an intensive 2-day program highlights the usefulness of CFT in the context of weight stigma, and supports previous research demonstrating the malleability of internalised weight stigma. It would be interesting for future research to conduct a comparison of the two approaches (CFT and CBT) to determine their relative efficacy.

The results of this study have also indicated that participants experienced improvements in several areas that have been found to associate with weight stigma. That psychological distress was found to decline from pre-intervention to post-intervention is encouraging, given the detrimental effects of weight stigma for the mental health of individuals with overweight and obesity (Pearl & Puhl, 2016). The results of the current study are consistent with previous research, including clinical trials that have demonstrated the effectiveness of CFT with a range of mental health problems including depression and anxiety (Gilbert & Proctor, 2006). It is noteworthy that the

program used in the current study did not directly target psychological distress. It may be that learning to tolerate distress (in general and in the context of weight stigma) with a self-soothing and compassionate approach to the self, facilitated improved psychological functioning.

In addition to improving self-compassion, internalised weight stigma and psychological distress, the program was also found to improve outcomes related to weight/body related issues, including body shame, body dissatisfaction, and eating self-efficacy. The findings are consistent with previous research. For example, studies have demonstrated an association between greater self-compassion and reduced body image concerns (Przezdziecki et al., 2013). Moreover CFT interventions have demonstrated improvements in shame (related to body, behaviour, character), as well as reduced eating concerns, and weight concerns (Kelly & Carter, 2015; Kelly, Wisniewski, Martin-Wagar, & Hoffman, 2017). These findings in combination suggest that being taught and encouraged to practice treating oneself with kindness and support despite perceived imperfections, assisted participants to: lessen body shame and dissatisfaction; and to make self-compassionate choices in their lives that are consistent with well-being; and to reduce the tendency to use emotional eating as a means of coping with distress.

It is interesting to note that beside the targeted outcomes of self-compassion and internalised weight stigma, and the more directly relevant weight-related outcomes (body shame, body dissatisfaction and eating self-efficacy), the program had a much broader impact on the lives of participants by improving their life satisfaction. This result supports existing self-compassion research which has revealed associations between greater self-compassion and better quality of life (Van Dam, Sheppard, Forsyth

& Earleywine, 2011), and results of CFT programs that have been shown to lead to improvements in well-being (Leaviss and Uttley, 2015)

The results for loneliness did not mirror those observed for the remaining mental health outcomes. Although participants experienced a significant reduction in loneliness immediately following the intervention, the improvements were not maintained at follow-up. However, some gains were maintained over time, as loneliness scores at 3-month follow-up did not return to levels found prior to commencing the study. Loneliness is an important variable to consider given its strong associations with obesity and weight stigma (Lewis et al., 2011), and its links to a range of detrimental health outcomes, including higher mortality risk (Holt-Lunstad, Smith, Baker, Harris, & Stephenson, 2015; Petitte et al., 2015). It may be that improvements in loneliness directly following the program were in part due to the group-based nature of the intervention. The sense of shared experience and camaraderie was certainly very high among group members. However, upon conclusion of the group, the women may have experienced a sense of loneliness that many with overweight and obesity experience. Future studies should explore the potential for additional support or booster sessions, or provide opportunities for social connectedness among individuals with a history of experiencing weight stigma.

Although weight loss was not targeted in the program, it was of secondary interest to investigate potential changes in body weight following treatment. The results suggested that group weight loss over the course of the study neared statistical significance, with an average weight loss of 3.8kgs, and just over 40% of the group losing more than two kilograms by 3-month follow up. This result is comparable to that of Lillis et al. (2009) following their 1-day mindfulness and acceptance program whereby 35% of the intervention group lost five pounds (2.27 kilograms) or more. It

seems that developing a more compassionate and healthy relationship with the self, reducing internalised weight stigma, and improving eating self-efficacy may have impacted on weight-related behaviours, which in turn may have had a positive effect on weight. Future research should assess weight related behaviours in more detail to further understand changes in behaviour following increases in self-compassion that may, by extension, facilitate weight loss.

Strengths, Limitations, and Recommendations

Several limitations of this study have been identified. First, although an open trial design was considered appropriate for pilot testing of a novel intervention for weight stigma, the results presented here are preliminary and should be interpreted with caution. Future studies should assess this intervention using a rigorous randomised controlled trial design to ensure that the improvements evidenced here were not due to the passage of time. Furthermore, although significant improvements on all variables were found, the study comprised a small sample. Future research should ensure adequate sample sizes to further investigate effects of the intervention on primary and secondary outcomes. Finally, the study's sample comprised female, Caucasian participants, which may limit the generalisability of the results to other populations. For example, given that males also report experiencing weight stigma, future studies should explore the effects of CFT for men with overweight and obesity, with respect to internalised weight stigma.

Despite its limitations, this study adds to the existing literature base by demonstrating the feasibility and acceptability of a CFT-based group program for weight stigmatised women. It provides support for the delivery of CFT in an intensive 2-dasy format, with changes in outcomes comparable to some CFT group interventions typically delivered over a period of several weeks. This approach offers several benefits,

including increasing treatment uptake and reducing attrition due to its more convenient format. This study was the first to trial a CFT based program designed specifically to alleviate the impact of weight stigma for a group of women with overweight and obesity. Overall, the results were positive, with changes in the expected directions for the key variables of self-compassion and internalised weight stigma, as well as improvements in a range of psychosocial outcomes relevant to weight stigma. Participants rated the program as highly credible, and the study achieved 100% participation in terms of attendance across all sessions and completion of assessments.

The clinical implications of this study are important given the pervasive nature of weight stigma. People with overweight are stigmatised in many areas in their lives, including by the very people they seek out to assist them with health and weight concerns. Avoiding exposure to weight stigmatising situations is difficult for individuals with overweight and obesity. Consequently, overweight individuals commonly come to believe and attribute negative attitudes and stereotypes about overweight and obesity to themselves and can experience a range of difficulties as a result. This study was conducted in response to calls to assist individuals to better cope with, and develop resilience to, the damaging effects of weight stigma. To conclude, the following is a written comment made by a study participant that summarises the potential of CFT as an approach to assist women with overweight and obesity who are struggling with internalised weight stigma:

"I often felt I did not deserve to be a "normal", happy person because of my weight. As my friend so bluntly pointed out, my weight has stopped me doing a lot of things in the past. I still feel negatively about my weight (I don't think this will change overnight), but I think I am less critical of myself than I was and I'm more willing to look at myself as more than just a number on the scales".

Table 1

Overview of Program Content- Self-Compassion for Women

Sessions	Topic
	Day 1
Session 1	Introduction to Group; Develop Understanding of Compassion
Session 2	Exploring Self-Compassion; De-Stigmatising Overweight and Obesity
Session 3	Developing Self-Compassion through Psychoeducation and Breathing
Session 4	Developing Self Compassion and De-Stigmatising Overweight through Imagery
Session 5	Review Learning; Homework Tasks
	Day 2
Session 1	Introduction; Recap Day 1; Homework Review
Session 2	Developing Self-Compassion and De-Stigmatising Overweight and Obesity through Compassionate Writing
Session 3	Preparing for Ongoing Self-Compassion Practice - Building Resilience to, and Coping with, Weight Stigma
Session 4	Preparing for Ongoing Self-Compassion Practice - Creating Individualised Plans
Session 5	Review of Learning; Close

Table 2

Changes in Dependent Variables at Pre (Time 1), Post (Time 2) and 3-Month Follow-up (Time 3)

Measure	Time 1 Mean	SD	Time 2 Mean	SD	Time 3 Mean	SD
Self Compassion	2.22	0.42	3.07	0.68	3.39	0.64
Internalised Weight Stigma	5.85	0.57	4.77	0.89	4.47	1.33
DASS21	41.60	20.84	29.07	22.73	27.07	23.31
Life Satisfaction	17.07	8.03	21.33	8.41	22.60	7.04
Loneliness	13.47	4.73	10.20	5.75	11.13	6.81
Body Shame	3.00	0.59	2.66	0.66	2.30	0.87
Body Dissatisfaction	51.47	5.76	46.27	6.84	41.87	7.93
Weight Efficacy	29.47	14.50	45.13	7.70	46.20	16.40
Weight in Kilograms	103.71	26.96	102.71	26.11	99.91	23.51

Table 3

Participant Ratings of Intervention Credibility at Completion of 2-Day Intervention

Items	Mean	SD
1. How logical (i.e. sensible, reasonable), did this workshop seem to you?	6.67	.82
2. How evidence based did this workshop seem to you?	6.40	.83
3. To what extent would this workshop help someone in different areas of her life?	6.73	.46
4. If a close friend or relative were self-critical, would you recommend this workshop to them?	6.93	.26
5. If a close friend or relative were wanting to develop self-compassion would you recommend this workshop to them?	6.93	.26
6. How effective do you think this workshop would be for most people?	6.47	.64

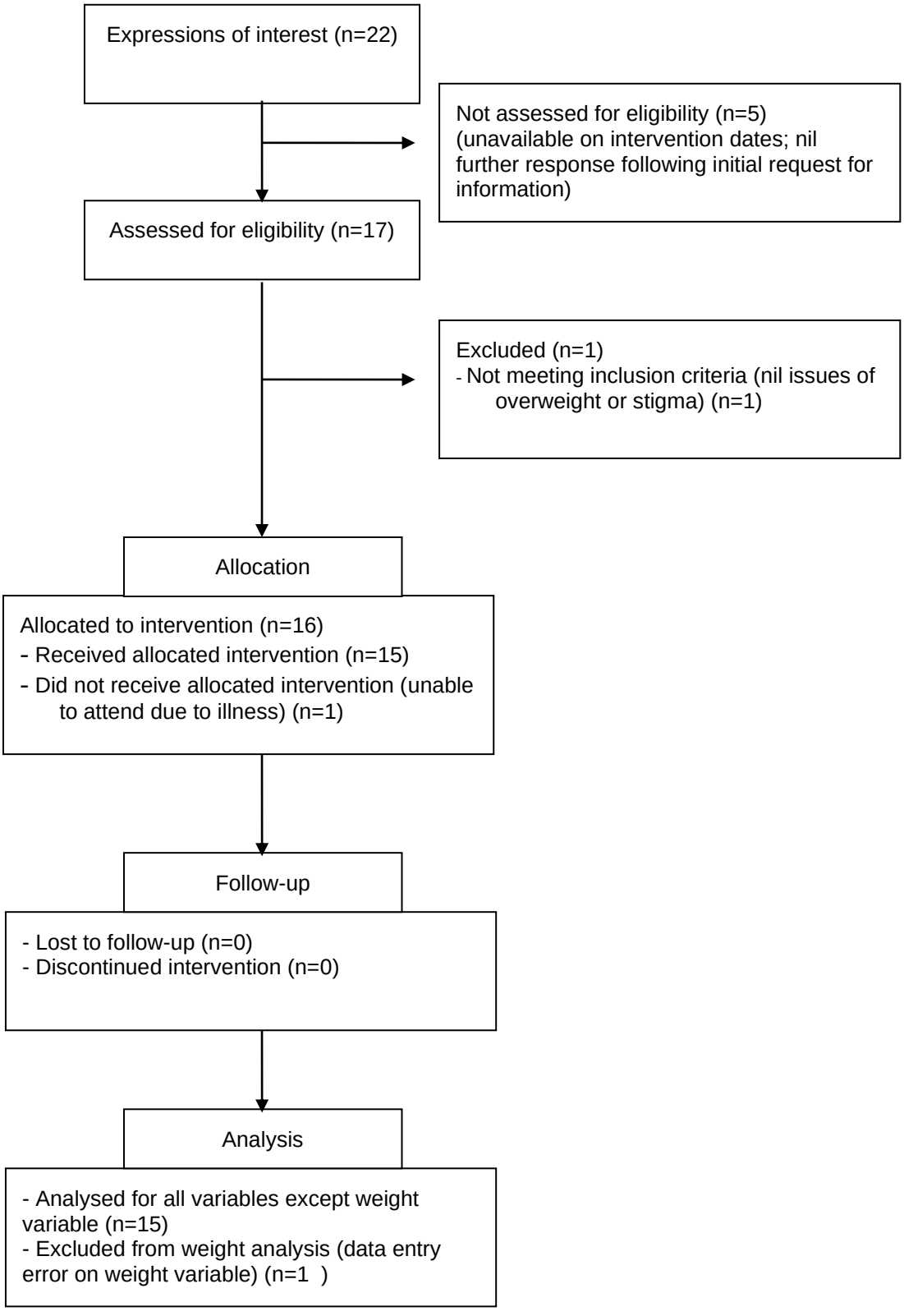

Figure 1. Flowchart of participant engagement.

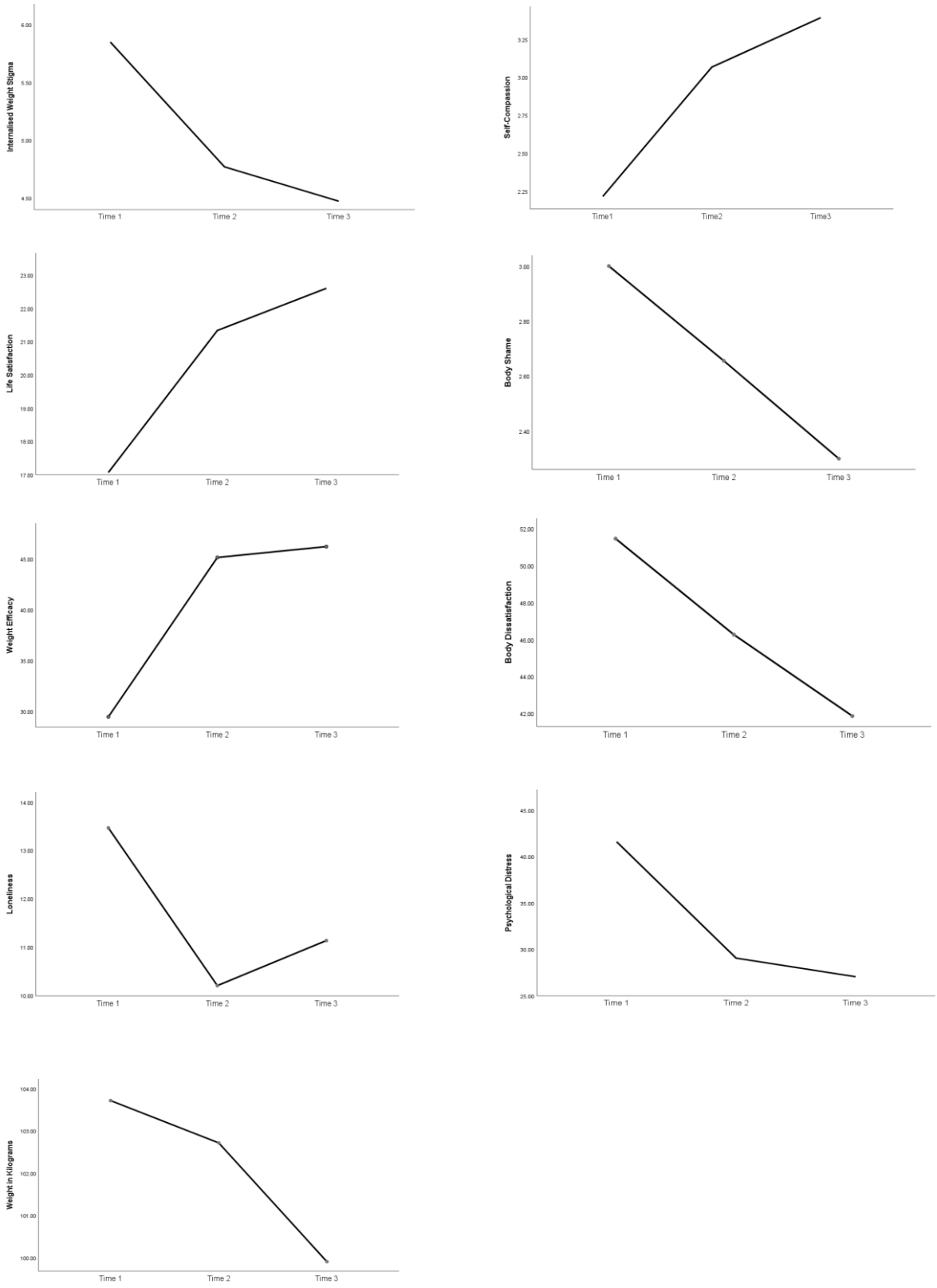

Figure 2. *Mean changes in dependent variables across Pre (Time 1), Post (Time 2) and 3-month Follow Up (Time 3)*

SECTION 3 – GENERAL DISCUSSION

Chapter 6 – Discussion

Chapter 6: General Discussion

Weight stigma is increasingly cited in the literature as being detrimental to the health and well-being of individuals with overweight and obesity. Weight stigma is a highly prevalent and painful experience, particularly for women, which occurs across interpersonal, institutional, and societal domains of life (Papadopoulos & Brennan, 2015; Roehling, Roehling, & Pichler, 2007). Individuals who are criticised, bullied and treated unfairly because of their weight, experience a range of problems such as anxiety, depression, stress, weight gain, and social isolation (Puhl & Heuer, 2009). Given the pervasive nature of weight stigma, avoiding exposure to weight stigmatising situations is a difficult task. As such, interventions designed to assist individuals to develop resilience to the effects of weight stigma are critical. However, in order to understand how best to assist individuals affected by weight stigma, we must first acquire an understanding of the mechanisms underpinning the relationship between weight stigma and adverse outcomes. The program of research presented in this thesis was designed to examine two such potential underlying pathways, namely internalised weight stigma and self-compassion.

Those who have internalised weight stigma endorse negative weight-based stereotypes, and attribute these negative evaluations to themselves (Durso & Latner, 2008; Pearl & Puhl, 2016). Studies have shown that internalised weight stigma is extremely harmful to people with excess weight, and is associated with numerous psychosocial problems, including reduced quality of life (Durso et al., 2016; Latner et al., 2013). As noted in the preceding chapters, effects of internalised weight stigma on mental and physical health have been shown in some studies to be stronger than external weight stigmatising experiences, meaning that the harmful effects of weight stigma are even worse for those who internalise stigmatising attitudes and stereotypes

(Hilbert et al., 2014; Pearl & Puhl, 2016). With regard to self-compassion, although there is limited research merging the fields of weight stigma and compassion, there is consistent evidence demonstrating that self-compassion is associated with numerous benefits, including greater adaptive coping when faced with stressful life events (Ferrari et al., 2019).

Given the widespread nature of weight stigma, it is unsurprising that when faced with stigmatising experiences, individuals with overweight may over time come to not only internalise weight stigma, they may also struggle to respond with self-compassion, and in turn experience negative outcomes as a result. The current program of research has investigated internalised weight stigma and self-compassion in terms of a) their roles as underlying mechanisms in the relationship between externalised weight stigma and negative psychological outcomes and b) as targets for an intervention for women with overweight and obesity. Specifically, this dissertation has achieved the following aims:

1) Investigated the potential mediating role of internalised weight stigma and self-compassion in the relationship between weight stigma and a range of adverse outcomes. To this end, Study 1 (presented in Chapter 3) outlined an empirical study that tested the relative contribution of internalised weight stigma and self-compassion, as mediators in the relationship between weight stigma and outcomes of psychological distress, loneliness, body shame and life satisfaction.
2) Developed a compassion-focused group intervention specifically designed to reduce the adverse effects of weight stigma. Study 2 (presented in Chapter 4) outlined the development of a novel, two-day CFT based-group intervention (Self-Compassion for Women Program), designed to increase self-

compassion and reduce internalised weight stigma for women with overweight and obesity. This chapter provided a detailed description of the program as well as two brief case studies to illustrate the potential of the intervention for women with overweight and obesity.

3) Conducted a pilot study to examine the feasibility and acceptability and preliminary of a compassion-focused group intervention for weight stigmatised women with overweight and obesity. Study 3 (presented in Chapter 5) outlined an open trial of the Self-Compassion for Women program with 15 women with overweight and obesity. Of primary interest to the study was to examine whether the program would bring about changes in self-compassion, internalised weight stigma, and a range of negative outcomes associated with weight stigma including psychological distress, life satisfaction, loneliness, body shame, body dissatisfaction, and eating self-efficacy. A subsidiary aim of the study was to assess whether the intervention would result in an incidental reduction in BMI.

Summary of Findings

Study 1: The mediating roles of internalised weight stigma and self-compassion

The results of Study 1 revealed that internalised weight stigma mediated the relationship between experienced weight stigma and body shame, while self-compassion mediated the relationship between experienced weight stigma and the other outcome variables of psychological distress, higher perceived loneliness and lower satisfaction with life. Thus, internalisation of weight stigma played a greater role in negative outcomes that were directly related to the body, while low self-compassion in the context of external weight stigma played a greater role in broader negative life outcomes.

The findings in relation to internalised weight stigma were similar to previous studies which have demonstrated that experiences of shame towards one's body is common among women with higher weight, and among women who have faced weight-stigmatising situations (Mesinger, Tylka, & Calamari, 2018). Moreover, the results of Study 1 have extended upon previous research by revealing that being exposed to messages that put forth ideas and beliefs about excess weight being undesirable and unattractive, may lead to individuals to believe such views themselves, which can then lead to feelings of shame towards their own body.

With respect to self-compassion, the findings suggested that being exposed to stigmatising situations can have detrimental effects on a woman's capacity to behave in self-soothing, compassionate ways, which may then lead her to experience a range of negative outcomes including greater psychological distress, loneliness and lower satisfaction with life. Indeed, such findings are consistent with previous research which has demonstrated that individuals often respond to, and cope with, weight stigma in ways that are not self-compassionate, including engaging in obesogenic behaviours and isolating oneself from others (Puhl & Brownell, 2006).

Together, the outcomes of Study 1 have indicated that the tendency to support and attribute negative weight-based stereotypes and attitudes to the self, as well as behave in unsupportive ways towards oneself when faced with stigmatising situations, play a detrimental role in the lives of weight stigmatised women. It then follows that attempts to reduce internalised weight stigma and foster greater self-compassion are important targets in a psychological intervention for stigmatised individuals with overweight and obesity. The findings of Study 1, along with previous research demonstrating benefits associated with self-compassion, provided a strong rationale for the development of a compassion-based intervention to assist women with overweight

and obesity who were struggling with the effects of both external and internalised weight stigma.

Studies 2 and 3: The development and efficacy of the Self-Compassion for Women Program

Studies 2 and 3 examined the development and feasibility/acceptability of a CFT program targeting internalised weight stigma, for women with overweight or obesity. It was found that the Self-Compassion for Women Program significantly improved self-compassion and reduced internalised weight stigma from pre-treatment to post-treatment with gains maintained at 3-month follow-up. The CFT program was also successful in significantly improving psychological distress, life satisfaction, eating self-efficacy, body dissatisfaction, body shame and loneliness of the female participants, as reported upon completion of the two-day program. It was also found to be highly acceptable and credible to participants, and, although not significant, there was a trend towards weight loss from pre-treatment to three-month follow-up. These findings were observed despite weight loss not having been targeted, nor any nutritional or exercise information provided throughout the program.

That the program was feasibility in terms of eliciting change in the key factors of self-compassion and internalised weight stigma, is an important contribution to knowledge and research in this area. Although previous research has shown that both self-compassion and internalised weight stigma can be modified, this study was the first to demonstrate their malleability with a group of stigmatised women with overweight, using a compassion-focused group therapy approach. The results of Study 3 suggest that the 2-day program achieved a reduction in internalised weight stigma (i.e., reduction of 1.08 points on WBIS post-intervention) to a similar magnitude found in previous research using a CBT approach (Pearl et al., 2016). Together, the findings provide

evidence supporting the use of a CFT adapted program for weight stigmatised women, and contributes to the literature by demonstrating that improvements in both self-compassion and internalised weight stigma can be maintained over time in a CFT-based intervention conducted over a relatively short duration.

A second key finding of this research was the capacity of the program to produce significant improvements on several outcome variables known to be associated with weight stigma, including psychological distress, life satisfaction, body dissatisfaction, eating self-efficacy, and loneliness. Importantly, with the exception of loneliness, improvements on these variables either increased or were maintained three months later. Results also revealed a decrease in body shame upon completion of the active intervention, with a further significant improvement found at 3-month follow-up compared to pre-intervention baseline levels. Thus, this research has provided evidence that learning to treat oneself (i.e., in general and in the context of external and internalised weight stigma) in a self-soothing and compassionate manner can improve psychological functioning, weight-related issues, and life satisfaction for weight stigmatised women with overweight and obesity. These results have provided an important contribution to the fields of self-compassion and weight stigma research, by providing evidence of the feasibility of a CFT-based program to elicit changes in several outcomes known to be problematic for weight stigmatised individuals.

A third important finding involves the results related to weight loss. Although weight loss was not directly targeted in the intervention, weight fluctuations were monitored throughout the intervention and follow-up period. The stressful nature of weight stigma, and the problematic ways people may try to cope with stigmatising situations (i.e., obesogenic behaviours such as overeating) are well documented (REF). Research has also shown that engaging in self-compassion is associated with greater

adaptive coping, and can motivate a desire for self-improvement (Moffitt et al., 2018). As such, it was considered plausible that the program would equip women to behave in more beneficial, compassionate ways in difficult and stressful situations, and be more motivated to change their eating habits accordingly. The results for weight loss neared statistical significance indicating a non-significant trend for group weight-loss in the CFT group. The majority of women demonstrated some reduction in weight, and the group weight loss observed in Study 3 was comparable to that reported in a previous study by Lillis et al. (2009) using an ACT approach for weight stigma.

A fourth important finding from Studies 2 and 3 was that the program was rated as highly acceptable and credible by the female participants, with further evidence of program acceptability and credibility being demonstrated by the 100% participation rate in terms of attendance across all sessions and completion of assessments. Anecdotally, it is also important to note that group cohesiveness was evident during the program, and that camaraderie was high among group members. Throughout the program, the women were observed to motivate, encourage and support each other, sharing stories that were common among the group. In this way, the group format provided a safe environment to share difficult experiences, and allowed participants an opportunity to practice and develop self-compassion as well as the giving and receiving of compassion to and from others. Indeed, group members became cohesive, with many participants expressing the desire to remain in contact with other group members following completion of the program, for the purposes of ongoing encouragement, support, and friendship.

Implications for Future Research and Practice

This dissertation has answered several important research questions, and the findings reported here have raised several more. To date, this dissertation presents the first program of research to have developed and evaluated the feasibility and

acceptability of a CFT-based group intervention adapted for use within the context of weight stigma. The specific aim of the intervention was to increase self-compassion and reduce internalised weight stigma. Although an uncontrolled trial was appropriate for pilot testing of this novel 2-day program for weight stigmatised women, the absence of a control group means that change on important variables due to the passage of time rather than due to targeted intervention cannot be ruled out. Thus, attempts to replicate these findings in larger studies using a rigorous RCT are needed, in order to provide further support for the efficacy of the program.

The 2-day workshop format of the program was rated as highly acceptable to the participants and represented an efficient modality for therapy compared to longer programs spread out over several weeks or months. Nevertheless, extensions to the program may be beneficial. As noted above, at completion of the active intervention, several participants voiced a desire to continue to engage with other group members for ongoing friendship and support following completion of the program. Future studies may consider extending upon the current research by exploring potential opportunities to provide further social connectedness. This may involve the addition of booster sessions to provide opportunities for social connection among individuals with a history of experiencing weight stigma, which may also have the potential to enhance previous learning.

It would also be interesting to investigate the effects of the program as an adjunct or initial phase of interventions for CBT programs such as the Weight BIAS program for stigmatised individuals with overweight. As noted previously, research has shown that it can be hard to challenge internalised and deeply ingrained thoughts, particularly for individuals who experience a great deal of distressing internalised dialogue and self-directed hostility (Gilbert, 2009, 2014, Moffitt et al., 2012). Given the

painful and distressing nature of internalised weight stigma, self-compassion may serve to assist to reduce negative internal thoughts and feelings to a more manageable and less overtly distressing level, at which time individuals may become more receptive or more able to engage in constructive restructuring of their thought patterns. Thus, it would be of interest to explore the efficacy of this combined approach to weight stigma in future studies.

There are significant clinical implications of this program of research. The findings have provided preliminary support for the use of compassion-focused therapy for stigmatised women with overweight who are seeking assistance with psychosocial difficulties. Results support previous research arguing for the importance of a non-stigmatising approach when working with individuals with overweight or obesity, and adds to the literature by highlighting the benefits of assisting women experiencing external and internalised weight stigma to develop their capacity for self-compassion in clinical practice. The findings also inform practitioners on the feasibility of conducting a CFT group intervention in a 2-day format, in terms of increasing participation and reducing attrition compared to interventions spanning several weeks or months. Moreover, results inform clinicians of the benefits of a group approach to developing self-compassion for weight stigmatised individuals including: providing social connection; increasing awareness of the shared nature of suffering (in general and in the context of weight stigma) through shared and relatable stories; and increased opportunities to develop compassion (i.e., self-compassion, and experiencing compassion for, and from, others within a group context). It is hoped that findings of this dissertation will provide clinicians with empirically supported information and strategies to assist their clients with overweight to build resilience to the harmful effects

of weight stigma, and encourage them to engage in their own self-compassion practice, which can be modelled when working in a clinical context.

Strengths, Limitations, and Recommendations

The specific strengths, limitations, and recommendations for future research have been described in relation to each of the individual studies. This section will discuss key strengths, limitations and recommendations regarding the program of research as a whole. With respect to strengths, this research program was the first to empirically demonstrate the individual effects of self-compassion and internalised weight stigma as mechanisms through which experienced weight stigma can affect a range of adverse psychological consequences. It was also the first to then target those mechanisms in a CFT based treatment program designed to improve psychological outcomes for weight stigmatised women with overweight and obesity. This research therefore contributes to the field of research and academic understanding, as well as clinical practice, by providing preliminary support for an effective compassion-focused strategy to create change for stigmatised individuals with overweight and obesity.

Despite the strengths of the current research, it was not without limitations. First, a limitation of the series of studies as a whole is the overrepresentation of female, Caucasian participants, which may limit the generalisability of the findings to other populations. While there is evidence indicating that women experience both external and internalised weight stigma to a greater extent than their male counterparts, men also experience overweight and obesity, and therefore suffer from similar mental and physical health effects of weight stigma. Future studies should explore the effects of a CFT intervention for men with overweight and obesity who have been impacted by external and/or internalised weight stigma. Second, as noted above, the pilot study presented in this thesis comprised a small sample. Future studies with larger sample

sizes would be beneficial in terms of exploring the processes underlying the changes which occur as a result of the program. For example, it would be possible to run longitudinal mediation (SEM) studies with larger samples, to explore the nature and strength of relationships between self-compassion and outcomes of interest, as well as internalised weight stigma and outcomes measures, and to investigate if changes occurred in these relationships as a direct result of participation in the intervention.

In addition to the recommendations for future research suggested above, there are other opportunities for subsequent research in this area. For example, while adults were used in the current sample, it may also be of interest to consider evaluating the efficacy of the intervention for adolescents. Research has demonstrated that young people experience weight based stigma, which can come from peers, educators, family members, health care professionals, as well as stigma at a societal level including popular media (Nutter et al., 2019; Puhl, Peterson, & Luedicke, 2013). Weight stigma can have harmful and long lasting effects for adolescents, with studies indicating that rates of self-harming behaviours and suicidality are higher for adolescents who have been teased or bullied about their weight, compared to peers in the same weight range who have not experienced weight stigma. Moreover, studies have shown that weight stigma in adolescence predicts higher BMI and obesity in adulthood, even when controlling for demographics factors, and baseline BMI (Puhl et al., 2017). Thus, early intervention for younger cohorts may assist to alleviate current, and prevent future, difficulties associated with weight stigma.

Future studies may also benefit from the inclusion of additional measures. The current study utilised the most validated measure of self-compassion available at the time, which had been used in multiple CFT studies as noted in Chapter 2. Incorporating additional measures of self-compassion may complement the measure used in the

current series of studies. For example, the Compassionate Engagement and Action Scales for Self and Others (Gilbert et al., 2017) includes components such as motivation for self-compassion, which is not included in the measure for self-compassion used in the current study. It may also be of interest in future research to include a measure designed to assess participants' fears of self-compassion. As discussed in Chapter 2, individuals differ in their understanding and fear of self-compassion. It is possible that the levels of fear were low for individuals who chose to participate in the current weight stigma program, and that is why they self-selected to participate. However, it may be of interest to include a measure to assess levels of fear of compassion in future studies, which would allow for relationships between fear of self-compassion and intervention outcomes to be explored. Lastly, in regards to assessment, it may also be of interest to consider adding a qualitative component to future research. Results of the pilot study indicated that participants' ability to behave more compassionately when faced with difficult situations improved after undertaking the program. Including a qualitative element, such as participant interviews with a series of open-ended questions before, after, and at follow-up, may be advantageous to elucidate any transfer effects of the intervention to different sources of stress and psychosocial outcomes. For example, it would be of interest to interview participants before commencement and pose questions such as: What are the various types of weight stigma you have experienced, and how do you typically respond to each of the different stigmatising situations? Are there other areas of your life you find stressful, and how do you typically behave in those particular situations? Such questions could be then repeated at post intervention and/or at follow-up, in addition to questions such as: What aspects of the program have you continued to use, or adapted for use? What changes have occurred since completing the program? How have you responded to any stigmatising situations you have encountered since

completing the program? This information could inform future treatment protocols and provide a more rich and detailed understanding of the ways in which the Self-Compassion for Women Program assisted individuals in the context of weight stigma and in their lives in general.

Conclusion

In conclusion, the findings of this dissertation have contributed to the literature concerning the role of self-compassion in the context of weight stigma for women with overweight and obesity. The findings presented here have indicated that both self-compassion and internalised weight stigma each play a unique role in the relationship between external weight stigma and associated detrimental outcomes. It was found that despite the pervasive nature of weight stigma, and the tendency for affected individuals to internalise stigmatising attitudes and beliefs, the painful effects of weight stigma can be reduced among women who develop their capacity for self-compassion. Through a series of studies it was shown that a 2-day CFT based group program adapted specifically to increase self-compassion and reduce internalised weight stigma, has shown promise as a feasible and acceptable intervention to alleviate suffering associated with weight stigma for women with overweight and obesity. The research presented in this thesis has merged two important fields of research, namely self-compassion and weight stigma research, and in doing so has answered previously unexplored questions.

Weight stigma is a significant personal and public health problem affecting the well-being of many people around the world. Thus, researchers should continue efforts to help alleviate suffering and improve the lives of individuals with overweight and obesity impacted by weight stigma.

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Appendix A

Consent Form Study 1

Ethics Approval (GU Ref No: 2016/292)

Consent Form

By accepting the below link, I confirm that I have read and understood the information sheet and in particular have noted that:

- I understand that my involvement in this research will include the completion of an online questionnaire package;
- I have had any questions answered to my satisfaction;
- I understand the risks involved;
- I understand that there will be no direct benefit to me from my participation in this research (other than the possibility of winning a *prize*);
- I understand that my participation in this research is voluntary and that I am free to withdraw at any time without negative consequences or prejudice, including after the informed consent process;
- I understand that information I provide will be stored as de-identified data and may be used in future studies;
- I understand that if I have any additional questions I can contact the research team;
- I understand that I may choose to enter my personal email address for notification of the *prize*:
- I understand that I can contact the Manager, Research Ethics, at Griffith University Human Research Ethics Committee on (07) 3735 4375 or research-ethics@griffith.edu.au if I have any concerns about the ethical conduct of the project; and
- I agree to participate in the project.

Consent

Please choose only one of the following:

□ Yes

□ No

Appendix B

Consent Form Study 2 and 3

Ethics Approval (GU Ref No: 2017/550

Consent Form

By accepting the below link, I confirm that I have read and understood the information sheet and in particular have noted that:

- I understand that my involvement will include participation in a two-day workshop, and the completion of an online questionnaire package at three time points (before and after the study and at 3-months follow up);
- I have had any questions answered to my satisfaction;
- I understand the risks involved;
- I understand that my participation in this research is voluntary and that I am free to withdraw at any time without negative consequences or prejudice, including after the informed consent process;
- I understand that information I provide will be stored as de-identified data and may be used in future studies;
- I understand that if I have any additional questions I can contact the research team;
- I understand that I can contact the Manager, Research Ethics, at Griffith University Human Research Ethics Committee on (07) 3735 4375 (or research-ethics@griffith.edu.au) if I have any concerns about the ethical conduct of the project; and
- I agree to participate in the project.

Consent

Please choose only one of the following:

□ Yes

□ No

Appendix C

Self-Compassion Workshop for Women Program: Participant Feedback

Self-Compassion for Women

Feedback

Please **circle** the number that best describes your opinion:

1 Not at all	2	3	4	5	6	7 Extremely

1. How logical (i.e. sensible, reasonable), did this workshop seem to you?	1	2	3	4	5	6	7
2. How evidence based did this workshop seem to you?	1	2	3	4	5	6	7
3. To what extent would this workshop help someone in different areas of her life?	1	2	3	4	5	6	7
4. If a close friend or relative were self-critical, would you recommend this workshop to them?	1	2	3	4	5	6	7
5. If a close friend or relative were wanting to develop self-compassion would you recommend this workshop to them?	1	2	3	4	5	6	7
6. How effective do you think this workshop would be for most people?	1	2	3	4	5	6	7
7. How happy are you with the way your facilitators ran this workshop?	1	2	3	4	5	6	7
8. How much did your facilitators demonstrate kindness and support for you in this workshop?	1	2	3	4	5	6	7
9. How much did you enjoy being in this workshop?	1	2	3	4	5	6	7

Please leave any comments you might like to add:

Thank you for taking the time to answer this questionnaire

Appendix D

Self-Compassion Workshop for Women Program: Participant Handouts

Understanding Compassion

What compassion means to me…

Understanding Compassion

How much I believe self-compassion is helpful (circle below):

1	2	3	4	5	6	7	8	9	10
Not at all helpful									Very helpful

What self-compassion means to me…

Self Criticism

How much I believe self-criticism is helpful (circle below):

1	2	3	4	5	6	7	8	9	10
Not at all helpful									Very helpful

What I criticise myself for…

What I say to myself…

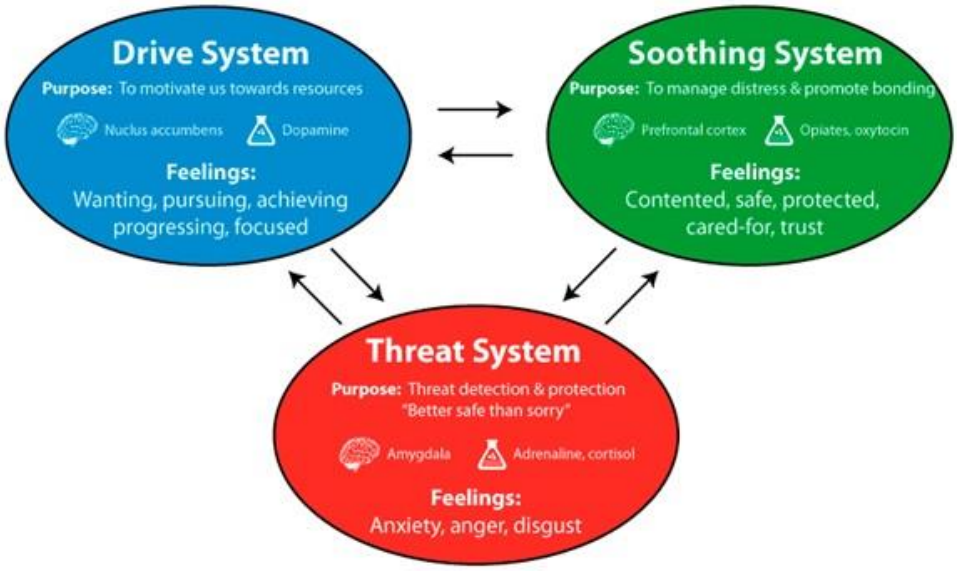
How it makes me feel…

What are the negative consequences of this…

Self Criticism

My inner critic…

Understanding Compassion



We credit (and express our gratitude) for this diagram, as sourced from the work of Paul Gilbert and the Compassionate Mind Foundation (http://www.compassionatemind.co.uk).

Understanding Compassion

My ‘Three Circles’

Developing Self-Compassion

NOTICE where our attention is and when we are struggling and/or self-criticising…

WATCH what is going on for us (inside and out)…

SLOW DOWN so that we can activate our soothing system and decide what self-compassionate action to take…

Strategies such as soothing rhythm breathing can help us to slow down our breath and our minds, and bring us back to the present moment.

This exercise has been adapted from the work of Paul Gilbert and the Compassionate Mind Foundation (http://www.compassionatemind.co.uk).

Developing Self-Compassion

Soothing Rhythm Breathing

- Begin by sitting comfortably, with both feet flat on the floor about shoulder's width apart, and resting your hands on your legs.
- If comfortable, close your eyes and focus on your breathing. Notice your breath entering and leaving your body.
- Now we are going to slow down our breath – slowly breathing in for four seconds, pausing, and slowly breathing out for four seconds.
- Continue this for a little while, just noticing your breath coming in to fill your lungs, and breathing out.
- Focus on slowing down your body and mind.
- Remember that it is ok for your mind to wander. Just notice that it is doing so, and turn your focus back to your breath.
- When you are ready, slowly open your eyes and bring your attention back to the room.

NOTE: If you find it difficult to focus on your breath, you can choose to focus your attention on an object in the room, or hold something (e.g. a soft ball) that brings a feeling of calmness.

This exercise has been adapted from the work of Paul Gilbert and the Compassionate Mind Foundation (http://www.compassionatemind.co.uk).

Developing Self-Compassion

Guided imagery: Self-Compassion Body

There is no right or wrong way to do this exercise. Whatever you experience is right for you. Don't try to make anything happen, just observe.

Move your body to a comfortable position, but not too comfortable that you will fall asleep.

Close your eyes or focus on one spot in the room.

Slowly roll your shoulders forward and then slowly back. Now slowly lean your head from side to side.

Sitting up straight, start to observe your breathing. Notice how your breath flows in and out. Make no effort to change your breathing in any way, just notice how your body breathes. Notice your breath flowing gently in and out of your body. Your body will get more relaxed as we go along.

Your attention will wander and that is ok, don't get caught up in your thoughts. Simply let the thoughts pass.

Start to shift your focus to your toes, give them a little wiggle. Now focus on your feet. How do they feel? Are they sore, tired, warm, cold….

Now shift your focus up to your legs. How do they feel?

Now for a moment try and tense up some of the muscles in your legs, and let go. Breathe normally in and out.

Now we are going to think about where your legs took you today.

Start by remembering when you woke up this morning and your feet first hit the ground.

Where did your legs take you from there? Think about the journey that your legs and feet took you on today that got you to where you are right now. Where did they take you?

Just think, all you had to do is think the thought I need to go to the bathroom or to work and they took you there. You just thought about where you needed to go and your legs took you there without any help. So think about how incredible your legs are and say to yourself "thank you legs!"

We take our legs so much for granted and sometimes we may wish they looked different or felt different or worked a bit better, but we can't forget how much they do for us. Think about where your legs took you today. You might even like to think about something nice you can do for yourself tonight when you get home. A compassionate action may be to have a nice warm bath to relax the muscles in your legs or just lying on the lounge with your feet on a pillow. This might be a nice way for you to say "thank you legs!" for bringing you here today.

Now bring your attention back to your breath, breathing in and out. Keeping your eyes closed, notice the sounds around you. Feel the floor beneath you. Open your eyes slowly, and bring your attention back to the room.

My reflections:

Developing Self-Compassion

My Ideal Compassionate Image

What my ideal compassionate image/other is like (write or draw to describe – e.g. visual qualities, facial expression etc)…

What my compassionate image/other sounds like (e.g. tone of voice etc)…

The advice my compassionate image/other gives me is…

This exercise has been adapted from the work by Paul Gilbert and the Compassionate Mind Foundation (http://www.compassionatemind.co.uk.)

Understanding Compassion – Day 2

What compassion means to me…

Understanding Compassion – Day 2

How much I believe self-compassion is helpful (circle below):

1	2	3	4	5	6	7	8	9	10
Not at all helpful									Very helpful

What self-compassion means to me…

Self Criticism – Day 2

How much I believe self-criticism is helpful (circle below):

1	2	3	4	5	6	7	8	9	10
Not at all helpful									Very helpful

Compassionate Letter Writing

Helpful prompts:

Dear/Hi Benny…
I'm writing to you because…
I'm sorry you had to go through…
You have been through a lot…
I feel…
It must have been tough…
I'm glad that…
It is my hope that…

My letter to Benny:

Compassionate Letter Writing

Helpful prompts:

Dear/Hi Debbie…
I'm writing to you because…
I'm sorry you had to go through…
You have been through a lot…
Things have been tough…
I would like you to know…
I feel…
It's ok to feel/experience
I'm wondering if it would help to…
I'm glad that…
It is my hope for you that…

My letter to Debbie:

Compassionate Letter Writing

Helpful prompts:

Dear/Hi …
I'm writing to you because…
I'm sorry you had to go through…
You have really tried to…
I'm glad that…
It's ok to feel/experience…
I'm wondering if it would help to…
I will always be here for you…
I care about you…

My compassionate letter:

My Personal Compassion Plan

Compassionate Living: My Personal Compassion Plan

I want to be kind and compassionate to myself because:

Times when I need self-compassion include:

If I am struggling/self-criticising I will:

Compassionate Living: My Personal Compassion Plan

Barriers to Self-Compassion:

I will overcome these barriers by:

When I do something well, I will:

Compassionate, self-soothing, and fun things I will do regularly include: