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Weight Bias: Investigating the Impact of an Empathy-Evoking Intervention in Reducing Mental Health Professionals’ Anti-Fat Attitudes

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Portfolio submitted in fulfilment of the requirements for the Professional
Doctorate in Psychology (DPsych)

City, University of London

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September 2017

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Acknowledgements

I would like to thank my internal supervisor, Dr Jessica Jones Nielsen, for her reassurance, feedback and unwavering belief in me and my research efforts with regards to this thesis. I would also like to thank my external supervisor from Leeds Beckett University, Dr Stuart W. Flint, for his help with test programming, data collection and storage, as well as his knowledge, guidance and continued patience and support. I would like to thank Dr Dimitrios Asteriou, Dr Sally Stares, Carmen Hohl and Dr Kathrin Thomas from City, University of London for their contribution with regard to providing SPSS clinics, and all the study participants without whom this thesis would not have been possible. Thank you to Mr Simon Cuddihy for volunteering to proof read my work, and lastly to my parents for their continued love, encouragement, motivation, patience, reassurance and support throughout what was no doubt the toughest year of my life.

Declaration of powers of discretion

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Preface

The epidemic of obesity is increasing at an alarming rate across the globe, with more people categorised as ‘overweight’ or ‘obese’ than ever before (WHO; 2016). Since society regularly regards people who are obese as (1) architects of their own ill health, and (2) personally responsible for their weight problems due of laziness and overeating (Kim & Willis, 2007), weight bias is impacting individuals across a number of life domains. These life domains include: discrimination in hiring practices, employment and compensation (Averett & Korenman, 1996; Pingitore, Dugoni, Tindale, & Spring, 1994; Roehling, 1999); less access to education (Smith & Niemi, 2003); social discrimination (Averett & Korenman, 1996; Cecil, et al., 2005; Crossrow, Jeffery, & McGuire, 2001); and weight bias in healthcare and mental health care service delivery (FitzGerald & Hurst 2017; Phelan, Burgess, Yeazel, Hellerstedt, Griffin & van Ryn, 2015; Teachman & Brownell, 2001; Young & Powell 1985). With a lack of clear legal protection against weight based discrimination, and a lack of awareness with regard to the possible difficulties experienced by overweight and obese individuals, it is of particular importance that mental health professionals (MHPs) are made aware of, and understand the difficulties faced by persons who are overweight, in order to appropriately engage them in effective counselling practices. While MHPs are qualified professionals, they are still unique individuals with their own set of unique life experiences which result in differing perceptions of obesity - some of which they may not even be aware of. Weight bias awareness is important as patients with mental health concerns are particularly vulnerable, and MHPs explicit and/or implicit anti-fat attitudes may not only perpetuate existing issues, but weight bias could in fact result in patients developing new mental health issues.

This portfolio begins with an experimental piece of research which aims to investigate the extent of explicit and implicit weight bias or anti-fat attitudes in mental health professionals (MHPs), particularly toward their overweight and obese patients. Also investigated is whether an empathy evoking intervention will reduce these anti-fat attitudes. The portfolio continues with the presentation of a case study working with a client who self-referred herself to therapy for anxiety, depression and post-traumatic stress. In the hopes of disseminating the findings of the experimental study, the portfolio ends with a publishable paper that will be submitted to the *Journal of Obesity*. The common theme tying the three components of this portfolio together is weight bias. The thread of anti-fat attitudes toward overweight or obese individuals, and the impact of such discriminatory weight behaviours is woven throughout.

My journey from counselling psychology trainee to becoming a qualified Counselling Psychologist began four years ago, and at the time I could not fathom how much I still needed to learn and experience, how I would get all the required work done and what it would feel like to be finished. With the end now in sight, upon reflection, it is hard to believe I did it and that this exciting journey is almost done. Four and half years ago I felt extremely grateful to be given a chance by being selected for this course, and while it has been challenging from the start it has also been the most rewarding and fulfilling endeavours I have ever completed. The experiences I have had, the people I have met and the knowledge I have gained is an absolute privilege. While there is too much to record here, this thesis is a snippet of the fusion of my learning and development in becoming a Counselling Psychologist.

Prior to commencing my professional training in London, I lived in South Africa. Different types of discrimination were a daily occurrence, and for years I felt powerless and frustrated in attempts to make a change. Growing up, racial, weight and sexual discrimination were strife, and upon completing my undergraduate degree I was simply labelled 'White-Female', which was essentially the lowest tier in terms of interview and job selection. My experience and qualifications were less important, with my race and gender shaping my future. Witnessing various types of sometimes severe discrimination and being discriminated against, has shaped me into a person who understands discriminatory attitudes and behaviours and is intolerant to them. While many areas within the field of psychology have interested me, what I have noticed throughout my training and clinical practice is that my passion in, and relationship toward discriminatory and stigmatising attitudes and behaviours holds strong. With continued focus on understanding more about differential treatment to 'the other', making a choice with regard to a research topic came relatively easily. At the beginning of my research, obesity-related research seemed to be gaining more interest than ever before. This would make sense with the rising rates of obesity across the globe. With any minority group however comes bias and discrimination, and while I did notice that this area of research was gaining interest, there were various uncovered areas within the literature needing further exploration. I therefore felt my research topic would be novel, relevant and an interesting read for many.

The experimental research study considers weight bias within society, within various healthcare settings, but then pays particular attention to anti-fat attitudes within mental healthcare, and specifically counselling psychology. The research element is the main focus of this portfolio, with the literature review focussing on previous research findings and related theories with regard to attitude formation (Attribution Theory; Weiner, 1986) and

attitude modification (Social Consensus Theory; Sherif & Sherif, 1967). The publishable paper to be submitted to the *Journal of Obesity* is a summarised version of this study's research methods, analysis, results and conclusions. Using a psychodynamic approach to therapy, the clinical case study highlights the effects of childhood weight bias, body shaming and bullying, and the impact of this on a client's patterns of behaving and patterns of thinking as an adult. Explicit and implicit anti-fat attitudes and weight bias among London-based MHPs towards their patients who are overweight and obese, is the common thread of focus, and the importance of raising these MHP's awareness to it.

Doctoral Research

This section of the portfolio consists of the experimental research study entitled, "Weight Bias: Investigating the Impact of an Empathy-Evoking Intervention in Reducing Mental Health Professionals Anti-Fat Attitudes". What began as curiosity into whether MHPs are weight biased in general, developed into the sole focus of this study. With societal obesity rising at alarming rates, and evidence of weight bias within numerous healthcare settings, could MHPs also hold anti-fat attitudes toward patients they would consider to be overweight or obese? A quantitative approach was utilised, with statistical analysis of the data captured using explicit and implicit attitude measures, before and after an experimental intervention. Findings are suggestive of MHPs holding negative explicit anti-fat attitudes towards their patients who are overweight and obese, specifically with regard to participants' age and occupation. At post-intervention testing, the empathy-evoking intervention was seen to have made a significant impact, but not in the direction anticipated. In fact, the explicit anti-fat attitudes of participants in the experimental condition were seen to become more negative. This latter finding was unexpected as it was hypothesised that the empathy-evoking intervention would impact the experimental group participants' anti-fat attitudes by becoming

more positive. While it could be speculated that the intervention video was not empathy-evoking enough, it also should be considered that perhaps the intervention video evoked memories of negative experiences with overweight or obese individuals, or perhaps the video evoked negative emotions such as disgust, distaste, repulsion or revulsion rather than empathy. With many unaware of their explicit or implicit anti-fat attitudes, and the extent of this weight bias, the challenge becomes raising awareness through education. It is argued that weight bias training courses would aid in raising awareness among working MHPs, as well as continuing to actively highlight (1) the various causes of obesity, (2) the challenges these overweight and obese individuals face within society, and (3) the impact this weight bias has on their mental and physical health.

Client Case Study

This section of the portfolio consists of a case study of clinical work with a client who self-referred to long-term therapy as she was suffering with anxiety, depression and had been experiencing occasional post-trauma flashbacks after being raped. The case study is a summary of the key interactions between the client and myself over our initial 12 sessions, working within a psychodynamic frame to therapy. Rooted in traditional psychoanalysis and drawing from object relations, ego psychology and self-psychology, this piece of work illustrates the practice of Counselling Psychology within the context of private practice and aims to highlight proficiency in using psychodynamic therapy when working with the aforementioned psychological difficulties.

This client had come to therapy wanting to process and assimilate the rape. However, further into our therapeutic relationship it became apparent that while this may have been her

reason to come to therapy, what she really wanted to address was her confused identity, self-hate, her fear in voicing and adhering to her boundaries, and understanding the social masks used to cope within various interpersonal relationships. A psychodynamic approach to therapy allowed for (1) the identification of the client's unconscious patterns of relating to others, (2) the discovery of the client's 'false self', (3) bringing to conscious awareness the client's defence mechanisms and (4) how the social mask created as a 'heavier' bullied child, is used as a coping strategy, initiated during interpersonal interactions when feeling that others are getting too close, or may potentially try to violate her personal boundaries.

This clinical case was chosen because without realising at first, this client was suffering severely as an adult, from the weight bias, body shaming and weight discrimination experienced while growing up. This client challenged me, continually attempted to push my boundaries, all while giving me the opportunity to combine my research topic with therapeutic practice. This case demonstrates how working collaboratively and flexibly, with both client and therapist communicating transparently can result in therapeutic alliances powerful enough to achieve and maintain change. There is also emphasis on the reflective, non-judgemental and empathetic nature of counselling psychology, highlighting the significance of respect and rapport. The work with this client highlights key aspects of my learning and development as a psychologist and my awareness and understanding of the complexities in coping with trauma as well as the short- and long-term affects weight bias.

Publishable Paper

This section of the portfolio consists of a summarised presentation of my research study, with the aim of being published in the peer-reviewed, Open-Access *Journal of Obesity*.

It has therefore been formatted according to the journal's guidelines. I chose this journal because it provides a multidisciplinary forum for basic and clinical research as well as applied studies in areas such as, paediatric obesity, nutrition, eating disorders, exercise, human physiology, weight control and health risks associated with obesity. Publication of this paper in this journal would mean that the findings would be read by practitioners from a number of disciplinary fields. This would include Psychiatrists, Counselling, Clinical, Social and Health Psychologists, Physicians, Physiotherapists, Dieticians, Bariatric Surgeons, exercise and nutrition scientists and researchers, Endocrinologists, other UK healthcare and mental healthcare professionals. All of whom would have a shared interest in this area of research. The aim of this paper would be to present the findings of this experimental research study to this population in order to raise awareness and further knowledge and understanding regarding weight discriminatory attitudes and behaviours towards overweight or obese patients.

I am proud to present this portfolio of work dedicated to an area of research which not only highlights the need for more UK-based weight bias studies examining MHPs anti-fat attitudes toward their overweight and obese patients, but which also considers the extent of weight bias patients who are overweight and obese encounter within various mental healthcare settings. This research investigates and raises awareness of the extent of anti-fat attitudes among London-based MHPs, as well as the related practical implications and behavioural outcomes.

SECTION A: DOCTORAL RESEARCH

Weight Bias: Investigating the Impact of an Empathy-
Evoking Intervention in Reducing Mental Health
Professionals' Anti-Fat Attitudes

Tarynne Quirk

Supervised by Drs Jessica Jones Nielsen & Stuart W. Flint

Abstract

Earlier research indicates that overweight and obese individuals face weight bias and discrimination in multiple domains, including healthcare settings. Evidence suggests that obese people are faced with anti-fat attitudes from healthcare providers, with common perceptions that they are lazy, stupid, worthless, lacking in self-control and willpower, non-compliant with treatment, unsuccessful, undisciplined, unintelligent and dishonest. There is further evidence indicating that weight bias in healthcare settings leads to poor quality of care. While research has found weight bias to be present in various societal domains, namely, educational and occupational settings, retail and healthcare, there has been limited investigation into weight bias among mental health professionals (MHPs). This study therefore examines, the degree of explicit and implicit weight bias among MHPs who have, or who are treating patients who are overweight and/or obese, the impact of an empathy-evoking intervention, and the behavioural outcomes and practice implications. Two hypotheses and five sub-hypotheses were offered in line with previous research: 1) participants would report negative explicit and implicit attitudes towards obesity; 2) the experimental group would report reduced anti-fat attitudes post-intervention; and 3a) overweight/obese participants would indicate anti-fat attitudes towards patients who are overweight/obese due to an absence of 'in-group' bias; 3b) younger participants would hold more negative anti-fat attitudes towards their patients who are overweight/obese; 3c-e) differences in anti-fat attitudes between ethnicity, gender and occupational approaches would be evident.

125 London-based MHPs between the ages of 25-69 years-old volunteered to participate. Participants working as either Psychologists, Psychotherapists, CBT Therapists or

Counsellors, completed a demographics questionnaire, as well as the measures of explicit and implicit attitudes towards obesity. Study hypotheses were examined using Multivariate Analyses of Variance (MANOVA) on the pre-intervention for each independent variable (age, sex, ethnicity, BMI, occupation, working privately and working with patients who are overweight/obese), and on the discrepancy data (difference between the post- and pre-intervention data) against the intervention groups. A Multivariate Analysis of Covariance (MANCOVA) was conducted on the discrepancy data for each independent variable (covariates) with intervention group as fixed factor. Follow-up one-way ANOVAs were employed to examine attitudes in relation to the demographic characteristics, with post hoc tests or independent samples t-tests used where there was significance.

Analysis on the overall pre-intervention data suggests that participants generally held negative explicit and implicit attitudes towards obesity. Differences based on sex, age, ethnicity, BMI, and occupation were evident, however it was only age and occupation at pre-intervention testing, and specifically ‘Young Adults’ and ‘Counsellors’, which were shown to hold statistically significant negative explicit attitudes toward their overweight and/or obese patients. Analysis on the overall post-intervention data suggests that participants generally maintained their negative explicit and implicit attitudes towards obesity, with the intervention video significantly affecting the experimental group participant’s attitudes from pre- to post intervention testing, however not in the direction anticipated. The anti-fat attitudes of those within the experimental group were shown to become more negative post-intervention.

The study findings contribute to evidence that patients who are overweight and obese seeking mental healthcare are discriminated against and are subjected to weight biases in such settings. These findings provide insight for not just Counselling Psychologists, but for

all practitioners working within mental healthcare who may be unaware of the existence of any explicit and/or implicit weight biases, the difficulty in modifying these biases, and the implications of these attitudes on the various therapeutic dynamics within their practice.

Chapter 1 – INTRODUCTION

The following section begins with background information outlining the global and national prevalence of obesity, the associated weight bias those categorised as overweight or obese are exposed to, as well as the differences between explicit and implicit attitudes and the scales used to measure both. Demographic differences in weight bias consider differences between ethnicity/race, age, gender, and Body Mass Index (BMI), followed by a description of anti-fat attitudes. Related theoretical underpinnings follow descriptions of both societal weight bias, and the various sources of weight bias. Weight bias in healthcare settings is considered, followed by the relevance of weight bias research and the importance of raising awareness of anti-fat attitudes within mental healthcare settings and specifically, Counselling Psychology. Various intervention efforts are highlighted, before the rationale and aims of this study are presented. Lastly, descriptions of both the hypotheses and sub-hypotheses of this study are provided.

1.1 Background Information

The World Health Organisation (WHO; 2016) stated that more than 1.9 billion adults aged 18 years and above were classified as overweight, with worldwide adult obesity soaring from 105 million to 641 million from 1975 to 2014 (Ezzati, 2016). Ezzati (2016) adds that of these 641 million obese adults worldwide, obesity in men had more than tripled from 3.2% to 10.8%, and obesity in women had more than doubled from 6.4% to 14.9% from 1975 to 2014. According to the WHO (2014), 41 million children under the age of five were overweight or obese, with the number of worldwide deaths associated with being overweight and obese outweighing deaths associated with those classified as underweight. Death being a health consequence of excess adiposity, obesity has emerged as a serious health concern

(Gupta, Guha Ray & Saha, 2009). Collins (2013) describes the United Kingdom (UK) as facing a “*public health time bomb*”, with obesity rates “*just about the worst in Europe*” (p. 8). Existing data regarding levels of excess weight and obesity in the UK demonstrates a consistent and substantial rise in the prevalence of obesity over the last 40 years (National Obesity Forum, 2014). In 1975 the average Briton had a Body Mass Index (BMI; Cash, Morrow, Hrabosky & Perry, 2004) of 23 and in 2014 the average person’s BMI had risen to 27 (Ezzati, 2016). This indicates that over a period of four decades the average Briton has transitioned from being categorised as ‘normal weight’ to ‘overweight’. In England alone, there are currently approximately 63% of adults, and 28% of children aged between 2 and 15 years that are overweight or obese (Public Health England, 2017). Jones Nielsen et al. (2013) identified hospital admission rates for obesity had increased more than four-fold, and hospital admissions where obesity was comorbidity had increased more than five-fold among children and young people in England from 2000-2009. Once considered a problem only in high-income countries, the WHO (2016) highlights that obesity is now dramatically on the rise in low- and middle-income countries, especially in urban areas. In 2014, 7.7 million women and 6.8 million men in the UK were categorised as ‘obese’, with government statistics estimating that by 2025 approximately 40% of people in the UK will be obese, and that the UK will have the highest proportion of obese men (38%) and women (38%) in Europe (Ezzati, 2016). Costing the National Health Service (NHS) billions each year, Fry (2015) states that the expense of treating obesity in the UK could bankrupt the health service.

Overweight and obesity are defined as an abnormal or excessive accumulation of body fat (WHO, 2014) and the standard and most simple measure of weight-for-height used is BMI (Cash et al., 2004). NHS Choices (2016) define BMI as the ratio of one’s weight (kilograms/kg) divided by the square of their height (metres/m). Whilst BMI allows for

natural variations in body shape, providing the most useful population-level measure of overweight and obesity, it should however be considered a rough guide as it is not a perfect system (WHO, 2014). As the adult BMI does not account for age and gender, or differentiate between excess fat, muscle or bone, it may indicate that an individual is overweight, but it does not decipher whether that person is too fat (NHS Choices, 2016). The WHO (2000) highlights that BMI does not correspond to the same degree of fatness in different individuals (e.g., muscular adults, or athletes such as international rugby players in prime condition would be classed as overweight or obese under this system even though their percentage of body fat is unlikely to be above the recommended amount). Adults with a BMI equal to or less than 18.5 are classified as ‘underweight’, a ‘healthy’ BMI is considered to be equal to or greater than 18.5, while a BMI greater than or equal to 25 is classified as ‘overweight’ (NHS Choices, 2016). Cash et al. (2004) state that a BMI greater than or equal to 30 defines someone as ‘obese’, while a BMI equal to or greater than 40 defines an individual as ‘morbidly obese’.

Our social environment continues to struggle with issues regarding body size and places a heavy emphasis on dieting and the importance of being thin (Swami & Monk, 2012). Chalker (2014) highlights that the focus on obesity (i.e. the dangers of obesity and promotion of the thin ideal) has resulted in the establishment of a divide between non-overweight and overweight individuals, and it is this divide which emphasises how overweight or obese individuals are seen as undesirable. Modern Western culture relentlessly promotes thin idealisation while disparaging obesity, and with exposure to media content that continually idealises thinness, the pressure society places on individuals to be thin is more extreme now than in the past (Sheldon, 2010). Swami et al. (2008) suggest that the more discrepant a person’s body size is from the perceived societal ideal of physical attractiveness the more

likely they are to be stigmatised. This stigmatisation or weight bias refers to the negative weight-related attitudes and beliefs that are manifested by stereotypes, rejection and prejudice towards overweight or obese individuals (Puhl, Moss-Racusin, Schwartz & Brownell, 2008). While weight bias has been shown to demonstrate potentially harmful consequences for those being stigmatised against (Puhl & Heuer, 2009), it is also important to realise that weight bias consists of at least two cognitive processes, implicit bias and explicit bias (Hofmann, Gawronski, Gschwendner, Le & Schmitt, 2005). Both processes are largely independent of each other and differ in that implicit weight bias is an unconscious preference for thin people over fat people, while explicit weight bias is one's conscious preference (Hofmann et al., 2005). Plant and Devine (2009) noted, as opposed to explicit prejudices (e.g., believing that men are unemotional), implicit bias occurs without conscious awareness and is frequently at odds with one's personal beliefs.

1.1.1 Explicit & Implicit attitude measures

Negative attitudes and stereotypes about overweight and obese people have been observed on both an explicit and implicit level (Teachman & Brownell, 2001; Wang, Brownell & Wadden, 2004). Stereotypes are well-learned sets of associations between a trait and a social group, and whilst they may not always be consciously endorsed, they influence the processing of other stereotypes leading to unintended biases in decision-making (Chapman, Kaatz & Carnes, 2013). Biased attitudes existing outside of conscious awareness develop early in life from repeated reinforcement of societal stereotypes (Chapman et al., 2013), and can be formed involuntarily, operate automatically, bypass deliberate thought, and influence one's judgment in unintended ways (Devine, 1989). Despite the evolution of a person's explicit beliefs, enduring implicit bias appears to significantly influence judgement and behavioural interactions with individuals from stereotyped groups (Chapman et al.,

2013). Sabin, Marini and Nosek (2012) found that implicit weight bias may predict discriminating behaviour, even among individuals who have no intention to discriminate. Whilst much weight bias research has relied on explicit questionnaire responses whose results are useful, self-reports of attitudes can be vulnerable to response bias, social desirability concerns and other demand characteristics (Schwartz, Chambliss, Brownell, Blair & Billington, 2003). Measurement of explicit weight attitudes can be employed using questionnaires such as, the Attitudes toward Obese Persons Scale, the Beliefs about Obese Persons Scale (ATOP / BAOP: Allison, Basile & Yuker, 1991), or the F-Scale (Bacon, Scheltema & Robinson, 2001). Rudman (2004) proposes that when evaluating weight bias, measuring one's implicit attitudes will prove superior to measuring one's explicit attitudes as this negates the demand characteristics and response biases. It would therefore make sense for researchers to assess both a participant's implicit and explicit anti-fat attitudes within their studies. Implicit weight bias can be measured using performance-based measures, such as the Implicit Association Test (IAT: Greenwald, McGhee & Schwartz, 1998). The IAT is an extensively validated measure of automatic, unconscious attitudes which not only predicts behaviour independently of explicit attitudes (Phelan et al., 2015), but which is being implemented in studies more regularly to examine implicit weight bias (Flint, Hudson & Lavalley, 2013). Greenwald et al. (1998) state that while the IAT is a measure used to assess and detect the strength of associations that exist beyond conscious evaluation between concepts (e.g., black people, gay people) and evaluations (e.g., good, bad) or stereotypes (e.g., athletic, clumsy), it was also designed to minimise response bias. Thus, the IAT is a unique measure of automatic biases participants may be unaware of, or unwilling to report (Greenwald, Poehlman, Uhlmann & Banaji, 2009) either because of self-presentation concerns, the fact the automatic biases are at odds with one's personal beliefs, or because they are unaware of possessing the biases in the first place (Greenwald & Banaji, 1995). The

IAT has been also been used to examine attributes associated with characteristics such as sex (Hague & White, 2005), age (Hebl, Ruggs, Singletary & Beal, 2008; Sabin et al., 2012), ethnicity (Nosek, Banaji & Greenwald, 2002) and BMI (Robertson & Vohora, 2008).

1.2 Demographic Differences

Weight bias has been documented across diverse populations. Sex, age, ethnicity, BMI, level of education, occupation, religion and income level are a few of the sociodemographic factors which have been studied with regard to perceptions of obesity and potential predictors of weight bias. While research has focused more often on the attitudes of females than males (Miller, Rothblum, Felicio & Brand, 1995; Rucker & Cash, 1992), when both sexes have been studied, evidence for sex differences in attitudes toward obese individuals has been mixed with several studies showing greater weight bias by men (Crandall, 1994; Latner, O'Brien, Durso, Brinkman & MacDonald, 2008; Latner, Stunkard & Wilson, 2005) and fewer studies showing greater weight bias by women (Puhl & Latner, 2007; Schwartz et al., 2003; Tiggemann & Rothblum, 1988). Lieberman, Tybur and Latner (2012) found that while men have shown to report more negative general attitudes toward obese individuals, women reported greater fears of becoming obese. Greater weight bias has been found among Caucasians (versus ethnic minorities) and younger (versus older) adults (Sabin et al., 2012; Puhl, Andreyeva & Brownell, 2008; Schwartz, Vartanian, Nosek & Brownell, 2006). Interestingly, these findings seem to have held over the years with both Staffieri (1967) and Richardson, Goodman, Hastorf and Dornbusch (1961) reporting weight-based stereotypes and prejudice being a social problem over 50 years ago. Antipathy toward outgroups is common across cultures, time, languages and national boundaries, and it appears that no ethnic group, age or gender has a monopoly on weight bias (Crandall, D'Anello,

Sakalli, Lazarus, Wieczorkowska Nejtardt & Feather, 2001).

1.2.1 The impact of race, culture and ethnicity

It is not unexpected that weight bias occurs to the degree that it does in the general population, given the near constant messages in Western society that view thin people as beautiful, disciplined, hardworking and in control, while overweight people are presumed to be lacking these virtues and are viewed as lazy, dishonest, sloppy and gluttonous (Puhl & Brownell, 2003). While this may be the Western world's view of obesity, it is worth considering the extent, nature and antecedents of weight bias, as well as similarities and differences in anti-fat attitudes across countries and cultures, as one can assume that there would be a variety of predictors with regard to perceptions of fatness and thinness. Gatineau and Dent (2011) state that perceptions of weight and body image vary within cultures, families and generations, with Puhl, Latner, O'Brien, Luedicke, Danielsdottir and Forhan (2015) adding that it is possible, even if levels of bias were similar across countries, that different predictors may underpin bias in diverse cultures. Stunkard, LaFleur and Wadden (1998) agree stating that cultural upbringing is suggested to be a crucial factor in the development and maintenance of weight bias. Interestingly, the ideal body shapes of Western and Eastern cultures are often at different ends of a continuum (Flint, 2011). Addo, Smeeth and Leon (2009) add that although there are negative associations with larger body shapes in more developed countries, in less developed countries obesity is a sign of affluence and social status.

Whilst there is wide interest in the study of anti-fat attitudes and stereotypes toward overweight and obese people, the majority of research that has examined obesity perceptions

has emerged from Anglophone countries such as the United States of America (USA) (Heuer, McClure & Puhl, 2011; Mold & Forbes, 2013), where obesity has been well documented as an epidemic (Sturm, 2007). Nosek et al. (2002) suggest that cultural biases can have a strong influence on implicit attitudes. However, more cross-cultural research is needed to gain a better understanding of the impact of one's culture and ethnicity on anti-fat attitudes and weight discrimination. Puhl and Brownell (2003) highlighted two examples of culture-specific values of those living in the USA: (1) Americans traditionally tend to believe in self-determination and individualism (Crandall, 1994) and (2) many Americans view life as predictable. The former point relates to people getting what they deserve and being responsible for their circumstances. Thus, if being overweight is viewed as something that can be controlled, it becomes easier to understand how one may hold anti-fat attitudes if an individual believes that overweight people are to blame for their weight. The latter point refers to the inevitability of producing a desired outcome with effort and ability where, challenging work and determination are seen to lead to success, with failure being due to lack of effort (Crandall, 1994). Puhl et al. (2015) examined the extent of weight bias across Canada, the USA, Iceland and Australia and in each nation, attributions of behavioural causes of obesity predicted stronger explicit weight bias, as did beliefs that obesity is attributable to lack of willpower and personal responsibility. There is risk however in relying on self-reported explicit attitude measures, as used in this study, as they do not necessarily translate into behaviour. What would have strengthened such research, would have been to assess behavioural measures of weight bias across the countries, if possible, in order to understanding how anti-fat attitudes translated into behavioural outcomes within different cultural contexts.

A French study among 600 general practitioners (GPs) documents highly prevalent stigmatising attitudes towards their patients who are obese and overweight (Bocquier et al., 2005). While interesting to see that these anti-fat attitudes are evident in Europe, it is worth bearing in mind that the data is cross-sectional, and so causal inferences cannot necessarily be drawn from the associations observed. These GPs who held negative attitudes toward patients who are obese were also shown to be less likely to subscribe to medical journals, suggesting that they may not have been familiar with current research examining the complex causes of obesity, highlighting the urgent need for weight bias awareness training within the healthcare professions.

While the Western world's cultural preference for slenderness has largely been adopted by British ethnic minority communities, obesity is still seen as a symbol of affluence and success within groups coming from traditional, non-Western societies (Gatineau & Dent, 2011). Whilst this perception of obesity is not commonplace in the UK it does appear to continue to impact some ethnic groups living in the UK (Grace, Begum, Subhani, Kopelman & Greenhalgh, 2009). For example, one qualitative study of young Somali women in England found that whilst they were aware of what constitutes a healthy body size, they were constrained by older Somalis' cultural attitudes favouring a larger body size (Gardner, Salah, Leave & Ponncellato, 2010). Similarly, focus groups with women of Zimbabwean origin suggested that concerns about being overweight were rare in Zimbabwe, but these concerns became prevalent once relocating to the UK (Lawrence et al., 2007). Not worrying about body image until arriving in the UK was also found in a study by Caradas, Lambert and Charlton (2001) where young black women from South Africa were shown to have less body dissatisfaction than white or mixed-race girls, with the authors suggesting that perhaps these black women were used to living in an environment that is more permissive of being

overweight. In Mauritania, men prize corpulent women, and find the larger lady sexy (LaFraniere, 2007), and this fact holds true across many African countries, including Nigeria (Balogun, 2015). LaFraniere (2007) highlights that as obesity denotes family wealth, good health, prestige, prosperity and epitomises the Mauritanian ideal, practices such as gavage (force feeding of high fat foods) and prescription drug abuse (a steroid hormone dexamethasone can cause sharp weight gain) are common. Unlike the world's obsession with a thin and skinny body shapes, Mauritanian women experience body dissatisfaction with a lower BMI. Thinner women are considered poor, socially unacceptable and potentially HIV infected (Samtani, 2013). While weight gain is imposed by Mauritania's patriarchal society rather than fashion magazines, Mauritania women prefer their men skinny - consistent with the Mauritanian stereotype whereby larger men are seen as womanish and lazy. Crandall et al. (2001) carried out a study with participants from Australia, the USA, India, Poland, Venezuela, Mexico and Turkey, and attributions of personal responsibility for body weight and a negative cultural value of obesity were the best predictors of anti-fat attitudes, but this was found in individualist cultures more so than in collectivist cultures, i.e. weight bias was less pronounced in countries such as India, Venezuela, Mexico and Turkey, whose cultures assign more collective responsibility for personal outcomes. These results however need to be considered tentatively as participants were students in their late teens and therefore not representative of the countries and cultures from which they originate, and so inferences would need to be qualified by the age and education.

Jiang, Tan and Fassnacht (2017) carried out a study on Asian women and found that while participants exhibited no explicit anti-fat attitudes toward overweight and obese individuals, strong implicit anti-fat attitudes were present. While these authors added that more studies are necessary to better understand similarities and differences between Asian

and Western populations regarding anti-fat attitudes and weight bias, they stated that their results could be explained by the fact that being influenced by collectivistic beliefs, participants would not often explicitly express anti-fat bias. Carels, Wott, Young, Gumble, Koball and Oehlhof (2010) found that being Caucasian was associated with greater implicit weight bias, while Powell and Kahn (1995) highlighted that racial differences in implicit weight bias may reflect the commonly observed racial differences in desires to be thin, particularly among Caucasian women. Similarly, Wang, Brownell and Wadden (2004) found that African Americans held less strong implicit weight bias compared to Caucasians. While Wang et al. (2004) had originally hypothesised that African-American participants were less likely to show in-group devaluation than Caucasians, based on research by Ofosu, Lafreniere and Senn (1998) who found that African-American communities generally hold less negative cultural values about being heavy, a clear limitation of the study by Wang et al. (2004) was the sample size, which may not have provided sufficient power to detect ethnic differences.

1.2.2 The impact of age

Attitudes are formed in early childhood learning and they represent long-standing values about society (Pryor, Reeder & McManus, 1991), with Ruffman, O'Brien, Taumoepeau, Latner and Hunter (2015) finding that older toddlers were picking up on the anti-fat attitudes of their mothers. Hill (2011) showed that fat prejudice and increasingly negative stereotypic attitudes were evident in children as young as 3, with these children stating that (1), overweight people are mean, stupid, ugly and have few friends, and (2) that they were reluctant to make friends with a fictional overweight child. Hill (2011) added that there was a habit of equating fatness with 'bad' or 'unpleasant', and that children were picking up on society's stigma against overweight people acting as social barometers. Thus, even young children were able to mirror what society says about obesity and body shape. A

landmark study by Richardson et al. (1961) required the children participants to rank (in order of who they would be most likely to befriend) pictures of six children with various physical characteristics and disabilities (crutches, wheelchair, amputations, or facial disfigurements). Most participants were shown to rank the picture of the obese child last and when this study was performed again by Latner and Stunkard (2003), not only did the children again display the strongest bias toward the obese child, but they expressed even more prejudice than their counterparts had 40 years earlier. What these two studies do not consider is the importance of using open-ended formats in weight bias research, which do not force participants to choose one figure last.

McAfee (2012) highlights that these anti-fat attitudes only intensify in adulthood, but that at some point there is a shift whereby adults' attitudes toward overweight and obese individuals become more positive. An analysis of anti-fat attitudes and weight stereotypes from infancy to adulthood was examined by De Caroli, Sagone and Licciardello (2013) and the results indicated that of the participants involved, higher levels of anti-fat attitudes and stereotypes of overweight people (e.g., aggressive, lazy, rejected, and bossy) were expressed by adolescents compared to older age-groups. In a study of 18-77-year olds, Hebl et al. (2008) examined the stereotyping of obesity and found that the older participants were more lenient (less negative) with their ratings than younger participants. Schwartz et al. (2003) found that even younger healthcare professionals specialising in obesity had greater implicit anti-fat attitudes. Similarly, Davis-Coelho, Waltz and Davis-Coelho (2000) found that younger mental health professionals (MHPs) exhibited greater weight bias than their older counterparts, toward patients who are overweight or obese. In explaining these results, they considered the following two factors, (1) internalised fat oppression is potentially more common in younger mental health professionals, and (2) as people age they potentially come

to terms with their own weight gain. Schwartz et al. (2003) hypothesised that younger healthcare professionals may be more strongly imprinted as societal pressures to be thin have only intensified in recent decades, whilst Hague and White (2005) highlight that older health professionals, who have more maturity, experience and greater knowledge through continued professional development, may have overcome some of their negative attitudes about patients who are obese and thus are more accepting of people of all sizes. It thus becomes evident that further studies are needed, as most of the research to date examines weight bias and discrimination of younger populations and how they perceive individuals of their own age (Flint, 2011).

1.2.3 The impact of gender

Both males and females strive to achieve an 'ideal physique' (Flint, 2011), with idealisation concerned with thinness for women and muscularity for men (Groesz, Levine, & Murnen, 2002). With this in mind, one might assume that the degree of weight bias for each gender may be relatively similar. However, differences in perceptions of obesity have been reported between the sexes (Hague & White, 2005). Perez-Lopez, Lewis and Cash (2001) found that anti-fat attitudes are stronger for men compared to women, with Latner et al. (2005) similarly finding that females responded more favourably to obesity than males. While Hague and White (2005) also found that males reported more negative attitudes towards obesity than females, it is worth bearing in mind that their sample was 85% female and therefore potentially unrepresentative. Hebl et al. (2008) found that when examining the stereotyping of obesity, female participants were more lenient (less negative) with their evaluations than the male participants, and the younger males exhibited a greater penalty for increasing weight in relation to attractiveness. This latter finding also adds to the existing evidence discussed above, in that younger participants have shown to report more negative

attitudes toward obesity than the older participants. In response to studies revealing that men hold more negative anti-fat attitudes than women, Winkvist, Mohr and Kenny (1998) refer to 'the female positivity effect' with regard to the perceptions of others. Within the framework of Social Role Theory (Hall, 1984), Eagly (1987) considers men and women's typical behaviour, expected of them by virtue of their sex. Eagly's (1987) interpretation of Hall's (1984) findings highlight that the social roles men and women occupy offer a set of sex-typed beliefs that contribute to social role behaviour, whereby "the female gender role fosters communal qualities, encouraging women to be pleasant, interpersonally oriented and socially sensitive" (p. 106). Interestingly, Lieberman et al. (2012), however, found that while weight bias was greater for men, women feared becoming obese and the extent of women's disgust sensitivity toward obesity predicted higher levels of weight bias toward obese individuals.

1.2.4 The impact of one's weight

Latner et al. (2005) found that individuals with higher BMIs are as weight biased as those with lower BMIs. This, however, is unlike stigma encountered by most other marginalised or minority groups, who affiliate with, feel positively towards, and often demonstrate in-group favouritism (Latner et al., 2005). The stigma of obesity is different in that overweight and obese individuals typically report strong implicit, explicit and internalised weight bias, suggesting no protective in-group bias (Crandall, 1994). They also often perceive themselves as being able to escape from the stigmatised group (Crandall, 1994). Crocker and Major (1989) add that this unfortunately makes weight bias potentially problematic as it lacks the self-protective quality inherent in other stigmatised groups, which would enable the individual to attribute negative or threatening outcomes to others who are prejudiced against one's group. Flint (2011) provides the following example, highlighting that as no individual has control over their race, they can attribute the racism to the

inappropriate attitudes of the aggressor (external attribution). This also applies with regard to one's sex and age, whereby one can attribute sexism and ageism to the negative attitudes held by an external source. Being overweight or obese on the other hand could be perceived as controllable and blameworthy, and therefore may be attributed to the overweight or obese individual's excessive consumption (internal attribution) (Flint, 2011). Wang et al. (2004) found that overweight individuals appear to internalise the powerful social stigma that exists in society, and that an implication of these individuals holding strong, consistent, negative implicit associations about being overweight, without a preference for in-group members, may serve to perpetuate the stigma of obesity.

Petty, Fleming and White (1999) point out the importance and necessity of overweight individuals contesting the views non-obese people hold, in order to provoke conscious thought about obesity stereotyping. They also add that these overweight 'stigmatised sources' may be particularly persuasive to outgroup members, as they have proven to be more motivating than non-stigmatised sources in prompting majority group members to examine a particular message (Petty et al., 1999).

1.3 Anti-fat Attitudes

Anti-fat attitudes have persisted within society for decades. Puhl, Andreyeva and Brownell (2008) considered the worldwide prevalence rates of societal weight discrimination over a 10-year period and found a 66% increase making it on par with rates of racial discrimination. Flint (2011) states that obesity may have been perceived as an abnormal occurrence in times when food was scarce, hard physical work was the norm and technological advances that reduce energy consumption were immature - relative to society at present. With Tam Fry, spokesman for the National Obesity Forum highlighting that being

overweight and obese started to become 'normal' in the 1970s, as this was when people began responding to changes in their environment (Adams, 2012). In the last 40-50 years there have been marked environmental changes which have affected the dietary and lifestyle choices available within society. D'Arcy, Harduar, Orloff and Rozas (2006) highlight that with food becoming more readily available, many modern conveniences allow, if not encourage, individuals to be sedentary. D'Arcy et al. (2006) add that farming has been traded for fast food, manual labour has been traded for office jobs, advertising of processed foods has increased, as has urbanisation with open spaces like playing fields being sold off for housing. In recent years there has also been a reduction in the availability and consumption of complex carbohydrates and an increase in fats and sugars (WHO, 2003). King (2007) adds that *"the technological revolution of the 20th century has resulted in an 'obesogenic environment' which serves to expose the biological vulnerability of human beings"* (p. 13), in that everything from televisions and computer games, to our working hours and transport options, even to the way our houses and streets are designed is working against people staying fit, well and slim (Maio et al., 2007; Ulijaszek, 2007; Law, Power, Graham & Merrick, 2007). King (2007) continues, adding that it should be of no surprise that the median BMI in the UK is now above the 'healthy' range, and that obesity is one of the consequences of the modern world.

Ogden et al. (2016) states that with the prevalence of obesity increasing dramatically over the past 40 years being overweight has become the 'new normal'. As average body weights go up, heavier body types appear to become more accepted (Christakis, 2010). Modern society however remains body conscious, with obesity in particular, implying some level of reprehensibility (Crossley, 2004) or what Goffman (1963) refers to as a 'deeply discrediting' trait producing a 'spoilt identity'. Puhl and Heuer (2009) refer to common weight-based

stereotypes such as ‘obese persons are lazy’, or ‘obese people lack in willpower’, as examples of negative or anti-fat attitudes toward a person because he or she is overweight, adding that it is these anti-fat attitudes which can lead to weight-related bias, prejudice and discrimination toward these overweight and obese individuals.

Morrison and O’Connor (1999) highlighted that anti-fat attitudes have also been referred to as “*prejudicial responses directed towards individuals because of their obesity*” (p. 436). The concept of weight bias, while a prevalent type of prejudice is closely linked to, and stems from one’s “anti-fat attitudes”, or the negative thoughts, feelings, beliefs and assumptions individuals possess regarding overweight or obese individuals (Crandall, 1994; Chalker, 2014). These assumptions often involve stereotyping overweight individuals as ‘lazy’, ‘sloppy’, ‘undisciplined’ or ‘unintelligent’ (Schwartz et al., 2003; Puhl & Heuer, 2009), and the engagement of such attitudes or beliefs can result in the perception of such individuals as lesser or devalued human beings (Puhl & Heuer, 2009). Acting on such biases is discriminatory and can be hurtful both physically and psychologically for the targeted individual (Chalker, 2014). In fact, a study by Latner, Ebner and O’Brien (2012) showed that weight bias is so powerful and pervasive, it appears to outlast obesity itself. Young men and women participants from three universities read vignettes describing a woman who had either lost weight or remained weight stable, and who was either currently obese or thin before having to provide their opinions about this woman on a number of attributes (i.e. how attractive they found her, and their overall dislike for fat people). The students’ opinions revealed a greater negative weight bias toward the woman who had lost the weight, as well as viewing her the least attractive. Whilst these findings were based on participants’ opinions and therefore subjective, they did reveal that anti-fat attitudes remained even after an individual had lost a significant amount of weight and were now thin (Latner et al., 2012). It

is worth bearing in mind that the participants were young, and reviewing the weight bias literature there is much evidence indicating that younger participants are associated with greater weight bias (Hebl et al., 2008). Interestingly, Latner et al. (2012) found that when participants were falsely informed that body weight can easily be controlled there was an increase in negative attitudes, indicating that weight bias toward overweight and obese individuals worsened. With varying societal weight-related messages and prejudiced beliefs in weight controllability which led to blame and dislike toward the obese, the importance of needing to address and reduce the extent of anti-fat attitudes at a societal level is highlighted more than ever (Latner et al., 2012).

1.4 Weight Bias in Society

Being overweight or obese has shown to be associated with more negative characteristics than nearly any other stigma. Among others Brownell, Puhl, Schwartz and Rudd (2005) list the following negative characteristics: mean, ugly, sloppy, unhappy, having fewer friends, uneducated, less competent, disagreeable and being poor role models. Alongside fat oppression, which Brown (1989) defines as “the fear and hatred of fat people, particularly women, and the concomitant presence of oppressive and discriminatory practices aimed toward fat people” (p. 19), Puhl and Brownell (2003) have found that many people intensely dread the possibility of becoming obese. A survey by Garner (1997) found that (1) 15% of women and 11% of men would sacrifice more than five years of their life to be thin and (2) 24% of women and 17% of men said they would sacrifice more than three years of their life to be thin. Unfortunately, no more than 5 years were tested to see the results over a longer period of time. However, Garner (1997) found that this significant minority felt that life was only worth living if one was thin. This fear of fat, coupled with widespread perceptions that overweight people lack competence, self-control, ambition and

attractiveness, creates a culture in which it is socially acceptable to hold negative stereotypes about obese individuals and to discriminate against them (Levine & Schweitzer, 2015; Puhl, Latner, King & Luedicke, 2014; Puhl & Brownell, 2003). Katz (1960) suggested that perhaps some ego defensive function may be served by disliking the overweight or obese, or that an overweight or obese person may represent a feared “possible self” and therefore provoke dislike (Markus & Nurius, 1986). Puhl and Heuer (2009) highlight that overweight or obese individuals are treated differently to those of a more ‘acceptable’ weight, demonstrating disparities in income, social interactions, evaluation and hiring practices, healthcare treatment and educational attainment. In fact, a poll by Taylor, Zarabi and Dhuper (2012) found that 61% of the 2,300 American adult participants saw no harm in making negative remarks about a person’s weight. Over 60% of this same group however thought it was "very" or "extremely" offensive to make racial slurs (Taylor et al., 2012) highlighting that weight bias appears more socially acceptable than racial discrimination. Despite efforts to protect other minority groups, weight bias is pervasive (Latner et al., 2008). Puhl and Brownell’s (2001) comprehensive review of weight bias and discrimination studies suggests that obese persons have essentially become the last acceptable target of discrimination (Falkner, French, Jeffery, Neumark-Sztainer, Sherwood & Morton, 2006; Kilbourne, 1994; O’Hara, 1996; Stunkard & Sorensen, 1993), and obesity the last frontier in tolerable prejudices (Ross, 2013). Without legal deterrents, rules or precedents in place to combat anti-fat attitudes, weight bias may increase over time (McClure, Puhl & Heuer, 2011; Latner et al., 2008; Latner & Stunkard, 2003), and unlike race and sex discrimination laws, no legislation currently exists in the UK in relation to obesity (The Equality Act: Legislation.gov.uk, 2010). While harassment is unlawful, currently bullying is not against the law (The Equality Act: Legislation.gov.uk, 2010). Puhl et al., (2014) highlight that with bullying and victimisation of overweight and obese individuals occurring daily in domains such as the workplace, schools and healthcare,

more work is needed to protect the millions of vulnerable individuals faced with the negative and damaging consequences of weight bias, whereby their quality of life is reduced.

1.5 Sources of Weight Bias

While Crandall and Biernat (1990) considered whether weight bias stemmed from viewing the obese as aesthetically displeasing, morally and emotionally impaired, or socially handicapped, other research (Tiggemann & Anesbury, 2000) suggested that weight bias is especially strong because overweight and obese individuals are perceived as responsible for their weight. Therefore, being overweight is deemed blameworthy, and if one's weight is believed to be under their control, there will be less empathy for these overweight and obese persons (Crandall, 1994). The commonly held beliefs that (1) weight is primarily under an individual's control through diet and exercise, and (2) that a high BMI means ill-health, are considered by some authors to be a consequence of weight bias and perhaps a factor that perpetuates it (Lupton, 2013). Carels and Musher-Eizenman (2010) point out that people who think that weight was a controllable factor showed more negative attitudes toward obese adults than people who consider that weight was not a controllable factor. Mackenzie (1984) noted that both overweight and thinner individuals appear to accept this view of obesity as indicating a lack of control over one's life, which produces self-deprecation for the overweight individual but elicits within the thinner individual anger rather than pity toward the overweight individual (Weiner, 1986). Interestingly, Crandall and Biernat (1990) found that anti-fat attitudes turn into prejudices even in the face of mounting evidence that one's weight is largely determined outside of volitional control. Ross (2013) pointed out that the public hold widespread misconceptions that minimise the complexities of obesity and how difficult it is to reverse, including that it is a temporary condition that is within the individual's control. Latner, Stunkard and Wilson (2005) highlight that future research would

benefit from the use of comparison groups which include problems where there may be some attribution of blame, such as substance abuse, criminal activity, or HIV infection.

A Reuters/Ipsos online poll in 2012 found that over 60% of 1,143 adult participants blamed obesity on personal choices about eating and exercise, with only 19% of participants blaming the actions of food manufacturers and the fast-food industry for obesity. While lacking in detailed experiences and subjective option, the quantitative data collected made it possible to statistically test for result accuracy using credibility intervals (Reuters, 2012). Paul and Townsend (1995) suggested that this dislike towards overweight and obese individuals may be based on the belief that they are self-indulgent. Ross (2013) discusses Puhl and Heuer's (2010) analysis of over five decades of weight bias research whereby these misconceptions of obesity have shown to thrive over the years despite the negative consequences of weight bias having been reported and the fact that many causes of obesity (such as genetic and metabolic factors, environment, upbringing, economic status and the way parents talk to their children about weight) are beyond the individual's control. One's own body weight and personal history of weight bias also appear to be great predictors of anti-fat attitudes and discrimination (Latner et al., 2012). However, most of the research on weight bias has used American samples, with little research from other nations (Brewis, Wutich, Falletta-Cowden & Rodriguez-Soto, 2011).

1.6 Theoretical Underpinnings

Wexler (2010) highlights several theories of prejudice which propose the origins of weight bias. Attribution Theory (Weiner, 1986) proposes that there is a process of information gathering before one is able to attach meaning to one's behaviour in order to

make causal judgements explaining an event (Weiner, 1986). Jarvis and Russell (2002) suggest that external and internal attributions are made constantly through interactions with others, i.e. judgements based on whether the behaviour occurred because of a situation (external) or due to an individual's character (internal). Gilbert, Pelham, and Krull (1988) add that there are three stages to these attributions: (1) *Categorisation*, which is the identification of the behaviour; (2) *Characterisation*, being the judgement of an individual based on the behaviour observed; and (3) *Correction*, the examination of a situation in order to determine whether an individual is responsible and in control of the behaviour. As Puhl, Schwartz and Rudd (2005) suggest, perceptions of obesity are affected by whether the causes of obesity are attributed internally or externally, therefore judgements about behaviours are likely to be affected by perceptions of control. With stigmatisation and anti-fat attitudes likely to be greater when the causes of obesity are attributed to internal, controllable factors (O'Brien, Puhl, Latner, Mir & Hunter, 2010; Musher-Eizenman, Holub, Miller, Goldstein & Edwards-Leeper, 2004; Kim & Willis, 2007), it becomes clear how relevant this theory is with regard to weight bias research.

Social Identity Theory (SIT: Tajfel & Turner, 1986) posits that groups develop their social identities by comparing themselves to other groups, and designating other groups as inferior. Tajfel and Turner (1986) highlight that there is an explicit focus on the value of an in-group. A study by Schwartz et al. (2006) reported that anti-fat attitudes were significantly higher among people with low BMIs compared to those with greater BMIs, which indicates that in line with SIT, individuals have expressed a more positive evaluation of members within their own group than members outside of their group (Tajfel & Turner, 1986). Ashburn-Nardo, Voils and Monteith (2001) highlight that through group membership one generates positive feelings and a positive affiliation towards the group to which they believe

they belong, at both a conscious and unconscious level. While a useful and relevant theory to consider, Jost, Banaji and Nosek (2004) state that SIT provides minimal in the way of advancing knowledge of system justifying motives and beliefs, and that System Justification Theory (Jost & Banaji, 1994) is more appropriate in terms of examining self-stigmatisation.

System Justification Theory (Jost & Banaji, 1994) proposes that members of low status groups have a tendency to endorse stereotypes about their group through a reduced liking of their own group or through a greater liking for the higher status group of which they are not members (Jost & Banaji, 1994). This theory suggests that individuals feel, think and act in ways that do not favour themselves or the groups that they belong to, thus maintaining systems of inequality through a rationale for group divisions (Jost & Banaji, 1994). Research by both Schwartz et al. (2006) and Wang et al. (2004) demonstrates this theory in that overweight and obese individuals were shown to report greater implicit anti-fat attitudes towards their own BMI groups. This theory is relevant to weight bias and anti-fat attitude research with Flint (2011) adding that there is not only a need to identify why anti-fat attitudes and system justifying beliefs exist in society, but whether system justifying beliefs towards obesity are evident in the UK.

Another theory of prejudice worth consideration is Stephan and Stephan's (2000) Integrated Threat Theory (ITT). At present there appears that no weight bias related research exists with regard to ITT. However, this theory of prejudice has proven useful in understanding intergroup prejudice among cultures (Stephan, Diaz-Loving & Duran, 2000) and political parties (Osborne, Davies & Duran, 2008). ITT suggests that there are four types of threat (realistic, symbolic, intergroup anxiety, and negative stereotypes) which are thought to be a result of the amount and quality of intergroup contact, and which cause prejudice that

stigmatised groups are perceived as a threat, i.e. overweight and obese individuals threaten deeply held cultural values of self-discipline, self-control, moderation and thinness (Wexler, 2010). Continued investigations would be worthwhile as ITT could be employed to further examine weight bias and intergroup threat.

Puhl and Brownell (2003) consider Social Consensus Theory (Sherif & Sherif, 1967) as the most promising approach to modifying attitudes toward obese people. This theory relies on the observation that after learning that a group does not share the individuals' beliefs, the individual is more likely to modify their beliefs to be similar to those expressed by the group they respect or wish to join. Puhl and Brownell (2003) conducted experiments where university students reported their attitudes and values toward obese people before and after researchers offered them varying consensus opinions of other students that they considered important. Results showed that participants (1) reported significantly fewer negative attitudes about obese people after being told that the other students held more favourable attitudes about obese people, and (2) changed their ideas about the causes of obesity, favouring uncontrollable causes after being told the other students believed obesity was attributable to these causes. Puhl and Brownell (2003) stated that social consensus not only proved effective in reducing weight bias but it also offered an explanation as to why obese individuals themselves express negative stereotypes - i.e. they wanted to belong to the valued social group and chose to accept negative stereotypes to align themselves with current culture, thus resembling the 'in-group' and distancing themselves more from the 'out-group'. Puhl and Brownell (2003) however also highlight that while social consensus has shown to reduce weight bias there are many unanswered questions about this theory's widespread utility and effectiveness.

Lastly, Evolved Dispositions Theory proposes that members of a group will be stigmatised if they threaten or undermine group functioning. Reviewing the available literature, no research appears to currently exist which tests this theory with regard to weight bias and anti-fat attitudes. Wexler (2010) however adds that this evolutionary adaptation may predispose people to shun overweight or obese individuals because they are seen as (1) an increased health risk and (2) unable to make sufficient contributions to the group's welfare because of weight-related illness or disability.

1.7 Weight Bias within Healthcare Settings

With the concerning increase in obesity, comes rising evidence of stigma, stereotyping, bias, and discrimination towards overweight and obese individuals (Puhl & Heuer, 2009). In their comprehensive review of related literature Puhl and Heuer (2009) demonstrate that overweight and obese individuals can be placed in disadvantaged situations due to their body size, facing prejudice and discrimination across multiple domains of life. These domains include healthcare settings, the workplace, educational institutions, interpersonal relationships, mass media (Puhl et al., 2013) as well as jurors' perceptions of defendants' guilt and responsibility, jury selection and adoption proceedings (Schvey, Puhl, Levandoski & Brownell, 2013). Puhl and Brownell (2003) indicate that the manifestations of weight bias leading to discrimination, not only affect individuals emotionally, physically and psychologically, but also exert a harmful and potentially lasting influence on one's health and quality of life. Until weight bias is reduced, overweight and obese people will continue to contend with prejudice and discrimination.

Research shows that weight bias is alarmingly common within the healthcare sector (Teachman & Brownell, 2001) with Carr and Friedman (2005) examining the frequency of institutional and interpersonal discrimination among a nationally representative sample of 3,437 adults, finding that obese participants were 40-50% more likely to report healthcare-related discrimination when compared to normal weight individuals. Puhl, Luedicke and Grilo (2014) reported that patients who are obese are a common target of negative attitudes and derogatory humour by healthcare providers (65%) and with two-thirds of Americans being overweight or obese, Puhl et al. (2013) highlights the need for healthcare professionals to deliver the same quality healthcare, where compassion and respect is offered to all patients. Weight bias within healthcare settings is concerning, especially since it is healthcare professionals which overweight and obese individuals approach with regard to weight and health-related advice and assistance. Ross (2013) highlights that anti-fat attitudes among healthcare professionals have been shown to compromise the assistance overweight and obese individuals receive, while Schwartz et al. (2003) reported that healthcare professionals' weight bias can result in patients who are overweight and obese feeling uncomfortable which can discourage these individuals from seeking help, which in turn impacts their quality of life.

The empirical evidence on weight bias is scattered across diverse disciplines and lines of research, making it difficult to obtain clarity with regard to the implications of weight bias for healthcare providers and their patients (Phelan et al., 2015). There are multiple studies however reporting that physicians, medical students, nurses, student nurses, dietitians, and other healthcare professionals not only respond differently to patients on the basis of their body size but also routinely stereotype their patients who are heavy (Swift, Hanlon, El-Redy, Puhl & Glazebrook, 2013; Stone & Werner, 2012; Setchell, Watson, Jones, Gard & Briffa,

2014; Puhl & Heuer, 2010). There have even been instances where non-overweight or non-obese individuals have been shown to believe that subjecting overweight or obese individuals to such weight biases might serve as a motivational factor for weight loss as well as a useful tool to motivate the adoption of a healthier lifestyle (Crister, 2004; Chalker, 2014). While this is ethically and morally questionable, Puhl and Heuer (2009) highlight that existing evidence sufficiently challenges common perceptions that weight bias may motivate healthy eating behaviours and instead suggests that weight bias may increase maladaptive eating behaviours, exercise avoidance, and in some cases, reduce motivation to lose weight. Whilst one would hope that professionals working within various healthcare settings would be able to distance themselves from their social prejudices and judgement, treating all patients compassionately, Huizinga, Cooper, Bleich, Clark and Beach (2009) reported that physicians' behaviour often mirrors the broader culture's attitudes of valuing thinness and hard work, and equating being fat with being lazy. Thus, it is evident that weight bias often occurs in settings where overweight and obese individuals might assume they would be free from judgement (Teachman & Brownell, 2001; Canning & Mayer, 1966; Rothblum, Brand, Miller, & Oetjen, 1990). Weight bias from any source can be detrimental, but weight bias in healthcare settings from healthcare professionals will no doubt lead to poor quality of care for patients who are overweight or obese (Puhl & Heuer, 2010). Foster et al. (2003) found that within healthcare settings, vulnerable patients who are obese continue to face negative attitudes, harmful weight-biased stereotypes, and stigma from healthcare providers, with other studies revealing that common perceptions of overweight and obese individuals are that they are stupid, worthless, lacking in self-control, noncompliant with treatment, unsuccessful, unintelligent, and dishonest (Puhl & Brownell, 2001; Schwartz et al., 2003; Wolf, 2012). These anti-fat attitudes can create environments which can prevent overweight or obese individuals from seeking out the necessary healthcare treatments (Schwartz et al., 2003). Healthcare providers

possessing and/or projecting such anti-fat attitudes are likely to have an impact on their patients who are overweight and obese, affecting quality of care and damaging the patient-provider relationship (Gudzune, Huizinga & Cooper, 2011; Phelan et al., 2015; Ferrante, Piasecki, Ohman-Strickland & Crabtree, 2009).

Gudzune et al. (2011) highlight that weight bias exists within the medical field, with healthcare providers holding (1) 'victim blaming' models of obesity (Epstein & Ogden, 2005; Garcia, Amankwah & Hernandez, 2016) and (2) anti-fat attitudes towards patients who are obese (Schwartz et al., 2003). In fact, of concern is the extent of research reporting physicians as one of the most frequent sources of weight bias (Puhl & Brownell, 2006). It is worth bearing in mind, however, the majority of weight bias research has studied physicians, with less extensive inquiry into other healthcare providers. With such an in-depth understanding of the causes of obesity, it is surprising that physicians do not display fewer stigmatising attitudes (Sikorski, Luppia, Glaesmer, Braehler, Konig & Riedel-Heller, 2013). Weight bias has been shown to be as pervasive among physicians as it is among the general public (Sabin et al., 2012), while Huizinga et al. (2009) found that while most of the physicians they tested stated they showed consideration for every patient they treated, the data found that physicians' respect and desire to help clearly diminished as a patient's BMI increased, and that patients who are overweight were shown to be treated with contempt that increased directly in line with their weight (Hebl & Xu, 2001; Huizinga et al., 2009). Physicians were found to report that they had less respect and patience for patients who are obese, as well as viewing these patients as annoying, non-compliant and a waste of time (Hebl & Xu, 2001). With regard to the findings by Huizinga et al. (2009), it is worth bearing in mind that (1) there are too many reasons to explore within one study as to why physicians would have lowered respect for patients with a higher BMI, and (2) social desirability bias may be present

as physicians may not want to report low respect for any patient. Puhl and Brownell's (2003) survey of more than 1,200 physicians revealed that most were ambivalent about caring for patients who are overweight and obese and did not treat them with the same determination they displayed toward patients who are normal-weight. Furthermore, according to Puhl and Brownell (2003), when asked to name patient characteristics that provoked feelings of discomfort, reluctance or dislike, 400 of the subjects mentioned obesity, making it the fourth most common condition named after drug addiction, alcoholism, and mental illness. Klein, Najman, Kohrman and Munro (1982) added that physicians linked obesity to negative qualities such as poor hygiene, hostility, dishonesty and non-compliance with prescribed treatment, while Solovay (2000) reported that Dr Kenneth Walker's opinion in his national US newspaper column was that obese people should be locked away in prison camps for the good of themselves and their countries. The above findings are especially interesting because (1) physicians are not automatically assumed to be one of the most frequent sources of weight bias and (2) they have shown to hold steadfast across the decades.

Over the past 15 years there has been considerable media and research attention with regard to the study of weight bias, with particular focus on healthcare professionals. While physicians were found to be one of the most frequent sources of weight bias, nurses performed not too dissimilar with regard to the presence of weight bias within their profession (Mulherin, Miller, Barlow, Diedrichs & Thompson, 2013). A study by Ward-Smith and Peterson (2016) surveying 358 nurses found they reported negative beliefs and attitudes toward patients who are overweight and obese, and perceived these overweight or obese individuals to be not as good or successful as others, not fit for marriage, messy, and not as healthy. As participants were recruited from those able to attend a national conference, the study population may be unrepresentative of licensed nurses. Puhl and Brownell (2003)

found that nearly half of the nurses in their study reported that they were uncomfortable caring for patients who are obese, with 31% stating they would prefer not to care for obese patients at all. Culbertson and Swollen (1999) explored nurses' attitudes, reporting that more than half of the participants believed patients who are obese chose food selections poorly, could lose weight if they desired, and lacked self-confidence. Interestingly, Tanneberger and Ciupitu-Plath (2017) found that nurses endorsing stronger beliefs that weight lies under an individual's control were more likely to report discrimination of patients who are obese in clinical practice. While nurses play a key role in assisting and caring for patients who are obese or have obesity-related health problems (Poon & Tarrant, 2009), studies continue to reveal that nurses hold similar negative attitudes as the general public towards obese people (Hoppe & Ogden, 1997; Brown, Stride, Psarou, Brewins & Thompson, 2007).

Petrich (2000) explored the perceptions of both medical and nursing students toward obesity and found that many respondents were repulsed by the appearance of patients who are overweight or obese, while Persky and Eccleston (2011) reported that medical students often believed that patients' afflictions were a consequence of their own behaviour, and therefore less worthy of care. Ironically, weight bias is exhibited by individuals whose job it is to address and assist the problems of the overweight and obese, and it seems that these anti-fat attitudes are being shaped earlier in one's career with Wear, Aultman, Varley and Zarconi (2006) finding that medical students feel that it is socially acceptable to make fun of patients who are obese. While Wear et al. (2006) hypothesised that these students' anti-fat attitudes may be shaped by the 'role modelling' of the attending physicians and psychiatrists they look up to, or who are respected more by the patients they treat, these findings are still alarming. Especially since physicians and medical students are required to take the Hippocratic Oath (Adams, 1849), and nurses and nursing students the Nightingale Pledge (Gretter, 1893). The

Hippocratic Oath is an ethical code of conduct, principles and obligations for medical students and physicians whereby one pledges to refrain from causing harm or hurt, while the Nightingale Pledge, an adaptation of the Hippocratic Oath, is a nurse or nursing student's commitment to moral and ethical values and principles. Yet even with such binding and sacred ethical standards in place, Swift et al. (2013) found that students training to become nurses and physicians were major sources of weight bias. As the results from research by Swift et al. (2013) were specific to students who had been committed to attending lectures, were engaged in their course and had opted to participate in the study when approached by researchers, the outcomes could potentially be biased and unrepresentative of trainee physicians and nurses as a whole.

The study by Swift et al. (2013) not only highlighted unacceptable levels of weight bias among UK students training to become nurses and physicians, but students training to become nutritionists and dietitians were also shown to report negative attitudes towards obese people. Mold and Forbes (2013) report that when these students qualify and enter professional roles as nutritionists and dietitians, these negative attitudes potentially have serious consequences for patients who are obese. Swift et al. (2013) question the effectiveness of nurses, physicians, dieticians and nutritionists directing the future of obesity treatment and prevention, if these students are unwilling or unable to engage empathically with overweight and obese people. Reviewing wider weight bias research in order to consider other healthcare professionals, Setchell et al. (2014) found that Australian physiotherapists demonstrate negative weight bias, especially explicitly, which may potentially negatively affect patients who are overweight or obese physiotherapy treatment. This study was however carried out in Australia thus potentially unrepresentative, and the case study format with free-text response options lacked the sensitivity of examining more subtle forms of discrimination,

the nature of these anti-fat attitudes and the manifestations of this weight bias in clinical settings. With not much research available investigating physiotherapist's attitudes toward their patient's weight, the only other study found was carried out by Sack, Radler, Mairella, Touger-Decker and Khan (2009) who found that over 50% of physiotherapists studied believed that people who are obese are weak-willed, non-compliant and unattractive, suggesting that physiotherapists possess negative stereotypes of overweight people and may exhibit weight bias. As paper mail surveys were used to explore physiotherapists' attitudes, knowledge and practice approaches regarding obesity, no further investigation was possible. The questionnaire was also unfortunately adapted from a non-validated tool, so the reliability and validity of the study's results are questionable. Robertson and Vohora (2008), using both implicit and explicit measures of anti-fat attitudes, highlighted that fitness professionals and regular exercisers, judged fat people worse and lazier than thin people, while Schwartz et al. (2003) found a strong implicit bias among healthcare professionals who specialised in obesity treatment, with evidence suggesting that they also possessed beliefs that their patients were to blame for their obesity. Chambliss, Finley and Blair (2004) highlighted that exercise science students (training to address a patient's physical fitness) not only exhibited weight bias, but also admitted to endorsing certain stereotypes and anti-fat beliefs regarding overweight and obese individuals. Dieticians and exercise scientists (Stone & Werner, 2012; Chambliss, Finley & Blair, 2004) have shown to perform similarly.

Whilst the research above reveals to some extent the degree of weight bias across a few select areas of the healthcare professions (but primarily focussed on physicians and nurses), further efforts are warranted to evaluate the presence of weight bias within other patient-provider relationships given the implications for clinical treatment and the psychological, emotional and physical health outcomes of patients who are obese (Puhl,

Luedike & Grilo, 2014). Not only has weight bias shown to be pervasive throughout the general population, but it appears that no healthcare discipline has proved immune to weight bias either. If medical professionals supposedly adhering to the ethical guiding principle of ‘first, do no harm’ (Oath of Hippocrates, 1910) are guilty of anti-fat attitudes and weight discrimination, one has to assume that other healthcare ‘sectors’ will also be susceptible. With weight bias often occurring in places where overweight and obese individuals might assume they would be free from judgment, including within the healthcare system (Teachman & Brownell, 2001; Canning & Mayer, 1966; Rothblum, Brand, Miller, & Oetjen, 1990), it becomes clear that for those working within the healthcare professions it is necessary to raise awareness of not only the fact that weight discrimination exists, but that these healthcare professionals themselves may hold their own anti-fat attitudes without even recognising the fact. This is important as weight biases from healthcare professionals can influence the type of care an overweight or obese individual may receive. Whilst previous research (Huizinga et al., 2009; Brown et al., 2007; Schwartz et al., 2003) has illustrated that anti-fat attitudes, weight bias and discrimination is evident across a range of healthcare ‘specialisms’, research investigating the extent to which weight bias is present within mental healthcare, and whether MHPs demonstrate explicit and/or implicit anti-fat attitudes towards their patients who are overweight and obese is limited. The anti-fat attitudes of MHPs needs to be investigated further as weight bias and discrimination can be seen as an abuse of power, which evidently does do harm.

1.8 Relevance to Counselling Psychology

As Western MHPs practise in a culture in which weight bias and discrimination against overweight and obese people is the norm, it is not surprising that these MHPs are less resistant to this weight bias (Davis-Coelho, Waltz & Davis-Coelho, 2000). Koenig (2008)

stated that within this fat-phobic, thin-obsessed culture, some find it difficult not to make assumptions and judgements about body size. While this has been the case for years, weight bias as a topic only really begun to receive considerable media and research attention in the nineties, with the following two early studies suggesting that within mental healthcare, weight bias may negatively influence a therapist's perception of their patients who are overweight and obese. The first study by Angell and Rothblum (1991) found that within the therapists' case histories, which included patients' height and weight, patients who were overweight and obese were rated as more physically unattractive and more 'embarrassed' than non-fat patients. The second study by Young and Powell (1985) found that when presenting therapists with three computer altered images of the same Caucasian 'middle-aged' woman, therapists attributed significantly greater levels of symptomology to the image where the woman appeared overweight, or obese versus when she appeared non-fat. This is noteworthy as the experience of weight bias is associated with numerous negative health consequences (Guyl, Matthews & Bromberger, 2001). Puhl et al. (2014) highlighted the following potentially harmful psychological, emotional and physical consequences of weight bias: depression, anxiety, low self-esteem, suicidal ideation, body dissatisfaction and maladaptive eating behaviours. Taylor, Zarabi and Dhuper (2012) add that other harmful effects include internalisation, stress, anger and aggression, while Puhl, Moss-Racusin and Schwartz (2007) noted that occasionally, when overweight or obese individuals are subjected to weight bias, these individuals may often experience changes in physical activity patterns. Adults who are overweight or obese often become withdrawn from society through experiences of rejection, stigma or stereotyping, and it is these experiences which may have an additional impact on health and psychological well-being (Pearce, Boergers & Prinstein, 2002).

Phelan et al. (2015) highlights that weight bias can lead patients to adopt coping strategies such as delaying or cancelling future appointments, and/or neglecting to obtain necessary healthcare. Individuals who have experienced weight bias have been shown to be more likely to avoid preventive healthcare screenings, not adhere to treatment plans, become untrusting of healthcare providers and being at heightened risk for psychological distress (Sutin & Terracciano, 2013). Carels et al. (2010) found that weight bias among treatment-seeking adults was not only associated with greater psychological maladjustment but it also interfered with their ability to achieve optimal health and well-being. Puhl and Brownell (2003) document evidence that deeply held negative stereotypes adversely affect the clinical judgment of healthcare professionals, including diagnosis and the quality of care delivered to patients who are obese. Healthcare professionals acting on these negative weight-based stereotypes can sometimes overtly or covertly alter behaviour toward their patients who are overweight and/or obese (Schwartz et al., 2003; Burmeister, Kiefner, Carels, & Musher-Eizenman, 2012; Rothblum et al., 1990). This is relevant because for those working within mental healthcare, quality of care and the therapeutic relationship is of the utmost importance with regard to individuals who may be considered 'risky' or 'at risk' of harming themselves or harming others. Ross (2013) thus highlights the need for therapists to become aware of whether they make assumptions about patients' health and lifestyles based on their appearance. Davis-Coelho, Waltz and Davis-Coelho (2000) emphasise the need for therapists to become aware of their own explicit or implicit weight bias, as a well-intentioned therapist unaware of his/her biases, attempting to work in an unbiased manner with patients who are overweight or obese, risks introducing weight bias into their practice in subtle ways. These biases include: (1) assuming that all patients who are overweight or obese have 'disordered' eating patterns, or (2) that a patient's weight is the source of their problem/s or an expression of psychological maladjustment. Davis-Coelho, Waltz and Davis-Coelho (2000) added that

MHPs with less experience, may exhibit greater bias against patients who are overweight or obese and that only as these MHPs gain experience do they become less influenced by the superficial characteristics of their patients. This is especially important if one considers that obese individuals are vulnerable and already at heightened risk for many comorbidities (Flint, Hu, Glynn, Caspard, Manson, Willett & Rimm, 2010). It is worth bearing in mind that the study outcomes by Davis-Coelho, Waltz and Davis-Coelho (2000) were drawn from self-report questionnaires which were posted to participants, alongside other study materials (photograph, 'client' self-report descriptions). As testing was carried out unsupervised, it cannot be confirmed whether it was the recruited participants who completed the questionnaire, or whether they thoroughly reviewed the study materials before completing the questionnaire items. Interestingly, Hebl and Xu (2001) consider the impact of negative attitudes acting as a self-fulfilling prophecy (Snyder, Tanke & Berscheid, 1977), in that healthcare professionals who treat overweight patients less favourably affect the overweight patient's self-care. Overweight patients who then respond negatively to this lower standard of care, only reinforce the healthcare professionals' negative weight-based attitudes. Overweight patients in turn, may delay or avoid seeking the assistance or advice they need altogether, potentially contributing to the elevated mortality rate of overweight individuals (WHO, 2016).

Obesity and mental disorders are major public health problems that co-occur to a significant but unknown degree (McElroy, Allison & Bray, 2006). Obesity and mental health disorders can be considered bidirectional, or having a reciprocal relationship (Carey, Small, Lin Yoong, Boyes, Bisquera & Sanson-Fisher, 2014). What is meant by this is that obesity can lead to poor mental health, just as poor mental health can lead to unhealthy lifestyle choices and increased appetite (Gatineau & Dent, 2011). Ivbijaro (2010) highlights that

increased medical problems and mobility restrictions associated with obesity can have a direct impact on psychological well-being, leading to depression, eating disorders, distorted body image and low self-esteem. While Markowitz, Friedman and Arent (2008) state that a combination of the biological effects of increased stress alongside poor adherence to weight loss programmes, binge eating, negative thoughts and reduced social support, may make it difficult for a depressed person to avoid weight gain.

Carey et al. (2014) highlight that there is limited data on the prevalence of comorbid obesity and depression, and while the causal relationship remains unclear, understanding more about this comorbidity is important not only because depression and obesity are both associated with social stigma, low self-esteem, and chronic health conditions (Clarke & Currie, 2009; Patten, Williams, Lavorato, Modgill, Jetté, & Eliasziw, 2008), but because obesity coupled with depression has significant economic implications, for example, high service usage (Atlantis & Baker, 2008). Considered one of the first studies to examine the prevalence of depression across all BMI categories, Carey et al. (2014) found rates of depression higher among those who were obese, then those who were normal weight or overweight. A community-based study found evidence of a reciprocal relationship between depression and excess weight whereby being overweight or obese increased the odds of subsequent depression by 27% and 55% respectively, while depression had a 58% increased risk of becoming obese (Luppino et al., 2010).

Being overweight or obese has been shown to frequently complicate the treatment of patients with mental health disorders, especially those with psychotic disorders, mood disorders, and eating disorders (McElroy, Allison & Bray, 2006). While immobility and medical issues add to the obstacles in delivering effective treatment, Scott et al. (2008) found

a greater likelihood of depression with increasing BMI, and this was observed in epidemiological studies carried out across Germany, New Zealand, France, and the Netherlands. Carrying out a systematic review and meta-analysis of 16 studies, Gariépy, Nitka and Schmitz (2010) found a positive association between obesity and anxiety disorders. However, inconsistencies in study measurements, sample characteristics and information biases may have confounded the interpretations. Similarly a study by Petry, Barry, Pietrzak and Wagner (2008) found (1) increased odds of mood disorder symptoms (dysthymia, and manic and hypomanic episodes) among obese and extremely obese persons compared with their normal-weight counterparts, (2) elevated anxiety disorder rates among participants ranging from moderately obese to extremely obese, and (3) generalised anxiety disorder, panic disorder without agoraphobia, and specific phobia was elevated among individuals classified as overweight and obese. The relationship between mental health disorders and obesity is important to consider within one's clinical practice. While Markowitz, Friedman and Arent (2008) highlight that MHPs should encourage patients to engage in behaviours that will help improve both obesity and common mental health disorders, such as stress management, exercise and lifestyle modification, within counselling psychology there is also the need to address and improve the therapeutic climate in which care is offered to ensure patients' healthcare experiences are productive, respectful, positive, and free of bias (Puhl et al., 2013).

Mearns, Thorne and McLeod (2013) highlight the importance of the therapeutic relationship, in that it facilitates a safe, accepting, non-judgemental and supportive environment whereby the patient can learn to build trust and experience the first imitations of self-acceptance. The foundation to each therapeutic alliance consists of what Rogers (1951) calls the core conditions, namely congruence/genuineness, unconditional positive regard and

empathy. Essentially the aim of the therapist is to create a climate in which the patient recovers from maltreatment and begins to flourish as a unique individual (Mearns et al., 2013). It thus becomes clear how a therapeutic relationship can be impacted or affected if anti-fat attitudes and weight bias are introduced into the therapy room. Patients feeling discriminated by the same person they are seeking assistance from could (1) lead the patient to feel worse about themselves and/or their current life situation or (2) exacerbate the presenting issue they brought to therapy (e.g. those who may already be suffering from depression, anxiety, low self-esteem, stress, anger, suicidal ideation, body dissatisfaction or maladaptive eating behaviours). When patients first meet their therapists, transference dynamics automatically begin (Koenig, 2008). Koenig (2008) adds that when treating patients who are overweight or obese, transference and countertransference may be overlooked, less acknowledged, or avoided because of the potential discomfort that may arise by addressing either. Therefore, MHPs must reflect, explore and confront their thoughts and feelings about a patients' body size. Dealing with transference and countertransference issues often entails in-depth examination of our cultural biases about weight and our personal current difficulties and troubled histories (Koenig, 2008). Considering the inevitability of MHPs working with patients who are overweight and/or obese, as well as the sensitivity, respect, compassion and empathy required within the therapeutic relationship, therapists need to become aware of the attitudes they hold towards the overweight or obese and if these attitudes are in fact negative, therapists need to ensure that they do not harm their patients.

MHPs in this study refer to psychologists (counselling and clinical), psychotherapists, CBT therapists and counsellors working within a range of environments: primary healthcare, secondary care, tertiary care, community care, home care, acute or long-term care and private clinics. With previous research (Davis-Coelho, Waltz & Davis-Coelho, 2000; Hassel,

Amicic, Thurston & Gorsuch, 2001) identifying that psychologists report believing that their patients who are obese have more severe psychological symptoms, greater pathology, more negative attributes and worse psychological prognosis when compared to their patients who are non-overweight or non-obese, the need to (1) recognise antecedents of weight bias, and (2) raise MHP's awareness of their own explicit and implicit anti-fat attitudes within mental healthcare settings becomes imperative. Especially since research (Hebl & Xu, 2001; Bertakis & Azari, 2005) has found that these anti-fat attitudes and weight bias have been shown to impact patient care within healthcare settings - by healthcare providers admitting to decreased expectations of patients who are obese, decreased confidence in working with obese patients, lack of respect, and discomfort working with patients who are obese. These findings are significant especially if one considers the impact of weight bias on the therapeutic relationship in terms of patient trust and engagement. This study is relevant to counselling psychology in that, (1) it investigates whether MHPs hold explicit and/or implicit anti-fat attitudes toward their patients who are overweight and/or obese and, (2) whether these explicit and implicit anti-fat attitudes can be reduced through an experimental intervention.

This study thus aims to (1) investigate and raise awareness of potential explicit and/or implicit anti-fat attitudes among those MHPs working within counselling psychology, (2) consider whether an experimental intervention may reduce MHP's weight bias, as well as (3) raise awareness of the behavioural outcomes and practice implications. With all of this comes the understanding for the immediate need to begin addressing weight bias within mental healthcare, by starting to identify and apply strategies to reduce weight bias in mental healthcare settings. Davis-Coelho, Waltz and Davis-Coelho (2000) highlight that psychology can serve to reinforce the oppression of some members of society, or it can serve to combat

such oppression, but it is only through the individual efforts of its members can the field of psychology begin to empower overweight and obese people, rather than contribute to their oppression.

1.9 Thinking Critically about Weight Bias

Despite growing recognition of the problem, obesity rates continue to rise in both developing and under-developing countries. The possible causes of obesity (genetics, metabolism, the environment, medical conditions, medication, diet, exercise and culture; NHS Choices, 2016) have been linked to society and more specifically healthcare professionals grappling with the consequences of obesity. The Centers for Disease Control and Prevention (2017) lists the possible consequences of obesity as physical (e.g., diabetes, cardiovascular disease, increased blood pressure), social (e.g., lower rates of employment, lower salaries, increased level of bullying) and psychological (e.g., depression, anxiety, lower self-esteem, body dissatisfaction). Even though the consequences of obesity have shown to result in financial losses, health issues and reduced psychological wellbeing, a cultural pervasiveness of anti-fat attitudes continues to exist - which further impacts these consequences. Both the causes and consequences of obesity link to the notion of weight bias, in that individuals who are overweight or obese potentially require an increased need for various healthcare visits. However, as these patients are seen less favourably, they are not served correctly and do not receive the same level of care as normal weight patients (Fruh et al., 2016). A consequence of weight bias present in healthcare and mental healthcare settings is that the situation worsens for patients. For example, they may be made to feel bad or receive less referrals or less lifestyle guidance. If explicit and/or implicit weight bias toward patients who are overweight and/or obese is present within therapy rooms of mental healthcare settings, MHPs are jeopardising a patient's quality of care which may in turn result

in patients delaying, avoiding or withdrawing from appropriate mental health care (Puhl & Heuer, 2009). Patients who are overweight and/or obese feeling blamed for their body size, uncared for, disrespected or embarrassed by MHPs will avoid necessary and appropriate mental healthcare, which in turn could potentially lead patients to neglect self-care and continue with their maladaptive ways of negative thinking and behaving (Wott & Carels, 2010). This could then result in increased body weight with even further physical and psychological issues which would need addressing. However, as the patients would remain avoidant the vicious cycle would continue without these vulnerable individuals receiving appropriate psychological care (Puhl & Heuer, 2009).

While some believe an individual's weight is a result of genetics, medication, medical conditions or metabolism, others believe one's BMI is blameworthy as weight is seen to be within a person's control. It is therefore important to consider blame attributions, namely behavioural blame and characterological blame. They are distinguished from each other by the direction of blame. Janoff-Bulman (1979) highlights that behavioural blame is control-related, involves attributions to a modifiable source (one's behaviour, e.g., healthier eating / diet and increased exercise), and is associated with a belief in the future avoidability of a negative outcome (i.e. over time one need not remain overweight or obese). Dweck (1975) highlights that underlying behavioural blame is the belief that as long as an individual tries harder they will be able to control outcomes in a positive manner (i.e. achieve a more socially accepted weight). Stevens Sullivan (2009) adds that individuals are responsible for their weight, and that this inability to curb appetite shows an absence of self-discipline and a lack of moral strength. Coping strategies (compensatory behaviours or addictions) however also fall into this category and need further consideration as these behaviours are immediate

solutions for deeper underlying psychological issues (Thorne, 2004).

Janoff-Bulman (1979) states that characterological blame on the other hand is esteem-related, it involves attributions to a relatively non-modifiable source (one's character, e.g., stupid, self-indulgent), and is associated with a belief in personal deservingness for past negative outcomes (e.g., if one over-indulges they deserve to be of a certain weight). People are therefore blamed for their weight due to the kind of people they are, thereby they are faulted for their character (Janoff-Bulman, 1979). For those who believe one's weight is solely down to personal blame, Lerner and Miller (1978) highlight that those who cannot be characterologically blamed by virtue of their reputedly good character are instead blamed for some behaviour they engaged in, or failed to engage in. Crandall (1994) highlights that as many believe one's weight is entirely controllable, less empathy has been shown toward overweight or obese individuals as they are viewed responsible for their heavier BMI. Carels and Musher-Eizenman (2010), however, found that people who believed that weight was not a controllable factor showed less negative attitudes towards adults who were obese than people who considered that weight was a controllable factor. Therefore, even though common stereotypical associations with the concept of obesity (obese individuals are lazy, gluttonous and sedentary) are said to be deeply engrained (Carels et al., 2013; Puhl & Heuer, 2010), it is plausible the converse could be true for those considered 'non-weight biased' i.e. associations with the concept of obesity and weight being that overweight or obese individuals are happy, have willpower and high self-esteem for example. A study by Puhl, Schwartz and Brownell (2005) found that anti-fat attitudes decreased when participants believed that obesity was influenced by uncontrollable factors, which may also potentially indicate that those who genuinely believe weight to be outside of an individual's control could be considered 'not weight biased'. Being 'non-weight biased' may imply that these

individuals do not show any biases or judgements towards other people based on their body weight or size and behave equally towards them. This would be converse to the typical perceptions that overweight or obese people are lazy, as someone considered 'weight-neutral' would not perceive anyone to be more or less lazy or active based on their body size and weight. Those holding weight neutral attitudes would therefore make no weight-based judgements or biases, and have no preference or be in favour of thin or fat or average. While there will be those who strongly believe they hold weight neutral attitudes, given the current climate in the UK with widespread weight stigma and in some cases, in particular the media, promotion of stigmatising attitudes and discriminatory portrayal, it is difficult and potentially unlikely for anyone to remain completely non-weight biased.

1.10 Intervention Efforts

MHPs are generally expected to be supportive, empathetic, non-judgmental, transparent, compassionate, good listeners and skilled communicators. However, research has shown that no one is immune to weight bias, and that even healthcare professionals working with obesity have shown that they too, at times, inadvertently err. This has important implications for the provision of clinical treatment with overweight and obese individuals (Puhl, Latner, King & Luedicke, 2014). Puhl et al. (2014) highlight the need for 'stigma reduction efforts' in training and clinical practice, and whilst this finding was specific to healthcare professionals treating eating disordered patients, such interventions can be transferable. Given that weight bias has been established as a problem among healthcare providers, implementing stigma reduction efforts may help prevent and attenuate weight biases that may otherwise remain and potentially worsen in the absence of interventions (Puhl et al., 2013).

Weight bias is an accepted form of prejudice, but the stigmatisation of obesity has repercussions beyond the pain it inflicts on its targets (Puhl & Heuer, 2010). Puhl et al. (2013) add that as long as we have this belief that obese people are lazy and lacking in self-discipline, it will be hard to get support for protective policies that change the environment, which are likely to have a much larger impact than trying to change individuals. With obesity forecast to continue as a leading public health problem in most parts of the world, it is necessary to reconsider the education and training of healthcare professionals (James, 2008). Puhl, Moss-Racusin, Schwartz and Brownell (2008) add that further research is needed to examine effective ways of (1) changing people's biased attitudes toward overweight and obese individuals and, (2) addressing the societal factors that reinforce weight bias (MacLean, Edwards, Garrard, Sims-Jones, Clinton & Ashley, 2009). Until addressed, overweight and obese people may continue to face the negative consequences of weight bias. Anti-fat attitudes are unfair and damaging, but few social sanctions against the expression of anti-fat attitudes exist (Crandall & Biernat, 1990). With weight stigmatisation remaining a prevalent form of bias, and a considerable amount of evidence highlighting its detrimental effects, intervention efforts are required if we are to reduce the impact on healthcare providers' provision of care (Puhl, Gold, Luedicke & DePierre, 2013). These efforts are critical in order to allow for equal treatment for all individuals, regardless of weight (Carels et al., 2013). Stigma-reduction efforts to reduce weight bias, stereotyping and discrimination among healthcare professionals have emphasised the importance of: (1) challenging inaccurate weight-based stereotypes that could ultimately threaten patient-provider interactions, (2) educating others about complex obesity etiologies as determined by multiple genetic, biological and environmental factors rather than simply willpower or discipline to engage in healthier lifestyle behaviours, and (3) recognising the difficulties in controlling body weight/weight-loss (Puhl, Moss-Racusin, Schwartz & Brownell, 2008; Puhl & Heuer,

2010; Danielsdottir, O'Brien & Ciao, 2010). Schwartz et al. (2003) found that interventions which enhance personal appreciation of the experiences of obese individuals may be useful in improving attitudes, while Latner et al. (2008) highlighted that cognitive modification through focusing on altering one's obesity-related beliefs might be used to increase acceptance.

Among other objectives, patient-provider relationships are central in identifying, reducing or preventing risk, but as identified above, weight bias can impact patients' healthcare adherence. For example, Puhl et al. (2011) and Puhl et al. (2013) weight bias research on compromised healthcare found a correlation between increasing BMI and appointment cancellation. Weight bias may in fact be the most robust bias because as mentioned above, society tends to discriminate against individuals perceived to be responsible for their traits (Crandall, 1994) or whose condition is perceived as under the individual's partial control (Teachman, Gapinski, Brownell, Rawlins & Jeyaram, 2003). The result being that anti-fat attitudes are perceived as more acceptable, making them more resistant to change (Flint, Hudson & Lavalley, 2013). Wadden, Brownell and Foster (2002) highlight that the stigma of obesity is so strong that even those most knowledgeable about the condition infer that obese people have blameworthy characteristics that contribute to their problem. Therefore, even having a professional interest in obesity does not necessarily confer protection against weight bias (Schwartz et al., 2003). It therefore becomes important to consider that one's perceptions of laziness may potentially lead to blaming an individual for their obesity. In turn, this may influence a 'professionals' behaviour in both overt and subtle ways, i.e., time spent with patients, degree of empathy, the quality of interactions, optimism about improvement and willingness to provide support (Schwartz et al., 2003).

MHPs' use of language is also an important consideration. When talking to patients, MHPs should communicate supportively, while avoiding language which could be considered body shaming or that appears to place blame on the patient for their weight. While some healthcare professionals are of the view that calling patients, who are overweight 'fat' rather than 'obese' will motivate them to take personal responsibility for their lifestyle (Reuters, 2010), Puhl, Peterson and Luedicke (2011) found that physicians using stigmatising language such as 'fat' or 'morbidly obese' proved to be the least motivating. A study by Puhl, Peterson and Luedicke (2011) also found that in response to physician's stigmatising language, 42% of participants were left feeling upset and embarrassed, 35% stated they would seek a new physician, while 24% highlighting they would avoid future medical appointments. While this study considered the views of patients in a medical setting, it can be assumed that individuals seeking mental healthcare would respond similarly.

Historically little was known about changing anti-fat attitudes in the service of reducing weight bias and while Bargh (2014) stated that implicit attitudes had been conceptualised as relatively inflexible, Dasgupta and Greenwald (2001) found that some implicit weight biases can be modified, at least temporarily. By repeatedly exposing their participants in experiment 1 to images of admired members of historically stigmatised groups (e.g. African Americans or the Aged), and participants in experiment 2 to disliked members of high-status reference groups (e.g. European Americans), both of Dasgupta and Greenwald's experiments were shown to produce a substantial change in implicit intergroup bias. However, with only 48 participants (31 Caucasian; 17 Asian), one would need to question the statistical significance and reliability of this small, unrepresentative and unbalanced sample as the potential existence of type 2 error would prevent the findings of this study from being extrapolated. While the participants in the Dasgupta and Greenwald

(2001) experiments demonstrated that their implicit attitudes were affected by repeated exposure to the study's strategy attempting to change one's usual social context, this was only short-term, and the participants' explicit self-reported evaluations remained unchanged. Dasgupta and Greenwald (2001) suggest that different processes may be responsible for changes in implicit versus explicit evaluations, and that if this is the case perhaps different types of strategies would be useful to combat implicit automatic expressions versus explicit controlled expressions of prejudice and preference.

Teachman et al. (2003) investigated two theoretically derived approaches to shift anti-fat attitudes: (1) reducing blame by manipulating beliefs about perceived controllability or by highlighting the 'primary cause' of obesity (genetics vs. obese person's behaviour), or (2) inducing empathy for obese persons through enlightening participants of an obese person's experience of prejudice and social rejection. It was mentioned earlier that causality is central to Attribution Theory (Weiner, 1986), and that judgements of others' behaviours are made largely due to (1) the pleasant or unpleasant emotions experienced and (2) whether one believes a person's behaviour is due to personal factors (internal attribution) or situational factors (external attribution). The study by Teachman et al. (2003) highlight how these judgements, made about one's behaviour, are affected by perceptions of control, and where emotions may be modified Attribution Theory (Weiner, 1986) has in some cases prompted re-evaluation of the target stimulus (Hayes, 1994). Teachman et al. (2003) investigated whether weight bias would be reduced when people were told that an individual's obesity resulted largely from genetic factors rather than from overeating and lack of exercise. The results however showed no difference in anti-fat attitudes when 'genetic' causes of obesity were presented and these results were consistent with Bell and Morgan (2000). This demonstrates the durability of anti-fat judgements. There was however an increase in anti-fat

attitudes when ‘behavioural’ causes of obesity were presented (minimal exercise; excessive food intake). O’Brien et al. (2010) also found stronger anti-fat attitudes when being overweight or obese was considered to be within an individual’s control. Teachman et al. (2003) however found that evoking empathy led to reduced implicit anti-fat attitudes if the study participants themselves were overweight, and added that it is thus worth considering whether self-blame and internalising of negative social messages are common in overweight people. Additionally, if we are to progress with weight bias reduction strategies within the healthcare sector, we must consider which factors may reinforce anti-fat attitudes. Teachman et al. (2003) speculated that in attempts to evoke empathy, the portrayed negative evaluations of an obese person might actually have served to reinforce rather than diminish bias.

While professional development training in weight bias awareness is associated with a reduction in anti-fat attitudes (McVey, Walker, Beyers, Harrison, Simkins & Russell-Mayhew, 2013), Chambliss, Finley and Blair (2004) observed that weight bias awareness is not a typical component of health and fitness training among college programmes. While physicians taking courses, which emphasise the ‘uncontrollable’ causes of obesity (genetics or certain medications) show a reduction in weight bias, most physicians practising today received little training on weight issues (Brown, 2011). Education regarding obesity, obesity etiologies, the difficulties of weight loss, and the inaccuracy of weight-based stereotypes are therefore crucial because it not only allows for heightened sensitivity toward overweight and obese individuals, but it also allows for a greater sense of understanding of this population group (Puhl, Moss-Racusin, Schwartz, & Brownell, 2008). Davis-Coelho, Waltz and Davis-Coelho (2000) added that training in the awareness and prevention of weight bias should take place early in one’s career, as both undergraduate and graduate training programs provide opportune time for intervention to occur. Especially since research has shown that younger

healthcare and mental healthcare professionals have shown to exhibit greater weight bias toward patients who are overweight or obese than their older counterparts (Hebl et al., 2008; Schwartz et al., 2003; Davis-Coelho, Waltz & Davis-Coelho, 2000). Education and training should include the importance of identifying personal attitudes, and Puhl et al. (2013) highlight that healthcare professionals can identify personal attitudes regarding their patients' weight by thinking about their answers to the following questions: How do I feel when I work with people of different body sizes? Do I make assumptions regarding a person's character, intelligence, abilities, health status, or behaviours based only on their weight? What stereotypes do I have about obese or overweight people? How do my patients who are obese or overweight feel when they leave my office?

Crandall (1994) demonstrated that if changing people's beliefs about the controllability of obesity led to a reduction in weight bias, it would make sense that a critical component of any intervention would involve education around combatting the belief that obesity is controllable (Davis-Coelho, Waltz & Davis-Coelho, 2000). Hayes and Ross (1986) highlighted that interventions should include; (1) empirical findings regarding the mental health of overweight and obese people documenting whether the mental health of overweight and obese people is equivalent to the mental health of non-fat people, and (2) whether there is a lack of safe and effective ways to significantly and permanently alter one's weight. Research has come a long way since Hayes and Ross's (1986) study and while ways to significantly and permanently lose body weight have been achieved (healthy eating, gradually introducing and monitoring more active lifestyles, medical procedures such as gastric band surgery) and are documented, the research regarding differences in mental health based on body weight is less clear. Lee and Yen (2014), however, found that when considering the following four mental health indicators: depression, anxiety/social phobia, insomnia and self-

esteem against body weight, only lower levels of self-esteem were significantly associated with overweight and obese participants. The study's cross-sectional research design however should be considered with regard to limiting the ability to draw conclusions regarding the causal inferences between self-esteem and overweight/obesity. The Center for Disease Control and Prevention (2012), however, argues that the most effective way to combat obesity is to change the environment. Studies have evaluated the effectiveness of strategies to reduce weight bias, and the variety of initiatives trialled which have produced varying degrees of attitudinal change include: educating participants about external uncontrollable causes (biological and genetic factors) contributing to obesity; teaching and encouraging size acceptance; improving attitudes by combining efforts to elicit empathy with education about the uncontrollable causes of obesity, as well as encouraging direct personal contact with overweight and obese individuals to dispel negative stereotypes (Wexler, 2010; Puhl & Brownell, 2003).

In the absence of an ideal and comprehensive theory of weight bias which could (1) identify the origins of weight bias, (2) explain why weight bias is elicited by obese body types, (3) account for the association between certain negative traits and obesity, and (4) suggest methods for reducing bias. Puhl and Brownell (2003) consider the already mentioned Social Consensus Theory (Sherif & Sherif, 1967) as the most promising approach to modifying attitudes toward obese people, which unlike Attribution Theory (Weiner, 1986), not only proved effective in reducing weight bias but it also offered an explanation as to why obese individuals themselves express negative stereotypes (wanting to belong to the valued social 'in-group' and distancing themselves more from the 'out-group'). With increasing evidence that healthcare professionals hold and perpetuate negative stereotypes and attributions that are core within weight bias, ongoing research and education for these

professionals is necessary not only because weight bias has been shown to affect rapport, communication, and the patient-provider relationship, but it has also shown to affect the level of satisfaction with regard to patient experiences with healthcare services (Brown & Flint, 2013). Further research and education within the healthcare professions can then extend into other sectors. There is a call for additional research investigating helping behaviour and the prevalence of discriminatory experiences among MHPs. Those working within mental healthcare need to become part of anti-weight bias campaigns and initiatives whereby they are educated on the causes of obesity, anti-fat attitudes, as well as weight bias and discrimination in order to help raise awareness of one's own potential biases and to acknowledgment susceptibility to these biases. This study considers an experimental intervention whereby the participants are educated while also being exposed to information that may potentially induce empathy.

1.10.1 Choice of intervention

While Attribution Theory (Weiner, 1986) and Social Consensus Theory (Sherif & Sherif, 1967) appear to be the most promising approaches to understanding and potentially modifying weight bias, reviewing the theoretical underpinnings of the experimental intervention was also necessary. Evoking empathy as a strategy to reduce prejudice has gained much attention recently as it has shown to be positively associated with more favourable attitudes toward stigmatised individuals and groups (Gloor & Puhl, 2016). While less work has examined empathy as an intervention to reduce stigmatisation toward individuals who are obese (Gloor & Puhl, 2016), Batson and Ahmed (2009) stated that increased empathy may reduce prejudices of stigmatised groups via cognitive components by reducing blame or controllability attributed to targets for their situation or status. Alternatively, empathy may function through more emotional components such as decreasing

participants' anxiety felt toward the target (Pettigrew & Tropp, 2008), or increasing participants' value of the target and/or the target's welfare (i.e., empathic concern; Batson, Chang, Orr, & Rowland, 2002). In considering pro-social behaviour and social responsibility, Batson and Coke (1981) highlight two basic ideas making up the empathy approach to helping behaviour. These include (1) taking the perspectives of another person (empathic set) will increase helping behaviour, and (2) helping is mediated by so-called empathic emotions (Batson & Coke, 1981). While interpersonal empathic emotions (compassion, pity and sympathy) are assumed to (1) influence helping positively and (2) be altruistic - motivated by a genuine unselfish interest in benefiting the needy person (Batson & Coke, 1981), it is worth considering that emotions associated with induced empathy under certain conditions have also shown to facilitate neglect (Piliavin, Piliavin & Rodin, 1975). This is in line with Teachman et al. (2003), who speculated that in attempts to evoke empathy, the portrayed negative evaluations of a person who is obese may have served to reinforce rather than diminish bias. While the existing research has shown that evoking empathy produced mixed results (Teachman et al, 2003; Piliavin, Piliavin & Rodin, 1975), investigating the impact of attempting to evoke empathy among MHPs working with patients who are overweight and obese is an important and under researched area, requiring further inquiry. In fact regardless of profession, Betancourt (1990) suggests that the Attribution-Empathy Model of Helping Behaviour may perhaps be the most relevant theory to consider when it comes to help-giving and helping behaviour. Working within the helping professions, MHPs' anti-fat attitudes and weight bias may therefore be best considered within this conceptual framework which integrates Attribution Theory (Weiner, 1986) and Empathy Theory (Batson & Coke, 1981). This amalgamation is a result of Betancourt (1990) realising that whilst reviewing the literature regarding helping behaviour, different theoretical approaches were used to study similar variables, whilst other theoretical explanations were based on limited factors ignoring

many variables. While no research was found which considered the Attribution-Empathy Model to Helping Behaviour with regards to improved prejudicial attitudes toward obesity or other stigmatised groups (gender or racial bias), its impact is unknown. This model's theoretical approach to weight bias research is relevant and therefore warrants further investigation.

1.11 Rationale and Aims

From a global standpoint, obesity is becoming extremely commonplace with national and international statistics climbing each year (WHO; 2016). Alongside the health and economic implications of rising obesity rates, a less obvious implication with potentially significant societal impacts, is the development of anti-fat attitudes and the stigmatisation of obese and overweight people (Flint, Hudson & Lavalley, 2015). While some individuals may be consciously aware of their negative beliefs, anti-fat attitudes and weight bias towards the overweight and obese, others may not. While this area of research has mainly been conducted outside of the UK, what has been demonstrated is that anti-fat attitudes and weight bias are increasing over time, and given that there is an association with anti-fat attitudes and behaviours, further examination of anti-fat attitudes is warranted (Flint et al., 2015). It has become evident that no one has proved immune to weight bias, and considering the emotional, psychological and physical effects weight bias has shown to have on overweight and obese individuals, it becomes vital that we are aware of our implicit and explicit weight biases, as well as our susceptibility to them. If everyone is susceptible to explicit and implicit weight bias, it is important to consider anti-fat attitudes and weight bias within the various healthcare settings where vulnerable patients who are overweight and obese seeking assistance and advice from experts in positions of power may be exposed.

While some earlier research has investigated the explicit and implicit anti-fat attitudes of physicians, nurses, medical and nursing students (Jochemsen-Van Der Leeuw, Van Dijk & Wieringa-de Waard, 2011; Poon & Tarrant, 2009), MHPs appear to have been largely overlooked. With previous research indicating that weight bias within healthcare settings can often disrupt the provision of care, impair provider-patient relationships and affect treatment outcomes (Puhl, Gold, Luedicke & DePierre, 2013), investigating possible weight bias toward patients who are overweight and obese among MHPs needs to be addressed. This is especially important considering MHPs are expected and assumed to be non-judgmental, compassionate, empathetic, genuine, transparent, and hold unconditional positive regard for every patient, regardless of their BMI. If weight bias is as prevalent as we believe it may be, more research is necessary to ensure informed treatment interventions and strategies are put in place to ensure these particular patients do not feel stigmatised or discriminated against because of their weight, and receive the best possible treatment.

This study therefore aimed to investigate weight bias among a large sample of MHPs who are treating and have treated patients who are overweight and obese - expanding on earlier work by testing multiple stereotypes about obese people which captured some of the most common anti-fat attitudes (Puhl & Brownell, 2001). The study aimed to examine MHPs' implicit and explicit attitudes toward their patients who are overweight and obese; investigate whether implicit and explicit attitudes differ, whether there was a difference in anti-fat attitudes between the control and experimental groups after exposure to a video intervention; and whether there were any significant differences in MHPs' anti-fat attitudes taking into consideration the participants' demographic differences in BMI, age, race, sex, and occupation. The study essentially aimed to determine the degree and extent of MHPs'

weight bias within this particular patient-provider relationship, the behavioural outcomes and practice implications.

1.12 Study Hypotheses

Reflecting previous research findings (Puhl & Brownell, 2006), this study had two main objectives. The first objective was to examine the extent participants would report negative explicit and implicit attitudes towards their patients who are overweight or obese. A second objective was to measure whether evoking empathy through an intervention video would impact those anti-fat attitudes, i.e. measuring the effectiveness in reducing weight bias due to the empathy evoked (Teachman et al., 2003). The last objective was to observe participants across a range of demographic characteristics reporting anti-fat attitudes. Using a pre-post, experimental-control group design, the impact of the intervention will be tested using a sample of MHPs. The following two hypotheses were tested for this study:

- (1) Hypothesis 1: At pre-intervention testing, participants will report negative explicit and implicit anti-fat attitudes towards their patients who are overweight and/or obese.
- (2) Hypothesis 2: At post-intervention testing, participants in the Experimental Group, as compared to participants in the Control Group, will report greater decreases in their explicit and implicit anti-fat attitudes.

The following five sub-hypotheses were tested in line with previous research:

- (3a) overweight and obese participants would indicate more negative anti-fat attitudes towards patients who are overweight and obese, potentially due to an absence of ‘in-

group' bias (Carels, Hinman, Koball, Oehlhof, Gumble & Young, 2011; Latner, Stunkard and Wilson, 2005);

(3b) younger participants would hold more negative anti-fat attitudes towards their patients who are overweight and obese than the older participants, possibly due to immaturity and minimal life experiences with people of all sizes (Flint, Hudson & Lavalley, 2015; Latner et al., 2005; Hebl et al., 2008);

(3c) differences among ethnicity groups with regard to the level of negative explicit and implicit anti-fat attitudes, as past research with different populations using different measures of weight bias have found that White participants demonstrated higher weight bias than the participants from other ethnic groups i.e. Black, Asian (Hart, Sbrocco & Carter, 2016; Van Den Berg, Neumark-Sztainer, Eisenberg & Haines, 2008; Latner et al., 2005);

(3d) differences in perceptions of obesity have been reported between the sexes, so it was hypothesised that there would be a difference between men and women with regard to explicit and implicit anti-fat attitudes. Past research indicates conflicting results, with some studies showing greater weight bias by women (Schwartz et al., 2003; Tiggemann & Rothblum, 1988), while the majority of studies reviewed for this study, revealed greater weight bias from men (Latner et al., 2008; Latner et al., 2005; Hague & White, 2005); and

(3e) differences in explicit and implicit anti-fat attitudes due to occupational approach. No existing research explores whether there are differences in anti-fat

attitudes towards patients based on differences in one's professional capacity (e.g. Psychologist versus Counsellor) within the mental healthcare sector.

Additional lines of inquiry with regard to the demographic information obtained from participants were as follows: (1) would there be differences in anti-fat attitudes dependent on whether a participant worked privately or for the NHS? And (2) would there be differences in anti-fat attitudes based on whether a participant considered to be currently working with patients who are overweight or obese?

The above objectives and hypotheses needed to be tested to investigate whether MHPs hold explicit and/or implicit anti-fat attitudes towards their patients who are overweight and obese, whether evoking empathy would be effective in reducing weight bias, and whether there were any significant differences in anti-fat attitudes due to demographic characteristics. Therefore, the following research questions were asked:

- 1) Do MHPs hold negative explicit and implicit anti-fat attitudes towards their patients who are overweight and obese?
- 2) Will evoking empathy prove effective in reducing weight bias among MHPs?

Chapter 2 – METHODOLOGY

The following section will outline the methodological approach adopted in the present research study. A demographical breakdown of the study's participants will be followed by a description of (1) the attitude measures employed, and (2) the control and experimental group's intervention videos. Procedure will include ethical considerations, pilot testing, recruitment and testing. Lastly, statistical analysis is followed reflexivity which provides the theoretical rationale for this approach and the theoretical issues relating to the application of this methodological approach within Counselling Psychology.

2.1 Participants

The study was cross-sectional with a sample comprising of 125 volunteer participants initially. Three sets of data were incomplete, therefore the final sample consisted of 122 participants (25 male; 97 female). Participants were aged between 25-69 years, of varying BMI, and were predominantly White-British (80 %). All participants were registered London-based mental health professionals (MHPs) working with, or having worked with patients considered to be overweight and obese - privately or within the NHS. The MHPs included Psychologists (n = 66), Psychotherapists (n = 26), CBT Therapists (n = 11), and Counsellors (n = 19).

2.2 Measures

The study was conducted online over a six-month period. Being familiar with the software selected for data collection, my external supervisor assisted in ensuring all of the measures were coded using the Inquisit 4 Web Player's (Millisecond Software, 2015)

software syntax, developing a webpage for participants to access. Testing required participants complete a computer-based task which consisted of three sections - (1) a demographics questionnaire, (2) a battery of three explicit attitude questionnaires, and (3) an implicit attitude measure. Both the explicit and implicit measures focused on obesity-related attitudes, and after the completion of all three sections of the computer-based task, participant's results were automatically saved. The computer-based task was completed twice, once pre-intervention video and once post-intervention video. Test duration differed from participant to participant, but generally completion took between 35-45 minutes.

2.2.1 Demographics questionnaire

The first section of the computer-based task was comprised of eight demographic questionnaire items (see Appendix A). These questions were determined according to the study's independent variables; therefore, participants were required to report their sex, age, ethnicity, height, weight, and occupation. Participants were also required to state whether they worked for the NHS or worked privately, as well as whether patients they worked with could be considered overweight or obese. It was necessary to capture each participant's occupation as a MHP's failure to meet this criterion would disqualify the prospective subject from inclusion in the study. It was also necessary to determine whether participants worked with patients they would consider to be overweight or obese, as amongst other differences between the dependent and independent variables, this would reveal whether there were any differences in explicit and implicit attitudes (dependent variables) among those who do, and those who do not work with patients they would consider to be overweight or obese. For all eight question items, participants were provided with one of two response field options, (1) either a 'single line text response' (e.g., manually typing in 'Counselling Psychologist' for 'Occupation') or, (2) a 'drop down list response' (e.g., selecting 'Male' / or 'Female' for

‘Sex’) (see Appendix A). Participants could only progress to the next section of the computer-based task after answering all of the demographic questions.

2.2.2 Explicit attitude measures

The second section of the computer-based task required participants complete the Attitudes towards Obese People Scale (ATOP: Allison, Basile & Yucker, 1991; Appendix B), followed by the Beliefs about Obese People Scale (BAOP: Allison et al., 1991; Appendix C) and the F-Scale (the shortened version of the Fat Phobia Scale: Bacon, Scheltema & Robinson, 2001; Appendix D), which were designed to reveal (1) negative and positive judgements about obese individuals’ personalities, social functioning and self-esteem, (2) explicit beliefs regarding obesity and, (3) degree to which individuals associate stereotypical characteristics with being fat respectively. Previous studies have reported good validity and reliability using each of these measures: the ATOP (α = coefficient of 0.76) (Puhl & Brownell, 2006), the BAOP (α = coefficient of 0.82) (Puhl & Brownell, 2006), and the F-Scale (α = coefficient of 0.87) (Bacon et al., 2001). Cronbach’s alpha coefficients for explicit attitude measures were as follows: ATOP = 0.82, BAOP = 0.63 and F-Scale = 0.85. The Cronbach’s alpha for BAOP is questionable, as it is less than 0.70, however, the item-total statistics suggest that if item 2 on the BAOP scale was removed, Cronbach’s alpha would become 0.69 which is close to a ‘good’ reliability result.

The ATOP Scale (Allison et al., 1991) consisted of 20 questionnaire items evaluating negative and positive judgements about obese individuals’ personalities, social functioning and self-esteem. These judgements were rated on a 6-point Likert-type scale (-3 = I strongly disagree, +3 = I strongly agree), with participant’s total scores ranging between 0-120. Lower scores were indicative of negative attitudes towards people with obesity. Only once

answering all 20 of the ATOP Scale's items, could participants progress to the second explicit attitude measure. The BAOP Scale (Allison et al., 1991) consists of 8 questionnaire items measuring the extent to which one believes obesity is under the control of the obese person. These items were scored on a 6-point Likert-type scale (-3 = I strongly disagree, +3 = I strongly agree), and participant's total score will range between 0-48. Lower scores were indicative of a stronger belief that obesity is controllable. After completing the BAOP Scale, participants were then required to complete the F-Scale. The F-Scale (Bacon et al., 2001) consists of 14 items measuring the degree to which individuals associate stereotypical characteristics with being fat. Participants indicated on a scale of 1-5 which adjective best describes fat persons, with averaged total scores ranging from 1-5. Higher scores indicated a stronger perception that the characteristics are associated with being fat, while a score of 3 is considered neutral. Participant's responses for each questionnaire item were automatically saved and stored by the Inquisit 4 Web Player (Millisecond Software, 2015) and all items making up each of three explicit attitude measures had to be completed before one could progress to the final stage of the computer-based task.

2.2.3 Implicit attitude measure

The third and final section of the computer-based task was the Implicit Association Test (IAT: Greenwald, McGhee & Schwartz, 1998). As the IAT has the ability to capture deeply-rooted, more stable, unconscious or introspectively inaccessible representations, it can complement traditionally used explicit assessments and make vital contributions to the understanding of drivers behind certain behaviours (Greenwald et al., 1998). A unique measure of automatic biases participants may be unaware of or unwilling to report (Greenwald, Poehlman, Uhlmann & Banaji, 2009), the IAT has been useful in providing an indication of implicit preferences for fatness or thinness (Flint et al., 2015) as well as

assessing attributes associated with characteristics such as age, gender, ethnicity and weight (Schwartz et al., 2003).

The IAT is a timed dual categorisation task useful in measuring implicit associations and bias toward a target group by bypassing conscious processing (Greenwald et al., 1998). McConnell and Leibold (2001) highlight that the IAT has proved helpful in predicting prejudiced behaviour toward various target groups (McConnell & Leibold, 2001). As the IAT is a semantic discrimination task, participants are required to categorise the presented words/stimuli (words selected from existing IAT lists; see Appendix E) as fast and as accurately as possible, according to a *concept* or *attribute* dimension (Roefs & Jansen, 2002), to increase reliance on automatic responses. In this study, the *concept* dimension consisted of *fat/thin-related* words (colour coded in white), while the *attribute* dimension consisted of *pleasant/unpleasant* words (colour coded in green). See Appendix E for the finalised list of stimuli words were broken down as follows: 8 *pleasant* words (e.g., love and peace), 8 *unpleasant* words (e.g., murder and evil), 5 *fat-related* words (e.g., chunky and obese) and 5 *thin-related* words (e.g., skinny and slender).

Only the response results from task 4 and task 7 were used to measure each participant's implicit attitudes. Therefore, if a participant had an implicit attitude preference for patients who are overweight or obese, it should be easier for that participant to respond to both 'pleasant' and 'fat-related' words with the same key, as people generally find it much easier to categorise the words quickly when the pairing of the categories matches their attitude (Schwartz et al., 2003). The IAT is one of the best-known measures of implicit cognition to date, and it demonstrates satisfactory internal consistency and test-retest reliability (Nosek, Greenwald & Banaji, 2005). A meta-analysis has concluded that the IAT

has incremental and predictive validity independent of the predictive validity of explicit measures (Greenwald et al., 2009), and initial validation of the IAT has shown its sensitivity to individual differences in implicit effects of self-esteem, self-identity (Greenwald & Farnham, 2000), attitudes, and stereotyping (Rudman, Ashmore & Gary, 2001), with no evidence of procedural limitations or familiarity of stimulus acting as confounding variables (Dasgupta, Greenwald & Banaji, 2003). While faking is possible, the IAT is less susceptible and has demonstrated a reasonable amount of resistance to social desirability bias (Kim, 2003). Once each participant had completed all seven IAT association/discrimination tasks, the Inquisit 4 Web Player (Millisecond Software, 2015) provided a results page where participants would be able to see a summary of their response latency to the various tasks (in milliseconds / msec), with regard to both configurations. This results webpage also explained that the quicker response time for each participant may be more consistent with one's attitude toward a particular category.

2.2.4 The intervention video

At the start of the study participants were randomly allocated into one of two groups - the control group or the experimental group. Group allocation determined whether participants were required to watch a five minute 'control' video clip, or a five minute 'experimental' video clip. Both clips were available on YouTube (YouTube, 2017) and a function of the video-sharing website ensured the videos could be maximised to full-screen size to ensure distracting extraneous advertising was eliminated. The control video clip was a compilation of time lapsed shots of British landscapes (AerialBritain, 2008), and the video's audio was muted to ensure that the clip was as neutral and non-emotive as possible for participants. The experimental excerpt was a clip from a video created by Yale University's Rudd Center for Food Policy and Obesity (Yale University, 2009), in response to growing

concerns around weight bias in healthcare. This video was selected as it displayed an overweight/obese person's experience of weight bias, body shaming and social rejection during a routine visit to the GP. The educational experimental video was not designed to evoke emotion, but to induce empathy as well as raising awareness of one's beliefs about the causes of obesity. To investigate cause and effect, the pre- and post-intervention testing allowed one to measure whether the experimental condition had any influence in impacting anti-fat attitudes, as Teachman et al. (2003) stated that empathy can be a weight bias reduction strategy.

2.3 Procedure

2.3.1 Ethical considerations

Ethical approval was obtained from City, University of London's Research Ethics Committee (see Appendix F) before any testing could commence. As the study's target population was MHPs, permission to approach and test NHS employees at multiple NHS sites was also necessary. According to the local NHS research and development officer, the research proposed was considered to be a Cohort 1 Study which meant that a Health Research Authority (HRA) application form needed to be completed using the NHS's Integrated Research Application System (IRAS). Only after receiving HRA approval (see Appendix G) would access to, and testing of various NHS members of staff, at multiple NHS sites be permitted.

The British Psychological Society (BPS, 2013) published specific ethical guidelines for internet-mediated research, and it is important to refer to three of the featured principles as they highlight considerations which are important with regard to this study. *Scientific value* includes difficulties in maintaining levels of control, and by this it refers to the participant's

feelings, reactions and responses to the research process. *Social responsibility* highlights the extent to which the study may potentially cause harm, while *maximising benefits and minimising harm*, considers the protection of participants from adverse effects arising from the research. By volunteering to participate in a study investigating possible weight bias toward their patients who are overweight, participants would have had some idea to the sensitive nature of the research topic. Thus, participants were made aware during the briefing stage that: (1) statements or words making up some items featured within the explicit attitude measures may offend; and (2) the results from their implicit attitude test would be provided immediately after testing and as the IAT focusses on association preferences, results could potentially indicate an implicit bias toward fatness or thinness – i.e., one's association preference could be 'fat + unpleasant'. Therefore, it was important participants were fully informed at the start of the study, as they could then consider the consequences and outcomes before deciding to participate or withdraw from the study. While it was not anticipated that participation would conjure up any emotional distress, offence, confusion, anger or feelings of embarrassment, it was important to consider that these feelings may potentially be evoked and thus could be a potential disadvantage or risk.

Identifying potential risk with regard to data collection also needed to be considered. This included the researcher's safety when at participant's homes and other non-workplace venues. Precautions needed to be taken when conducting research in unfamiliar locations, with no other members of staff nearby. The researcher provided address details of each test location, test dates and times, to colleagues and was contactable by phone during those periods.

2.3.2 Pilot testing

An opportunistic sample was used to pilot test the computer-based study. Twenty-five individuals who were either friends, family or colleagues were approached as this was the most convenient and resource-saving option available. Each consented to participation, were briefed on the study, and on completion had the opportunity to ask questions as well as provide invaluable feedback to the researcher. Pilot testing revealed participant confusion and misunderstandings, as well as possible pitfalls, and potential obstacles. Through pilot testing it became apparent that the following changes needed to be made: (1) re-formatting the webpage layout of the ATOP and BAOP's response options; (2) re-wording certain statements to make the IAT's instructions clearer; (3) removing confusing 'concept' and 'attribute' words used in each of the seven IAT tasks (e.g., 'willowy' as approximately 25% of participants queried this word, stating it confused them or they had never heard of it before); (4) including a pre-intervention test; and (5) amending the recruitment advert, participation information, consent form and debriefing documents (see Appendices H, I, J and L) to reflect the inclusion of pre-intervention test, as well as reflecting more accurate testing duration information. Initial estimates were too optimistic and the inclusion of a pre-intervention test added at least 12-15 minutes on to the total study duration. Piloting also allowed the researcher familiarity with test administration, score interpretation, data collection.

2.3.3 Recruitment

Recruitment of MHPs was targeted, in that participants had to meet criteria to be included in testing. Recruitment and selection was carried out solely by the researcher. While there was no restriction on a participant's age, sex, BMI or race, participants needed to be a

MHP working with, and treating patients in London, privately and/or for the NHS. Thus, participants were approached based on occupation. As discussed earlier, the term ‘MHPs’ encompassed the following job roles: Psychologists, Psychotherapists, CBT Therapists and Counsellors.

Participants were strategically approached using the following means of recruitment: (a) direct emails to MHPs working across London; (b) online advertising through social networking websites; (c) poster advertising (see Appendix H) distributed at private mental healthcare clinics and associated NHS staff offices, (d) online advertising through psychology-related organisational websites, and (e) word of mouth. Each participant’s job title was confirmed through their NHS email addresses and email signatures, while MHPs working privately either had profiles featured on private clinics’ webpages and had websites advertising their private practices.

Potential participants had to be filtered according to whether they worked within Greater London, and with regard to direct email contact – each potential participant was individually approached by the researcher. Full contact details including email addresses were sourced online via various NHS webpages, as well as through the following organisation’s websites: The UK Council for Psychotherapy (UKCP), the British Association for Behavioural & Cognitive Psychotherapies (BABCP), the British Association for Counselling & Psychotherapy (BACP), the British Psychological Society (BPS) and the Health & Care Professions Council (HCPC). Online advertising included featured articles in, the BPS’s Division of Counselling Psychology’s (DCoP) fortnightly e-Newsletter, the London Counselling Psychologists blog (London Counselling Psychologists, 2015), and the

Counselling Psychologists UK Facebook webpage (Counselling Psychologists UK, 2015).

2.3.4 Power analysis

A power analysis was run using GPower 3.1 (Faul, Erdfelder, Lang & Buchner, 2009) to determine an estimated sample size. GPower 3.1 was selected as it not only computes statistical power analyses for many different tests (*t* tests, *F* tests, χ^2 tests, *z* tests and some exact tests), but the programme can also be used to compute effect sizes, as well as graphically display the results of power analyses (Faul et. al, 2009). Selecting the test family (*F* tests), the statistical test required (MANOVA: Repeated measures, within-between interaction), and the type of power analysis necessary (A priori: Compute required sample size – given Alpha, power, effect size), allowed for the insertion of the desired input parameters. With a medium-large effect size of 0.4, an Alpha (Type 1 error) of 0.05, 2 groups (control and experimental) and 5 measures (independent variables), it was calculated that a sample size of 121 participants would be needed for statistically significant results.

2.3.5 Testing

Potential participants interested in this research area and in particular this study made contact with the researcher stating their desire to participate. Correspondence via email and/or telephone ensued, until dates, times and suitable locations were confirmed for testing. Testing was done on an individual basis, and involved one face-to-face meeting between participant and researcher. As a quiet and secluded testing location with good internet reception was necessary, participants tended to offer their place of work as an adequate and convenient venue for testing. Those who worked from home had private office space or therapy rooms which were utilised, while those who worked in shared office space were able

to block book sessions using their organisation's shared therapy spaces and meeting rooms. These locations offered great uninterrupted conditions for administration of the web-based protocol and supervised testing. The researcher was available at all times for any concerns, queries or clarification.

Each participant was provided with a participation information sheet (see Appendix I) before being briefed on the study and their required involvement. The briefing included details regarding test duration, obtaining participant's physical height and weight measurements, the tests involved, confidentiality, data storage, as well as the right to withdraw at any stage without consequence. Participants were then given the opportunity to ask questions or raise concerns before being provided with two consent forms (see Appendix J) to read and sign. The researcher kept one signed copy while the participant retained the other consent form. To ensure anonymity, the researcher had labelled each consent form with a unique participation number (e.g., from TQ001 to TQ125). The researcher had also labelled the consent forms with one of two symbols – which represented group allocation – control or experimental. Participants took note of their unique participation number featured on their consent form, for the computer-based tasks which followed, but they would not have had any idea as to what the group allocation symbol meant, or to what group they would have been assigned to. This unique participant number featured on the signed consent forms also allowed the researcher the ability to pull a specific data set should a participant wish to withdraw from the study. An online randomised allocation tool (GraphPad, 2015), was used to randomly assign each participant into either the experimental or control group.

After obtaining consent, each participant was weighed in pounds (lbs), kilograms (kg), or stones (st), using a standard UK bathroom scale, before their height was then

measured in metres/centimetres (m/cm) or feet/inches (ft/in) using a standard UK tape measure. A note of these measurements was made as each participant needed these details to complete their demographics questionnaire. With these measurements, the researcher was also then able to calculate participant's BMI [weight (kg)/height (m)²], assigning individuals into one of the following categories: underweight (<18.5), normal weight (18.5–24.9), overweight (25–29.9) and obese (≥ 30) (WHO, 2016).

Each participant was then seated comfortably at a desk where the researcher's laptop was set up. The researcher had loaded the Inquisit 4 Web Player (Millisecond Software, 2015) application using the test location's Wi-Fi, or an Apple iPhone's personal hotspot. Each participant could then begin the test by entering their unique participation code (e.g., TQ014), followed by the demographics, explicit attitude questionnaires (ATOP, BAOP and F-Scale) and the IAT. All explicit and implicit attitude measures were completed before the participant could progress to the test's next webpage. The IAT required participants complete seven different discriminatory tasks (see Appendix K) whereby classification of each randomly selected semantic target (words selected from existing IAT lists) displayed on the computer screen was required. This was done by pressing the corresponding categorisation computer key – i.e., either 'e' or 'i' on a QWERTY keyboard (Greenwald et al., 1998). 26 stimuli words were chosen for the study from existing IAT lists, and piloting allowed for selection refinement. Once completing the IAT, a results webpage was produced, which provided each participant with their average IAT response times (in msec) to both configurations (Configuration 1: Fat + Unpleasant; Thin + Pleasant, and Configuration 2: Fat + Pleasant and Thin + Unpleasant), and a description explaining how to interpret their results. Clicking the 'Continue' button at the bottom right hand corner of the screen completed the test, thereby closing the webpage and automatically storing each participant's results for the

pre-intervention test. Testing duration was dependent on each participant's individual response speed, however the majority completed pre-intervention testing in approximately 15-20 minutes.

Dependent on which group a participant had been randomly assigned, determined which intervention video was then played - the experimental or control video. After watching five minutes, the researcher stopped the video and re-loaded the Inquisit 4 Web Player. Again, each participant was required to enter their unique participation number and complete the demographics questionnaire, explicit attitude questionnaires and the IAT. After participants completed the last of the IAT categorisation tasks for the second time, a second results webpage was produced, again providing each participant with their average IAT response times (in msec) to both configurations, post-intervention video. Clicking the 'Continue' button for the second time, closed the webpage and automatically stored a participant's results for their post-intervention test. Post-intervention testing was completed quicker, taking participants approximately 12-15 minutes. One can assume this was potentially due to the practice effects of repeat testing.

Participants were then provided with a debrief information document (see Appendix L) and offered the opportunity to comment and/or raise any questions or concerns. Debriefing allowed the researcher to fully explain: the rationale and aims of the research, data storage and confidentiality, as well as reiterating the freedom to withdraw from the study at any point. A full debrief also allowed the researcher to personally thank each participant for volunteering to take part in the study, as well as ensuring no harm or distress was caused. Lastly, participants were informed that email contact would be made in the summer/autumn 2017 as the researcher wished to provide an electronic summary document of the study's

analysis and results.

2.4 Analytic Strategy

All participants' demographic information, as well as responses to each item on the explicit and implicit measures, pre- and post-intervention were retrieved from the Inquisit 4 Web Player (Millisecond Software, 2015) and saved in Microsoft Excel format. The raw demographic information was coded according to grouping categories (e.g. Sex consisted of two categories: 1 = 'Male' and 2 = 'Female'; BMI consisted of four categories: 1 = 'Underweight', 2 = 'Normal Weight', 3 = 'Overweight' and 4 = 'Obese'). Data was cleaned in preparation of analysis, and as three of the 125 participants did not complete post-intervention testing, their data was removed from the data set.

Each participant's total scores were calculated for the three explicit attitude measures (ATOP & BAOP: Allison, Basile & Yuker, 1991; F-Scale: Bacon, Scheltema & Robinson, 2001), for both pre- and post-intervention testing, before mean scores and other descriptive statistics were calculated in SPSS and used in further analyses. The IAT D scores for each participant (pre- and post-intervention) were calculated as recommended by Greenwald, Nosek, and Banaji (2003). IAT D scores represented the difference between total response latency for the pairings of Configuration 1's 'fat + unpleasant' and 'thin + pleasant'; versus Configuration 2's 'fat + pleasant' and 'thin + unpleasant'. Responses greater than 1,000 msec and less than 300 msec were deleted.

After checking the assumptions were met for the following statistical tests, the study's hypotheses were then examined. (1) A MANOVA was conducted on the pre-intervention

data for each of the independent variables (age, sex, ethnicity, BMI, occupation, working privately / NHS, and working with patients who are overweight and/or obese), with all attitude measures as dependent variables (explicit and implicit responses). Follow-up one-way ANOVAs were employed with Welch correction to produce robust tests of equality of means to examine attitudes in relation to the demographic characteristics. Post-hoc tests with Scheffé correction were used to follow-up significant ANOVA effects. (2) A MANOVA was conducted on the discrepancy data (the difference between the dependent variables pre- and post-intervention scores) for each of the dependent variables (ATOP, BAOP, F-Scale and IAT), with 'Intervention Group' as a fixed factor. Follow-up was an independent samples t-test for the experimental and control group interventions. (3) A Multivariate Analysis of Covariance (MANCOVA) was conducted on the discrepancy data (the difference between the dependent variables pre- and post-intervention scores) for each of the dependent variables (ATOP, BAOP, F-Scale and IAT), with 'Intervention Group' as a fixed factor and the independent variables as covariates. For significant main effects follow-up, one-way ANOVAs were to be employed with Welch correction to produce robust tests of equality of means to examine attitudes in relation to the independent variables (except for sex, working privately and working with patients who are overweight and/or obese - where an independent samples t-test was used). Post-hoc tests with Scheffé correction were used to follow-up significant ANOVA effects.

2.5 Reflexivity

2.5.1 Methodological Reflexivity

When it came down to selecting a method, or system of methods to be used in this study, a standard quantitative approach to the research seemed the obvious choice. As the study's aim was to investigate MHPs' explicit and implicit attitudes toward their patients who

are overweight and obese, and the attitude measures selected to determine each participant's degree of explicit and implicit weight bias would provide all the necessary data required for statistical exploration. While it could be argued that a mixed methods approach involving in-depth interviews with a randomised sample of the study's population would have been more insightful, the aim of the study was less about gaining a better understanding of MHPs' anti-fat attitudes, weight-based stereotypes and the effects of evoked empathy, and more about the extent to which these negative explicit and implicit attitudes are present, and whether the experimental intervention affected these negative attitudes at all. It was also decided that due to various resource constraints, further qualitative research could be carried out as a potential follow-up study – based on the findings through operationalising the variables of this study's data set.

More detailed narratives of human perception, motivation, attitudes and behaviour, as well as discussion around 'the meanings' for different people, would enable further learning, but for the purposes of this study, that 'more qualitative' element was ignored. Instead a quantitative approach allowed for the statistical measurement and analysis of the specific variables hypothesised as important, and it also allowed for correlation of the independent and dependent variables in order to determine causality. This approach also provided the standardised methods necessary for comparisons against similar studies, and enabled the generalisation of findings. This quantitative approach to research ensured a certain level of confidence, as the prescribed procedures that were employed were both valid and reliable. Now while this approach to research is solely numerical and does not study people or phenomena in their natural settings, it does implement quantitative methods which are rigid, allowing for controlled experiments, the manipulation of independent variables and the measurement of outcomes, which was to be the most appropriate course of action in

acquiring the necessary data in this instance.

For the most statistically accurate results, however, a large sample of participants was needed, and this proved both a timely and expensive exercise. Having to travel with equipment to over 120 London locations for one-on-one testing was not the most logistically convenient or practical approach to obtaining the required data. Quantitative research methods did however allow for control of the data collection environment so that the introduction of extraneous variables was limited, thus retaining objectivity of the findings.

2.5.2 Epistemology

Hudson and Ozanne (1988) state that ontology is the nature of reality, while epistemology can be defined as the relationship between the researcher and the reality (Carson, Gilmore, Perry & Gronhaug, 2001) or how this reality is captured (Edirisingha, 2012). The dominant school of research or epistemological ideology in this instance is positivism. With regard to positivist ontology, the world is external and comprises of a single objective reality with regard to the research, irrespective of the researcher's views or beliefs (Carson et al., 2001). While some could argue that a mixed method approach whereby a constructivist nature of knowledge is recognised would have allowed for qualitative exploration, for the purposes of this research question positivism was considered the most congruent with the methodology utilised by this study. Of course, carrying out interviews for instance, to (1) explore at depth aspects which may influence how an individual constructed their version of reality, and (2) increase the validity of any theories which may arise from the quantitative data, would be insightful, they would not reflect this study's experimental approach or aims for objectivity. The aim here was to maintain a clear distinction between

science and personal experience, and fact and value judgement (Carson et al., 2001).

Positivist ontology takes a controlled and structural approach to conducting research, whereby a clear research topic is identified, appropriate hypotheses are constructed, theories stated, and a suitable research methodology is adopted (Churchill, 1996; Carson et al., 2001). Statistical and mathematical techniques are central to positivist research, which adhere to specifically structured research techniques to uncover a single and objective reality (Carson et al., 2001; Hudson & Ozanne, 1988).

A goal of positivist researchers is to make time- and context-free generalizations and abstractions (Edirisingha, 2012), and Hudson and Ozanne (1988) believe this is possible because human actions can be explained as a result of real causes that temporarily precede their behaviour. Lastly, they highlight that by remaining separate, the researcher and research participants cannot influence each other, and the researcher is less likely to affect the research outcomes. Carson et al. (2001) add that positivist researchers attempt to remain independent and detached from research participants, and by creating distance it aids remaining emotionally neutral in order to make clear distinctions between reason and feeling, as well as between science and personal experience.

2.5.3 Epistemological Reflexivity

With that all being said, it may have been surprising that a counselling psychologist trainee would have chosen an empirical approach to their research, when it would not have considered the participant's perceptions of reality. Especially since I worked as a MHP on a daily basis, and therefore continually striving to understand how each and every patient

constructs their world and experiences reality. A few classmates commented that they had assumed previous experience and socialisation within the quantitative paradigm would have enabled the confidence and comfort in using such a scientific approach to objectively verify theory. However, this was far from the truth. With limited experience using quantitative research methods, I was in fact extremely nervous about using this approach again after such a lengthy absence. I also felt lost with regard to utilisation of the statistical package, and became increasingly frustrated with the speed at which it was taking to re-grasp the statistical tests I was attempting to run. I did however see this all as a challenge, and I knew that when the ‘penny dropped’, I would feel extremely satisfied with myself.

As a positivist, I rely on rigid structure and process, I feel more comfortable and confident applying scientific methods to data in order to formulate facts and uncover patterns in the research, and the element of control within quantitative research methods is reassuring. Objectivity in this research was a vital component, and while there is much research suggesting we do not objectively perceive reality (Smith, 2012), one had to honour the value of objectivity, and aim for it despite the researcher’s usual position of subjectivity within the counselling psychology sector. As this study aimed to address a specific research question and test the appropriately constructed hypotheses related to explicit and implicit attitudes, using an approach which involved statistical inquiry central to positivist research enabled the separation of fact and personal experience, uncovering a single and objective reality. Smith (2012) however argues that quantitative research data alone only provides a brief picture of a phenomenon under study, adding that researchers in counselling and behavioural sciences are encouraged to investigate, implement, and publish mixed methods investigations. While Smith (2012) makes a good point, for the purposes of this study quantitative research methods was sufficient.

While my position is that of a positivist, I acknowledge the divisive quantitative versus qualitative debate within counselling psychology. While I feel most comfortable and confident within the positivist realm, I do feel that both qualitative and quantitative research paradigms have their relevance, strengths and importance, and I recognise the value in potentially expanding on this research qualitatively in future studies. Working as a counselling psychologist trainee I am required to be a reflexive practitioner, empathic, hold a subjective position, observe phenomena in general, and to work flexibly. Working in this capacity, I am able to gain a deeper knowledge and understanding with regard to each individual and of various phenomena. My role within this study was different, in that I had to be controlled, emotionally detached and take a more objective stance when testing this study's participants. While it was an adjustment, working in either capacity felt achievable. It would of course depend on the research question but I do not feel that it is always necessary to take a side, rejecting one research paradigm over the other when drawing from the strengths of both may prove more fruitful. I would therefore have to disagree with Howe's (1988) in-compatibility thesis which posits that qualitative and quantitative research paradigms, including their associated methods, cannot and should not be mixed. Both research paradigms have their place, but it depends on one's research question.

Johnson and Onwuegbuzie (2004) state that both quantitative and qualitative research methods are important and useful, adding that, the goal of mixed methods research is not to replace either of these approaches but rather to draw from the strengths and minimize the weaknesses of both in single research studies and across studies. While a mixed methods approach is useful and recognised as appropriate for research within counselling psychology, there has to be solid justification for using both quantitative and qualitative research methods.

With regard to this research study, the research question has been answered using quantitative research methods. While I feel this research can be developed further by potentially incorporating open-ended interviews, there has to a solid argument and justifiable reasons for making any research study 'mixed methods' by adding elements from another research paradigm. Critical realism (Bhaskar, 1975) has since become a position of interest and I will consider various steps I can take to understand and explore the transient world around me. I need to consider how to understand and say something about 'things themselves' and not simply about one's beliefs, experiences, or current knowledge and understanding of those things (Bhaskar & Hartwig, 2010). Critical realism argues that to understand the reality uncovered by science and social science we need a structured and differentiated account in which openness, difference, stratification and change is central, calling for the necessity of a 'new ontology' (Archer, Bhaskar, Collier, Lawson & Norrie, 1998). This dynamic position, now a major strand of scientific and social scientific theory, unfolded from a two-fold critique against the established positions positivism and constructivism (Bhaskar & Hartwig, 2010).

Chapter 3 – RESULTS

This chapter presents the results of the pre-post, intervention-control group design used to test the current study's hypotheses. The results are reported as follows: 1) a statistical break-down of the total sample's demographic information; 2) the descriptive data for all of the variables in the study reported for the entire sample and then separately for the control and intervention groups and again by demographic groups; 3) the preliminary data analyses and Pearson correlations are presented in the assumptions which each statistical test needed to meet, in order to produce valid results in answering the study's research questions; and 4) the results of the statistical tests undertaken on each participant's explicit and implicit attitudes towards their patient's weight. Statistical analyses were performed using the Statistical Package for Social Sciences (SPSS) Version 23 (2015).

Using a pre-post, intervention-control group design, the impact of an experimental intervention was tested using a sample of MHPs. The following two hypotheses were tested for this study:

- Hypothesis 1: At pre-intervention testing, participants will report negative explicit and implicit anti-fat attitudes towards their patients who are overweight and/or obese;
- Hypothesis 2: At post-intervention testing, participants in the experimental group, will report greater decreases in their explicit and implicit anti-fat attitudes compared to participants in the control group.

3.1 Participant Demographic Characteristics

There were 122 participants (25 males, 97 females) from across London, aged between 25-69 years ($M = 38.39$; $SD = 12.80$). Participants were categorised into three age-linked life stage groups as proposed by Erikson's (1963) psychosocial model of development. The model suggests that adults move through sequential stages during the life cycle, from early adulthood, to middle adulthood, to old age or late adulthood. These were: 'Young Adult' aged 18 - 34 years (52%); 'Middle-aged Adult' aged 35 – 54 years (33%); and 'Late Adult' aged ≥ 55 years (15%). Participants had a mean BMI of 22.44 kg.m^2 ($SD = 3.46 \text{ kg.m}^2$). Based on BMI (weight/height^2 ; Biddle & Mutrie, 2008), 8% of participants were classified as 'Underweight' ($< 18.5 \text{ kg.m}^2$), 71% as 'Normal weight' ($18.5\text{-}24.9 \text{ kg.m}^2$), 19% as 'Overweight' ($25.0\text{-}29.9 \text{ kg.m}^2$) and 2% as 'Obese' ($\geq 30.0 \text{ kg.m}^2$). 83% of participants were categorised as 'White' (for White British, White Irish or White Other), 4% as 'Mixed' (for White and Asian, White and Black African, White and Black Caribbean, or Other - Mixed), 7% as 'Asian' or Asian British, 3% as 'Black', Caribbean, African or Black British', and 3% as 'Other' (for Arab, Middle Eastern, any other ethnic group).

The rationale for such categorisation was that, as participants were London residents, they would be familiar with the same ethnic group breakdown used in the England and Wales Census (Office for National Statistics, 2017). Participants worked as MHPs within different capacities and were grouped as Psychologists (54%), Psychotherapists (21%), Counsellors (16%) and CBT therapists (9%). Of the 122 participants, 43% reported working as private practitioners, while 57% reported working for the NHS. Of the participants, 80% stated that they worked with patients who are overweight and/or obese, whilst 20% did not consider their patients to be overweight or obese. Table 3.1 summarises the demographic

characteristics of the study sample at pre-intervention testing.

Table 3.1:

Demographic characteristics of the study sample at pre-intervention testing (N = 122).

Demographics		N	%
Gender	Male	25	20.5
	Female	97	79.5
Age	“Young Adult” ages 18 to 34	64	52.0
	“Middle-aged Adult” ages 35 to 54	40	33.0
	“Late Adult” ages 55 and older	18	15.0
BMI	‘Underweight’ (< 18.5kg/m ²)	10	8.0
	‘Normal weight’ (18.5-24.9 kg/m ²)	87	71.0
	‘Overweight’ (25.0-29.9 kg/m ²)	23	19.0
	‘Obese’ (> 30.0 kg/m ²)	2	2.0
Ethnicity	‘White’ (White-British/White-Irish/White-Other)	101	83.0
	‘Mixed’ (White-Asian/White-Black African/White-Black Caribbean/Other Mixed)	5	4.0
	‘Asian’ (Asian/Asian-British)	10	7.0
	‘Black’ (Black/Caribbean/African/Black-British)	3	3.0
	‘Other’ (Arab/Middle Eastern/any other ethnic group)	3	3.0
MHPs	Psychologists	66	54.0
	Psychotherapists	26	21.0
	Counsellors	19	16.0
	CBT therapists	11	9.0

Reviewing the study’s demographic characteristics, it became evident that the breakdown of participants into each of the grouping variables was quite disproportionate (see Table 3.1). Consequently, after reviewing the descriptive statistics but prior to running the various statistical analyses using SPSS, the categories making up two of the study’s independent variables, were combined to make the samples less unequal. These two independent variables were BMI and Ethnicity. ‘BMI’ originally consisted of four categories: ‘Underweight’ (N = 10), ‘Normal Weight’ (N = 87), ‘Overweight’ (N = 23) and ‘Obese’ (N =

2), and ‘Ethnicity’ consisted of five groups: ‘White’ ($N = 101$), ‘Mixed’ ($N = 5$), ‘Asian’ ($N = 10$), ‘Black’ ($N = 3$), ‘Other’ ($N = 3$). This original data was re-coded within the SPSS worksheet to reflect the following: ‘BMI2’ - ‘Underweight’ ($N = 10$), ‘Normal Weight’ ($N = 87$), and ‘Overweight/Obese’ ($N = 25$) and; ‘Ethnicity2’ - ‘White’ ($N = 101$), and ‘Other’ ($N = 21$). Table 3.2 summarises the demographic characteristics of the study sample at pre-intervention testing, after re-categorisation.

Table 3.2:
Demographic characteristics of the study sample at pre-intervention testing - post re-categorisation ($N=122$).

Demographic	N	%
Gender		
Male	25	20.5
Female	97	79.5
Age		
“Young Adult” ages 18 to 34	64	52.0
“Middle-aged Adult” ages 35 to 54	40	33.0
“Late Adult” ages 55 and older	18	15.0
BMI2		
‘Underweight’ ($< 18.5\text{kg/m}^2$)	10	8.0
‘Normal weight’ ($18.5\text{-}24.9\text{ kg/m}^2$)	87	71.0
‘Overweight/Obese’ ($25.0\text{-} >30.0\text{ kg/m}^2$)	25	21.0
Ethnicity2		
‘White’ (White-British/White-Irish/White-Other)	101	83.0
‘Other’ (White-Asian/White-Black African/White-Black Caribbean/Other Mixed/Asian/Asian British/Black/Caribbean/African/Black-British/Arab/Middle Eastern/any other ethnic group)	21	17.0
MHPs		
Psychologists	66	54.0
Psychotherapists	26	21.0
Counsellors	19	16.0
CBT therapists	11	9.0

Participants were assigned into either a control group or experimental group through randomisation. Table 3.3 summarises the demographic characteristics of the study sample, by condition, at pre-intervention testing.

Table 3.3:
Demographic characteristics of the study sample at pre-intervention testing – by condition (N=122).

		Control		Experimental	
Demographic		N	%	N	%
Gender	Male	13	11.0	12	10.0
	Female	44	36.0	53	43.0
Age	“Young Adult” ages 18 to 34	37	30.0	27	22.0
	“Middle-aged Adult” ages 35 to 54	14	11.5	26	21.5
	“Late Adult” ages 55 and older	6	5.0	12	10.0
BMI2	‘Underweight’ (< 18.5kg/m2)	5	4.0	5	4.0
	‘Normal weight’ (18.5-24.9 kg/m2)	42	34.5	45	37.5
	‘Overweight/Obese’ (25.0- >30.0 kg/m2)	10	8.0	15	12.0
Ethnicity2	‘White’ (White-British / White-Irish / White-Other)	48	39.0	53	43.5
	‘Other’ (White-Asian / White-Black African / White-Black Caribbean / Other Mixed / Asian / Asian British / Black / Caribbean / African / Black-British / Arab / Middle Eastern / any other ethnic group)	9	7.5	12	10.0
MHPs	Psychologists	36	29.5	30	24.5
	Psychotherapists	7	6	19	15.5
	Counsellors	8	6.5	11	9.0
	CBT therapists	6	5.0	5	4.0

3.2 Results of the Descriptive Statistics

Means and standard deviations for the main variables of interest / dependent variables (i.e., ATOP, BAOP, F-Scale and IAT) for the entire sample at pre-intervention and post-intervention intervals are presented in Table 3.4., and are separated into control group and experimental group at pre-intervention and post-intervention intervals in Table 3.5. The means and standard deviations for the main variables of interest at pre-intervention and post-intervention are further separated by demographic grouping / independent variables (i.e., Sex and Age; BMI; Ethnicity; Occupation; Working Privately and Working with Overweight / Obese Patients) and are presented in Tables 3.6-3.8, respectively.

Table 3.4 compares the total sample's pre-intervention and post-intervention means for each of the three explicit attitude measures (ATOP, BAOP and F-Scale) as well as for the implicit attitude measure (IAT). The IAT D score has a possible range of -2 to +2 (Greenwald, Nosek & Banaji, 2003) and according to Greenwald, McGhee and Schwartz (1998), it measures the strengths of associations between concepts (an attitude object and its valence), in an indirect way. Greenwald, Nosek and Banaji (2003) also highlight the conservatively selected break points for 'slight' (.15), 'moderate' (.35) and 'strong' (.65) associations are according to psychological conventions for effect size. Prior to exposure to either of the two intervention videos, the total sample's pre-intervention mean ATOP score indicated more positive explicit anti-fat attitudes towards obese persons, while the mean BAOP score revealed strong beliefs that obesity can be controlled. The mean F-Scale score at pre-intervention testing showed participants to be fat phobic, and the total sample's mean IAT D score indicated that there was a 'strong' anti-fat or pro-thin bias (see Table 3.4).

Table 3.4 also compares the total sample's post-intervention mean scores for the ATOP, BAOP, F-Scale and IAT. At post-intervention testing, the mean ATOP, BAOP, F-Scale and IAT scores remained relatively unchanged. Where there were differences: the mean ATOP score at post-intervention indicated slightly less positive explicit attitudes towards obese persons; the mean BAOP score revealed slightly stronger beliefs that obesity can be controlled; and the mean F-Scale score demonstrated that participants at post-intervention were minimally less fat phobic. The IAT D score indicated that there was a 'moderate - strong' anti-fat or pro-thin bias (see Table 3.4).

Table 3.4:

Descriptive data for the total sample for each dependent variable at pre- and post-intervention.

N = 122		
	Pre	Post
ATOP (0 ->120)		
M	74.81	73.12
SD	14.94	16.86
BAOP (0 -> 48)		
M	18.89	18.59
SD	6.96	7.67
F-Scale (1 -> 5)		
M	3.41	3.39
SD	0.45	0.44
IAT D (-2 -> 2)		
M	0.76	0.54
SD	0.51	0.51

Note. ATOP: Attitudes About Obese Persons Scale; BAOP: Beliefs About Obese Persons Scale; F-Scale: The Fat Phobia Scale (short form); IAT: Implicit Attitudes Test.

3.2.1 Differences in means between intervention groups

Table 3.5 highlights the total sample's pre-intervention and post-intervention mean scores for the ATOP, BAOP, F-Scale and IAT, separated by control group and experimental group. At pre-intervention testing, participants in the control group reported (1) more positive explicit attitudes towards obese persons (ATOP); (2) strong beliefs that obesity can be controlled (BAOP); (3) were shown to be fat phobic (F-Scale) and (4) the mean IAT D score indicated that there was a 'strong' anti-fat or pro-thin bias. Whilst participants in the experimental group reported explicit and implicit anti-fat attitudes not too dissimilar to the control group at pre-intervention testing, there were slight differences: (1) participants in the experimental group held less positive explicit attitudes towards obese persons (ATOP) than their 'control' counterparts; (2) weaker beliefs that obesity can be controlled (BAOP); (3) were less fat phobic (F-Scale) than the participants in the control group, and (4) the experimental participants' mean IAT D score indicated a less negative anti-fat or pro-thin bias.

Table 3.5 reports the post-intervention mean scores for the ATOP, BAOP, F-Scale and IAT, separated by control group and experimental group. At post-intervention testing, participants in the control group reported: (1) more positive explicit attitudes towards obese persons (ATOP); (2) strong beliefs that obesity is controllable (BAOP); (3) were shown to be fat phobic (F-Scale); and (4) that there was a 'moderate - strong' implicit anti-fat or pro-thin bias. While participants in the experimental group at post-intervention testing reported explicit and implicit anti-fat attitudes not too dissimilar to the control group, there were slight differences in that participants in the experimental group held: (1) less positive explicit attitudes towards obese persons (ATOP) than their 'control' counterparts; (2) weaker beliefs that obesity is controllable (BAOP); (3) were less fat phobic (F-Scale) than participants in the

control group; and (4) less negative implicit anti-fat or pro-thin bias.

3.2.2 Differences in means within intervention groups

Table 3.5 highlights differences in mean explicit and implicit anti-fat attitudes scores from pre- to post-intervention for the control group and experimental group. Considering the control group's mean explicit and implicit anti-fat attitudes scores from pre- to post-intervention were as follows: the mean ATOP score became more positive in terms of attitudes towards obese persons at post-intervention, the mean BAOP score became more negative in that it showed participants more strongly believing that obesity was controllable, the mean F-Scale score showed control participants became slightly less fat phobic at post-intervention, and the mean IAT D score indicated a less negative anti-fat or pro-thin bias than at pre-intervention testing (see Table 3.5). Differences in terms of the experimental participants' mean explicit and implicit anti-fat attitudes scores from pre- to post-intervention were as follows: the mean ATOP score became less positive in terms of attitudes towards obese persons, the mean BAOP score became more negative in that it showed participants more strongly believing that obesity was controllable, the mean F-Scale score showed experimental participants became slightly less fat phobic at post-intervention, and the mean IAT D score indicated a less negative anti-fat or pro-thin bias than at pre-intervention testing (see Table 3.5).

Table 3.5:

Control Group and Experimental Group: Descriptive data for each dependent variable at pre- and post-intervention.

	Control Group		Experimental Group	
	N = 57		N = 65	
	Pre	Post	Pre	Post
ATOP				
M	76.49	76.91	73.34	69.80
SD	14.90	16.64	14.94	16.47
BAOP				
M	18.83	18.46	18.95	18.71
SD	6.80	7.37	7.16	7.97
F-Scale				
M	3.44	3.43	3.37	3.35
SD	0.53	0.49	0.37	0.39
IAT D				
M	0.79	0.60	0.73	0.49
SD	0.52	0.54	0.51	0.49

Note. ATOP: Attitudes About Obese Persons Scale; BAOP: Beliefs About Obese Persons Scale; F-Scale: The Fat Phobia Scale (short form); IAT: Implicit Attitudes Test.

3.2.3 Differences in means within demographic groups – at pre intervention testing

The means of the pre-intervention data for sex (see Table 3.6) indicated that females reported (1) less positive explicit attitudes toward obese persons (ATOP); (2) stronger beliefs that obesity is controllable (BAOP); (3) higher fat phobia (F-Scale) and more negative implicit anti-fat attitudes than the male participants at pre-intervention testing.

For age the means of the pre-intervention data (see Table 3.6) indicated that the ‘Young Adults’ (18-34-year olds) reported less positive explicit anti-fat attitudes toward obese persons (ATOP) and indicated higher fat phobia (F-Scale) when compared to their

older counterparts. The ‘Late Adults’ (≥ 55 -year olds) however held stronger beliefs that obesity is controllable (BAOP) when compared to their younger counterparts. Similarly, the mean IAT D scores indicated that the ‘Young Adults’ reported more negative implicit anti-fat attitudes than the older participants at pre-intervention testing.

The mean scores of the pre-intervention data for BMI (see Table 3.6), revealed that the ‘Obese’ participants (BMI: ≥ 30 kg.m²) reported (1) less positive explicit attitudes toward obese persons (ATOP) and; (2) stronger beliefs that obesity is controllable (BAOP) than the other BMI groups. The ‘Underweight’ participants (BMI: < 18.5 kg.m²) reported higher fat phobia (F-Scale), and their IAT D scores indicated more negative implicit anti-fat attitudes, than the other BMI groups, at pre-intervention testing.

With regards to ethnicity, the means of the pre-intervention data (see Table 3.6), revealed that the ‘Mixed’ participants reported less positive explicit attitudes toward obese persons (ATOP). The ‘White’ participants reported stronger beliefs that obesity is controllable (BAOP) at pre-intervention testing and reported higher fat phobia (F-Scale), while the ‘Black’ participants’ IAT D scores indicated more negative implicit anti-fat attitudes, than the other ethnicity groups.

The means of the pre-intervention data for occupation (see Table 3.6), revealed that the ‘Counsellors’ reported (1) less positive explicit attitudes toward obese persons (ATOP); (2) stronger beliefs that obesity is controllable (BAOP); and (3) a higher fat phobia (F-Scale) than the other occupation groups. The ‘Counsellors’ pre-intervention IAT D scores also

indicated more negative implicit anti-fat attitudes than the other occupation groups.

Table 3.6:
Descriptive data of total sample (N=122) for the dependent variables at pre-intervention testing.

N=122	ATOP		BAOP		F-Scale		IAT	
	M	SD	M	SD	M	SD	M	SD
GENDER								
Male	75.04	17.60	19.96	7.35	3.37	0.46	0.67	0.59
Female	74.75	14.28	18.62	6.87	3.42	0.45	0.79	0.49
AGE								
Young Adult	72.03	14.19	18.09	5.96	3.50	0.49	0.83	0.49
Middle-Age	79.63	16.43	20.85	8.03	3.31	0.36	0.64	0.50
Late Adult	74.00	11.79	17.39	7.20	3.26	0.44	0.79	0.57
BMI								
Underweight	67.30	15.94	16.00	3.40	3.60	0.43	0.98	0.49
Normal Weight	75.70	15.47	19.03	7.23	3.40	0.46	0.79	0.50
Overweight	75.65	12.15	20.26	6.83	3.34	0.43	0.59	0.55
Obese	64.00	1.41	11.50	0.71	3.36	0.21	0.60	0.08
ETHNICITY								
White	73.83	15.32	18.19	6.89	3.45	0.45	0.75	0.52
Mixed	72.60	7.13	24.40	3.65	3.27	0.23	0.66	0.87
Asian	81.60	11.59	21.90	5.63	3.25	0.52	0.82	0.36
Black	88.67	18.15	21.33	13.50	3.14	0.54	1.01	0.22
Other	75.00	12.49	21.00	6.93	3.05	0.37	0.93	0.43
MHPs								
Psychologist	76.11	15.83	19.99	6.55	3.34	0.46	0.76	0.50
Psychotherapist	75.89	13.62	18.08	8.26	3.37	0.39	0.65	0.55
Counsellors	69.53	14.48	15.00	4.49	3.68	0.49	0.99	0.35
CBT Therapist	73.64	12.75	21.00	7.62	3.41	0.37	0.67	0.64

Note. ATOP: Attitudes About Obese Persons Scale; BAOP: Beliefs About Obese Persons Scale; F-Scale: The Fat Phobia Scale (short form); IAT: Implicit Attitudes Test.

3.2.4 Differences in means within demographic groups – at post-intervention testing

The means of the post-intervention data for sex (see Table 3.7) indicated that females continued to report more negative explicit anti-fat attitudes than the male participants. However, implicitly males reported more negative anti-fat attitudes than the female participants.

For age the means of the post-intervention data (see Table 3.7) indicated that ‘Young Adults’ reported more negative explicit attitudes toward obese persons (ATOP), held stronger beliefs that obesity is controllable (BAOP) and indicated higher fat phobia (F-Scale). The ‘Late Adults’ reported more negative implicit anti-fat attitudes than the younger participants post-intervention.

The mean scores of the post-intervention data for BMI (see Table 3.7), revealed that the ‘Obese’ participants ($\text{BMI} \geq 30 \text{ kg.m}^2$) reported (1) less positive explicit attitudes toward obese persons (ATOP) and; (2) stronger beliefs that obesity is controllable (BAOP) than the other BMI groups, at post-intervention testing. The ‘Underweight’ participants ($\text{BMI} < 18.5 \text{ kg.m}^2$) reported higher fat phobia (F-Scale), and their IAT D scores indicated more negative implicit anti-fat attitudes, than the other BMI groups, at post-intervention testing.

With regards to ethnicity, the means of the post-intervention data (see Table 3.7), revealed that the ‘Mixed’ participants reported less positive explicit attitudes toward obese persons (ATOP), with the ‘Mixed’ participants reporting stronger beliefs that obesity is controllable (BAOP) at post-intervention testing. ‘White’ participants reported higher fat

phobia (F-Scale) at post-intervention, while the ‘Black’ participants’ IAT D scores indicated more negative implicit anti-fat attitudes, than the other ethnicity groups, at post-intervention testing.

The means of the post-intervention data for occupation (see Table 3.7), revealed that the ‘Counsellors’ reported (1) less positive explicit attitudes toward obese persons (ATOP); (2) stronger beliefs that obesity is controllable (BAOP); and (3) a higher fat phobia (F-Scale) than the other occupation groups at post-intervention. The ‘Counsellors’ post-intervention IAT D scores also indicated more negative implicit anti-fat attitudes than the other occupation groups. Thus, the most negative explicit and implicit anti-fat attitudes were reported by the ‘Counsellors’.

Table 3.7:
Descriptive data of total sample (N=122) for the dependent variables at post-intervention testing.

N=122	ATOP		BAOP		F-Scale		IAT	
	M	SD	M	SD	M	SD	M	SD
GENDER								
Male	74.60	19.08	20.56	8.66	3.37	0.40	0.60	0.54
Female	72.74	16.32	18.08	7.35	3.39	0.45	0.52	0.51
AGE								
Young Adult	70.61	15.36	17.28	6.77	3.48	0.45	0.61	0.52
Middle-Age	78.00	18.61	21.23	8.03	3.29	0.39	0.38	0.47
Late Adult	71.22	16.44	17.39	7.65	3.25	0.43	0.64	0.55
BMI								
Underweight	67.70	13.92	16.40	7.35	3.58	0.40	0.75	0.50
Normal Weight	73.54	17.78	18.97	7.97	3.38	0.45	0.51	0.52
Overweight	75.35	14.27	18.65	6.84	3.35	0.39	0.56	0.53

Obese	56.50	2.12	12.50	0.71	2.97	2.12	0.51	0.04
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ETHNICITY

White	71.79	17.32	17.94	7.54	3.41	0.45	0.54	0.53
Mixed	71.20	17.85	15.80	5.26	3.34	0.23	0.62	0.67
Asian	80.90	6.54	23.90	7.69	3.35	0.37	0.45	0.34
Black	85.00	21.66	23.33	11.01	3.12	0.40	0.78	0.54
Other	83.33	11.50	22.67	5.51	2.95	0.15	0.45	0.40

MHPs

Psychologist	75.88	17.28	19.53	7.55	3.31	0.44	0.46	0.47
Psychotherapist	72.31	16.65	19.27	8.56	3.37	0.39	0.53	0.53
Counsellors	66.32	16.54	13.58	5.32	3.63	0.50	0.81	0.38
CBT Therapist	70.30	12.78	20.00	7.00	3.45	0.29	0.55	0.77

Note. ATOP: Attitudes About Obese Persons Scale; BAOP: Beliefs About Obese Persons Scale; F-Scale: The Fat Phobia Scale (short form); IAT: Implicit Attitudes Test.

Also under consideration were the additional lines of inquiry with regard to the demographic information obtained from participants. The means of participants who reported working privately, and those who reportedly work for the NHS (see Table 3.8), revealed that the ‘Working Privately’ participants reported less positive explicit attitudes toward obese persons (ATOP) at both pre- and post-intervention testing. Those working privately also reported stronger beliefs that obesity is controllable (BAOP), but only at post-intervention. However, participants working for the NHS reported higher fat phobia (F-Scale), with IAT D scores also indicating more negative implicit anti-fat attitudes, than those working privately, at both pre- and post-intervention testing.

Overall means of participants who do, or do not, report working with patients who are overweight and/or obese (see Table 3.8) suggest that participants who ‘work with overweight/obese patients’ reported (1) less positive explicit attitudes toward obese persons

(ATOP), (2) stronger beliefs that obesity is controllable (BAOP), and (3) higher fat phobia (F-Scale), than those who did not work with patients who are overweight and/or obese. This remained unchanged from pre- to post-intervention testing. The IAT D scores of participants not working with patients who are overweight and/or obese reported more negative implicit anti-fat attitudes, than those who did report working with patients who are overweight and/or obese. This remained unchanged from pre- to post-intervention testing.

Table 3.8:

Explicit and implicit attitudes towards obesity with regards to participants (1) working privately/NHS and; (2) considering their patients overweight. Mean and standard deviation among UK adults aged 25–69 years in 2016–2017.

Measure	Working Privately				Working with Overweight Patients			
N=122	YES		NO		YES		NO	
	N=53		N=69		N=98		N=24	
	Pre	Post	Pre	Post	Pre	Post	Pre	Post
ATOP								
M	74.28	72.15	75.22	73.87	74.52	72.53	76.00	75.54
SD	15.15	17.25	14.88	16.64	14.70	16.23	16.16	19.40
BAOP								
M	19.36	18.57	18.54	18.61	18.34	17.48	21.17	23.13
SD	8.06	7.76	6.03	7.65	6.81	6.98	7.28	8.76
F-Scale								
M	3.37	3.35	3.44	3.41	3.43	3.42	3.32	3.25
SD	0.42	0.41	0.48	0.46	0.45	0.42	0.46	0.50
IAT D								
M	0.68	0.50	0.83	0.57	0.76	0.52	0.77	0.61
SD	0.50	0.56	0.52	0.47	0.53	0.53	0.45	0.46

Note. ATOP: Attitudes About Obese Persons Scale; BAOP: Beliefs About Obese Persons Scale; F-Scale: The Fat Phobia Scale (short form); IAT: Implicit Attitudes Test.

3.3 Preliminary Analyses

Prior to the study's major analyses, data from the dependent variable measures (ATOP, BAOP, F-Scale and IAT) were examined using SPSS Version 23 (2015) for accuracy of data entry, missing values, outliers, distributional properties, multicollinearity, and other assumptions specific to the General Linear Model. Unfortunately, of the 125 participants tested, there were three data sets which were missing values. These three incomplete data sets were a result of the Implicit 4 Web Player's failure to save some participants post-intervention test scores. Without these post-intervention test scores, it would not have been possible to determine whether there were any significant differences in explicit or implicit anti-fat attitudes due to intervention group for those three participants, and as such these participants' data entries had to be removed from the analysis.

The assumption of normality was met by verifying that skewness and kurtosis statistics were within an acceptable range. Examination of skewness and kurtosis of the dependent variables at pre- and post-intervention revealed that the ATOP (Pre-intervention: Z-scores: skewness = -0.15, kurtosis = 0.41; Post-intervention: Z-scores: skewness = 0.04, kurtosis = 0.47), the BAOP (Pre-intervention: Z-scores: skewness = 0.50, kurtosis = -0.10; Post-intervention: skewness = 0.65, kurtosis = -0.14), and the F-Scale (Pre-intervention: Z-scores: skewness = 0.28, kurtosis = 1.26; Post-intervention: Z-scores: skewness = 0.28, kurtosis = 2.04) all met the assumption of normality. The IAT D scores for both pre- and post-intervention also met the assumption of normality (Pre-intervention: Z-score: skewness = -0.12, kurtosis = -0.04; Post-intervention: Z-score: skewness = 0.21, kurtosis = -0.59). Field (2013) states that symmetrical distributions have a skew of 0, i.e. the closer the skewness and kurtosis values are to zero, the more likely the data will be normally distributed.

Field (2013) cites four assumptions for a MANOVA, namely: independence, random sampling, multivariate normality and homogeneity of covariance matrices. This study's observations were independent of one another, the data was normal, and the sampling was random and representative of the population of interest. There was not any pattern for the selection of the sample. The Z-scores for skewness and kurtosis indicate that the ATOP, BAOP, F-Scale and IAT all met the assumption of normality, at both pre- and post-intervention testing. Field (2013) suggests checking the assumptions of univariate normality for each dependent variable, as SPSS cannot check the assumption of multivariate normality. Finally, homogeneity of covariance matrices needed to be considered. Levene's Test of Equality of Error Variances on each dependent variable's pre-intervention scores indicate that this assumption was met at a univariate level for the ATOP, BAOP, F-Scale and IAT (see Tables 3.9 and 3.10). There was only one instance whereby the p-value was significant, and that was for the BAOP on the 'Working Privately' independent variable ($p < 0.05$). Therefore, it can be assumed that the variance between groups is equal. When compared across groups, using Box's Test of Equality of Covariance Matrices, a non-significant p-value ($p > 0.001$) for each dependent variable's pre-intervention data (see Tables 3.9 and 3.10) indicated the assumption was met, therefore it can be assumed that the covariance matrices are roughly equal. As all four assumptions were met, a MANOVA on the dependent variables pre-intervention data was carried out.

Hypothesis 1 stated that at pre-intervention testing, participants will report negative explicit and implicit anti-fat attitudes towards their patients who are overweight and/or obese. Pearson correlations were therefore run on each independent variable and the participants' explicit and implicit anti-fat attitude scores at pre-intervention to examine whether there was evidence suggesting that there were statistically significant correlations within the study's

population (see Table 3.11). There was a significant negative correlation between age and explicit anti-fat attitudes on the F-Scale ($r = -0.224$, $n = 122$, $p = 0.013$); a significant positive correlation between ethnicity and explicit anti-fat attitudes on the BAOP ($r = 0.223$, $n = 122$, $p = 0.014$); a significant negative correlation between ethnicity and explicit anti-fat attitudes on the F-Scale ($r = -0.199$, $n = 122$, $p = 0.028$); and a significant negative correlation between BMI and implicit anti-fat attitudes on the IAT ($r = -0.196$, $n = 122$, $p = 0.038$).

Table 3.9:

MANOVA Homogeneity of covariance: Levene's and Box's p-values for each dependent variable's pre-intervention scores, across sex, age, BMI, Ethnicity and Occupation.

	Sex	Age	BMI	Ethnicity	Occupation
Levene's	<i>P</i>	<i>P</i>	<i>P</i>	<i>P</i>	<i>P</i>
ATOP	0.14	0.14	0.52	0.26	0.48
BAOP	0.29	0.07	0.15	0.72	0.09
F-SCALE	0.89	0.56	0.84	0.79	0.73
IAT-D	0.38	0.97	0.99	0.36	0.32
Box's	0.86	0.15	0.12	0.72	0.05

Note. *Value is significant at the .05 level

**Value is significant at the .01 level

***Value is significant at the .001 level

Table 3.10:

MANOVA Homogeneity of covariance: Levene's and Box's p-values for each dependent variable's pre-intervention scores, across the 'Working Privately' and 'Working with Overweight/Obese Patients' grouping variables.

	Working Privately	Working with Overweight and Obese Patients
Levene's	<i>p</i>	<i>p</i>
ATOP	0.52	0.95
BAOP	0.03*	0.51
F-Scale	0.61	0.51

IAT D	0.62	0.20
Boxes	0.51	0.79

Note. *Value is significant at the .05 level

**Value is significant at the .01 level

***Value is significant at the .001 level

MANOVAs were conducted on the dependent variable's pre-intervention data for each of the independent or grouping variables. A MANOVA was also run on the dependent variable's discrepancy data, and 'Intervention Group'. While a MANCOVA was a more appropriate test to examine each dependent variable's discrepancy scores, with 'Intervention Group' as the fixed factor, and the grouping variables as covariates, which revealed whether there were any statistically significant differences between the independent variables from pre- to post-intervention testing, due to intervention group allocation. This change in statistical test, however, meant a potential change of test assumptions for consideration. Field (2013) highlights that the four assumptions cited for a MANOVA, are in fact the same for a MANCOVA, but with one extra assumption relating to the covariates. This assumption is that there is a statistical relationship between the covariate/s and the dependent variables. As mentioned above, this study's observations were independent of one another, the data was normal, and the sampling was random and representative of the population of interest. The Z-scores for skewness and kurtosis indicated that the ATOP, BAOP, F-Scale and IAT all met the assumption of normality, at both pre- and post-intervention testing. To check the assumption of homogeneity of covariance matrices, the Levene's Test of Equality of Error Variances for each dependent variable's discrepancy score was to be considered. It indicated that this assumption was met at a univariate level for the ATOP (0.22), BAOP (0.82), F-Scale (0.65) and IAT (0.47). When compared across groups, using Box's Test of Equality of Covariance Matrices, a non-significant p -value of 0.02 ($p > 0.001$) indicates the assumption was met, and so we can assume the covariance matrices are roughly equal. Lastly, there is the

assumption that there is a statistical relationship between the covariate/s and the dependent variables (correlational analysis).

Hypothesis 2 stated that at post-intervention testing participants in the experimental group will report greater decreases in their explicit and implicit anti-fat attitudes compared to participants in the control group. Pearson correlations were therefore run on each independent variable and the experimental group's explicit and implicit anti-fat attitude discrepancy scores at post-intervention. This was to examine whether there was evidence suggesting statistically significant correlations within the study's population (see Table 3.12). There was a significant negative correlation between occupation and explicit anti-fat attitudes on the ATOP ($r = -0.307$, $n = 65$, $p = 0.013$); a significant positive correlation between occupation and explicit anti-fat attitudes on the F-Scale ($r = 0.311$, $n = 65$, $p = 0.012$); and a significant positive correlation between working with patients who are overweight or obese and explicit anti-fat attitudes on the BAOP ($r = 0.314$, $n = 65$, $p = 0.011$). No statistically significant correlations were found between the control group's explicit and implicit anti-fat attitude discrepancy scores and the grouping variables.

Table 3.11:
Pearson Correlations: Pre-intervention explicit and implicit attitude data across grouping variables.

	ATOP	BAOP	F-Scale	IAT
SEX				
P.C	-0.008	-0.078	0.045	0.098
Sig.	0.932	0.393	0.624	0.300
AGE				
P.C	0.124	0.039	-0.224*	-0.084
Sig.	0.175	0.669	0.013	0.377

ETHNICITY					
P.C	0.144	0.223*	-0.199*	0.061	
Sig.	0.112	0.014	0.028	0.520	
BMI					
P.C	0.077	0.103	-0.128	-0.196*	
Sig.	0.399	0.257	0.159	0.038	
OCCUPATION					
P.C	-0.116	-0.117	0.171	0.038	
Sig.	0.204	0.200	0.059	0.691	
PRIVATELY					
P.C	0.031	-0.059	0.074	0.142	
Sig.	0.734	0.520	0.420	0.133	
PATIENTS					
P.C	0.040	0.162	-0.097	0.008	
Sig.	0.666	0.074	0.287	0.935	

Note. *Value is significant at the .05 level (2-tailed);

**Value is significant at the .01 level (2-tailed)

Table 3.12:

Pearson Correlations: Experimental group's explicit and implicit attitude discrepancy data across the grouping variables.

	ATOP	BAOP	F-Scale	IAT
SEX				
P.C	-0.084	-0.092	-0.033	-0.199
Sig.	0.508	0.468	0.791	0.137
AGE				
P.C	0.038	0.154	0.067	0.116
Sig.	0.761	0.221	0.598	0.391
ETHNICITY				
P.C	0.169	-0.146	0.105	-0.114
Sig.	0.178	0.246	0.406	0.400
BMI				
P.C	0.019	-0.215	0.044	0.197

Sig.	0.881	0.086	0.726	0.142
OCCUPATION				
P.C	-0.307*	0.002	0.311*	0.125
Sig.	0.013	0.985	0.012	0.355
PRIVATELY				
P.C	0.021	0.063	-0.047	-0.095
Sig.	0.867	0.617	0.710	0.481
PATIENTS				
P.C	0.179	0.314*	-0.166	0.030
Sig.	0.153	0.011	0.188	0.827

Note. *Value is significant at the .05 level (2-tailed);

**Value is significant at the .01 level (2-tailed)

Field (2013) cites four assumptions for a One-Way Analysis of Variance (ANOVA), namely: independence, normal distribution, equal variance, and that the dependent variables should be measures on an interval scale. As already mentioned, this study's data was independent and the assumption of normality was met for the ATOP, BAOP, F-Scale and IAT at both pre- and post-intervention testing. With only one exception, Levene's Test of Equality of Error Variances highlights non-significant values for all four dependent variable pre-intervention scores (ATOP, BAOP, F-Scale and IAT D Score) for sex, age, ethnicity, BMI, occupation and working with patients who are overweight/obese indicating that the assumption of homogeneity of variance was met at a univariate level (see Tables 3.13 and 3.14). There was only one instance whereby the p-value was significant ($p = 0.03$), and that was for the BAOP on the 'Working Privately' independent variable ($p < 0.05$). As the assumption of normality was met for the ANOVAs, it is assumed that the dependent variables are measures on an interval scale.

Table 3.13:

ANOVA Homogeneity of covariance: Levene's p-values for each dependent variable's pre-intervention scores, across sex, age, BMI, Ethnicity and Occupation.

	Sex	Age	BMI	Ethnicity	Occupation
Levene's	<i>P</i>	<i>P</i>	<i>P</i>	<i>P</i>	<i>P</i>
ATOP	0.09	0.23	0.44	0.35	0.86
BAOP	0.32	0.08	0.06	0.53	0.11
F-SCALE	0.95	0.42	0.86	0.99	0.76
IAT-D	0.38	0.97	0.99	0.36	0.32

Note. *Value is significant at the .05 level; **Value is significant at the .01 level

***Value is significant at the .001 level

Table 3.14:

ANOVA Homogeneity of covariance: Levene's p-values for each dependent variable's pre-intervention scores, across the 'Working Privately' and 'Working with Overweight/Obese Patients' grouping variables.

	Working Privately	Working with Overweight and Obese Patients
Levene's	<i>p</i>	<i>p</i>
ATOP	0.53	0.96
BAOP	0.03*	0.52
F-Scale	0.64	0.63
IAT D	0.62	0.20

Note. *Value is significant at the .05 level

**Value is significant at the .01 level

***Value is significant at the .001 level

Field (2013) states that an independent samples T-test is a parametric test based on normal distribution and as such, sources of bias apply. This test's assumptions include: independence, normal distribution and homogeneity of variance. As previously mentioned, this study's observations were independent of one another, the data was normal, and the

sampling was random and representative of the population of interest. The Z-scores for skewness and kurtosis indicate that the ATOP, BAOP, F-Scale and IAT all met the assumption of normality, at both pre- and post-intervention testing. Levene's Test of Equality of Error Variances highlights that the assumption of homogeneity of variance was met ($p > 0.05$).

3.4 Pre-Intervention Multivariate and Univariate Analyses

This study's Hypothesis 1 was that at pre-intervention testing, participants would report negative explicit and implicit anti-fat attitudes towards their patients who are overweight and/or obese. The study's independent variables were: sex, age, ethnicity, BMI, occupation, working privately and working with patients who are overweight and/or obese, while the study's dependent variables were the participants' explicit and implicit attitudes scores (ATOP, BAOP, F-Scale and IAT).

Multivariate Analysis of Variance (MANOVA)

MANOVA results demonstrated that at pre-intervention there was a significant effect for age and occupation ($p < 0.05$). Pillai's Trace for the MANOVA run on age, highlighted a significant effect of age on the participants' pre-intervention explicit and implicit anti-fat attitudes ($V = 0.16$, $F(8, 216) = 2.39$, $p = 0.02$). One can therefore, reject the null hypothesis that there are no between-group differences, and conclude that age had a significant effect, with respect to the dependent variables. Pillai's Trace for the MANOVA run on occupation, highlighted a significant effect of occupation on the participants' pre-intervention explicit and implicit anti-fat attitudes ($V = 0.19$, $F(12, 324) = 1.79$, $p = 0.04$). One can therefore, reject the null hypothesis that there are no between-group differences, and conclude that occupation

had a significant effect, with respect to the dependent variables. Non-significant effects were found for sex, BMI, ethnicity, working privately and working with patients who are overweight and/or obese ($p > 0.05$).

To determine more about the between-group differences and the nature of effect for age and occupation, the univariate test statistics need to be considered, namely, Levene's Test of Equality of Error Variances and Tests of Between-Subjects Effects. For both age and occupation, Levene's Test highlights non-significant values for all four dependent variable pre-intervention scores (ATOP, BAOP, F-Scale and IAT D Score), indicating the homogeneity of variance assumption has been met. The Tests of Between-Subjects Effects summary table of ANOVAs for each dependent variable measure, concluded that significant effects were observed for age on the ATOP ($p = 0.04$) and F-Scale ($p = 0.02$) pre-intervention scores ($p < 0.05$), indicating a significant difference in participants' anti-fat attitudes, at pre-intervention, due to age group. Non-significant effects were found for the BAOP and IAT D pre-intervention scores ($p > 0.05$). The Tests of Between-Subjects Effects summary table of ANOVAs for each dependent variable measure, conclude that significant effects were observed for occupation on the BAOP ($p = 0.03$) and F-Scale ($p = 0.03$) pre-intervention scores ($p < 0.05$), indicating a significant difference in participant's explicit anti-fat attitudes, at pre-intervention, due to occupation group. Non-significant effects were found for the ATOP and IAT D pre-intervention scores ($p > 0.05$).

While follow-up Scheffe post hoc tests for age was non-significant for the F-Scale, it did indicate a significant difference on the ATOP pre-intervention scores for 'Young Adults' and 'Middle-aged Adults' ($p = 0.04$). The homogeneous subsets revealed that 'Young Adults' ($M = 71.46$) were associated with more negative attitudes towards obese persons than the

‘Middle-aged Adults’ ($M = 79.54$). While follow-up Scheffe post hoc tests for occupation was non-significant for the BAOP, it did indicate a significant difference on the F-Scale pre-intervention scores for ‘Psychologists’ and ‘Counsellors’ ($p = 0.03$). The homogeneous subsets revealed that ‘Counsellors’ ($M = 3.71$) were associated with being more fat phobic than ‘Psychologists’ ($M = 3.33$).

One-Way ANOVAs

Based on the significant effects identified in the pre-intervention MANOVAs (Age: ATOP and F-Scale, $p < 0.05$; Occupation: BAOP and F-Scale, $p < 0.05$), one-way ANOVAs were run (see Table 3.15) to confirm the MANOVA results as well as assist with further examination of differences in the participants’ explicit and implicit anti-fat attitudes. A one-way ANOVA examining age produced significant effects for the ATOP ($F(2, 119) = 3.34$, $p = 0.04$) and F-Scale ($F(2, 119) = 3.46$, $p = 0.04$), where follow-up Scheffe post hoc tests revealed that ‘Young Adults’ and ‘Middle-aged Adults’ explicit anti-fat attitudes only differed significantly from the other age groups on the ATOP ($p < 0.05$). The homogeneous subsets revealed that ‘Young Adults’ ($M = 72.03$) were associated with more statistically significant negative attitudes towards obese persons than the ‘Middle-aged Adults’ ($M = 79.63$). A one way ANOVA examining occupation produced significant effects for the BAOP ($F(3, 118) = 3.13$, $p = 0.03$) and F-Scale ($F(3, 118) = 2.92$, $p = 0.04$), where follow-up Scheffe post hoc tests revealed that ‘Psychologists’ and ‘Counsellors’ explicit anti-fat attitudes differed significantly from the other occupation groups on the F-Scale ($p < 0.05$). The homogeneous subsets revealed that ‘Counsellors’ ($M = 3.68$) were associated with being more fat phobic than ‘Psychologists’ ($M = 3.34$).

Table 3.15:

One-way ANOVAs examining sex, age, BMI, ethnicity and occupation at pre-intervention.

	Sex	Age	BMI	Ethnicity	Occupation
<i>d.f., error d.f.</i>	(1, 120)	(2, 119)	(3, 118)	(4, 117)	(3, 118)
	<i>F</i>	<i>F</i>	<i>F</i>	<i>F</i>	<i>F</i>
ATOP	0.01	3.34*	1.33	1.31	1.03
BAOP	0.74	2.48	1.66	1.70	3.13*
F-SCALE	0.24	3.46*	0.82	1.37	2.92*
IAT-D	1.08	1.59	1.49	0.34	1.76

Note. *Value is significant at the .05 level

**Value is significant at the .01 level

The statistics run on the participants' pre-intervention explicit and implicit attitude scores across the study's grouping variables appear to partially support this study's Hypothesis 1. Hypothesis 1 stated that participants will report negative explicit and implicit anti-fat attitudes towards their patients who are overweight and/or obese, and as the 'Young Adults' and 'Counsellors' held more statistically significant negative explicit anti-fat attitudes (ATOP and F-Scale respectively) than the other participants, the multivariate and univariate analyses on the pre-intervention data has shown partial support for Hypothesis 1. The statistics run on this data also partially support two of this study's five sub-hypotheses (sub-hypothesis 3b and sub-hypothesis 3e), in that explicit anti-fat attitudes for age and occupation were found to be statistically significant at pre-intervention testing. It was hypothesised that younger participants would hold more negative anti-fat attitudes towards their patients who are overweight and obese, and that there would be differences in explicit and implicit anti-fat attitudes toward patients who are overweight or obese, due to the participants' occupational approach to therapy.

3.5 Discrepancy Multivariate and Univariate Analyses

This study's Hypothesis 2 stated that at post-intervention testing, participants in the experimental group would report a greater reduction in their explicit and implicit anti-fat attitudes towards their patients who are overweight and/or obese, compared to participants in the control group. The discrepancy scores were calculated based on the difference between each participants' post-intervention and pre-intervention attitude scores. The study's dependent variables were the participants' explicit and implicit attitudes scores (ATOP, BAOP, F-Scale and IAT), the fixed factor for the MANOVA and MANCOVA run on the discrepancy scores was 'Intervention Group', while the study's independent variables namely: sex; age; ethnicity; BMI; occupation; working privately; and working with patients who are overweight and/or obese, were the grouping variables used as the MANCOVA's covariates.

Multivariate Analysis of Variance (MANOVA)

A MANOVA was run on the discrepancy scores of each of the four dependent variables (ATOP, BAOP, F-Scale and IAT), with 'Intervention Group' as a fixed factor. The discrepancy scores were the difference between the participants' post- and pre-intervention scores for each dependent variable. Results from the MANOVA demonstrated that there was a significant difference in explicit and implicit anti-fat attitudes between pre-and post-intervention testing, due to the type of intervention group (control or experimental). Pillai's Trace highlights that there was a significant effect of intervention group on the participants' explicit and implicit anti-fat attitudes ($V = 0.10$, $F(4, 104) = 2.73$, $p = 0.033$). The null hypothesis can therefore be rejected as there were no between-group differences, and it can

be concluded that the intervention groups employed in this study had a significant effect on the dependent variables, from pre- to post-intervention.

To determine more about the between-group differences and the nature of effect, it is possible to look at the univariate test statistics, namely, Levene's Test of Equality of Error Variances and Tests of Between-Subjects Effects. Levene's Test highlights non-significant values for three of the four dependent variable discrepancy scores (BAOP, F-Scale and IAT D Score), with only the ATOP violating the assumption of homogeneity of variance. Field (2013) highlights that the F-statistic is strong and robust to errors, which is why it was viable to progress with the test. When compared across groups, Box's Test of Equality of Covariance Matrices, reported a non-significant p -value ($p > 0.001$) for each dependent variable's intervention group, indicating that the homogeneity of variance assumption was met for this test. The Tests of Between-Subjects Effects summary table of ANOVAs for each dependent variable measure, concluded that significant effects were observed for 'Intervention Group', but only on the ATOP discrepancy scores ($p < 0.01$). Across the whole sample the discrepancy scores for the BAOP, F-Scale and IAT were shown to be non-significant ($p > 0.05$), with the ATOP discrepancy scores ($F(1, 107), p = 0.004$) indicating a significant difference in participants' explicit anti-fat attitudes, from pre- to post-intervention testing, due to the impact of intervention group allocation. A follow-up independent samples t-test revealed that, on average, participants within the experimental intervention group ($M = -3.54$; $SE = 9.79$) reported more negative explicit anti-fat attitudes, than participants within the control intervention group ($M = 0.42$; $SE = 7.46$). Thus, there was a significant difference between the experimental and control intervention groups, for the ATOP discrepancy scores ($t(120) = 2.49, p = 0.014$).

The statistics run on the participants' discrepancy explicit and implicit attitude scores across the study's intervention groups, appear to partially support this study's Hypothesis 2, in that, there were statistically significant differences in participants' explicit and implicit anti-fat attitudes from pre-intervention to post-intervention testing due to intervention group allocation (control or experimental). Upon further testing, only the ATOP discrepancy scores were shown to be statistically significant with regards to intervention group allocation, from pre- to post-intervention testing. An independent samples T-Test, however, revealed that the experimental group participants reported more negative explicit anti-fat attitudes in comparison to the control group participants' scores on the ATOP at post-intervention. Since Hypothesis 2 states that at post-intervention testing, participants in the experimental group will report greater decreases in their explicit and implicit anti-fat attitudes compared to participants in the control group, the multivariate and univariate analyses on the participants' discrepancy data shows that the results are not in line with, and do not support Hypothesis 2.

Multivariate Analysis of Covariance (MANCOVA)

A MANCOVA was run on the discrepancy scores of each of the four dependent variables (ATOP, BAOP, F-Scale and IAT), with 'Intervention Group' as the fixed factor and the grouping variables as 'Covariates'. Results from the MANCOVA reported non-significant differences in participants' discrepancy scores for the ATOP, BAOP, F-Scale or IAT across the grouping variables, or due to intervention group allocation (control or experimental). Pillai's Trace highlighted non-significant effects of intervention group on the participants' explicit and implicit anti-fat attitudes ($V = 0.09$, $F(4, 97) = 2.27$, $p = 0.07$), as well as non-significant effects for each of the grouping variables (see Table 3.16).

To determine more about the between-group differences and the nature of effect, it is possible to look at the univariate test statistics, namely, Levene's Test of Equality of Error Variances and Tests of Between-Subjects Effects. Levene's Test highlights non-significant values for all four dependent variable discrepancy scores (ATOP, BAOP, F-Scale and IAT D Score). This indicates that the homogeneity of variance assumption was met for this test. When compared across groups, using Box's Test of Equality of Covariance Matrices, a non-significant p -value ($p > 0.001$) for each dependent variable's discrepancy data regardless of intervention group or grouping variable, indicated the assumption was met, so it can be assumed that the covariance matrices are roughly equal.

The statistics run on the participants' discrepancy scores for each of the four dependent variables (ATOP, BAOP, F-Scale and IAT), across the study's intervention groups and independent variables (sex, age, BMI, ethnicity, occupation), failed to find any statistically significance results supporting the five sub-hypotheses or the other two lines of inquiry related to the demographic information obtained (working privately, working with patients who are overweight). Therefore, no statistically significant differences in participants' explicit and implicit anti-fat attitudes from pre-intervention to post-intervention, due to intervention group allocation (control or experimental) were found across any of the independent variables. We can therefore accept the null hypothesis.

Table 3.16:

MANCOVA: Pillai's Trace discrepancy score values from the multivariate tests.

	<i>V</i>	<i>F</i>	<i>d.f</i>	<i>error d.f</i>	<i>p</i>
Sex	0.04	1.09	4	97	0.37
Age	0.02	0.52	4	97	0.72
BMI	0.04	1.13	4	97	0.35
Ethnicity	0.03	0.84	4	97	0.50
Occupation	0.06	1.48	4	97	0.21
Privately	0.02	0.50	4	97	0.73
Patients	0.07	1.77	4	97	0.14

Note. *Value is significant at the .05 level; **Value is significant at the .01 level

Chapter 4 – DISCUSSION

The following chapter will present the discussion of the current study's results. The discussion is outlined as follows: 1) a summary of the study's findings; 2) a description of Hypothesis 1 and Hypothesis 2, with interpretations of the results in relation to existing research, the importance of the findings, as well as explanations of the results with regard to those that do not support, or only partially support the hypotheses; 3) the strengths and limitations of the study; 4) directions for future research; 5) implications for counselling psychology practice, including the potential impact; 6) personal reflexivity; and 7) the conclusion.

4.1 Summary of Findings

The goal of this study was to provide insight into weight bias among mental health professionals (MHPs) outside of, and within the therapy room as currently no UK-based research exists which considers MHPs explicit and implicit anti-fat attitudes toward their patients who are overweight and obese, within a range of mental healthcare settings. Reflecting several decades of research documenting weight bias and stigma toward overweight and obese persons (e.g. Puhl & Brownell, 2006), this study had two main aims. The first aim was to examine whether MHPs report negative explicit and implicit anti-fat attitudes towards their patients who are overweight or obese. Secondly, this study aimed to examine whether the experimental group participants' levels of explicit and implicit anti-fat attitudes could be reduced through the impact of an empathy-evoking intervention video. This is in alignment with Teachman, Gapinski, Brownell, Rawlins and Jeyaram (2003). Lastly, the study considered a line of enquiry aimed at observing significant differences in participant's explicit and implicit anti-fat attitudes, across a range of demographic

characteristics. The findings in this study replicate and expand on prior research where (1) professionals working within healthcare settings have reported negative weight bias towards their patients who are overweight and/or obese, and (2) demographic trends such as age, sex and ethnicity for example have been found to be significantly correlated with regard to one's anti-fat attitudes.

The study was an experimental design in that (1) participants' anti-fat attitudes were measured pre- and post-intervention, and (2) the impact of an intervention, which in this case was to evoke empathy among the participants randomly allocated within the experimental group, was also measured. Also under consideration was the impact of the following attributes: 1) one's specific occupational approach to mental healthcare; 2) whether one worked privately or for the NHS; and 3) whether one had professional working experience with patients who are overweight and/or obese. The current study used MHPs which were based in and around Greater London and willing to participate. Participants varied in sex, age, BMI, ethnicity and therapeutic approach. The experimental intervention video produced by the Rudd Center for Food Policy and Obesity at Yale University is freely available online (Rudd Center for Food Policy and Obesity, 2009), and individuals who participated in the current study completed pre- and post-intervention testing of both the explicit and implicit anti-fat attitude measures, on the same day.

4.1.1 Hypothesis 1: Explicit and implicit anti-fat attitudes at pre-intervention testing.

Hypothesis 1 states that at pre-intervention testing, participants will report negative explicit and implicit anti-fat attitudes towards their patients who are overweight and/or obese. The main results at pre-intervention testing partially support this hypothesis - with significant differences only found for participants' explicit anti-fat attitudes, with regard to age and

occupation. Only the ATOP indicated a significant difference in participants' explicit attitudes across age groups, with the study sample's 'Young Adults' (18-34-year olds) reporting greater negative explicit attitudes towards obese persons. While only the F-Scale indicated a significant difference in participants' explicit attitudes across occupation groups, with the study sample's 'Counsellors' reporting greater fat phobic responses. Therefore, as the hypothesis is only partially supported, the researcher fails to reject the null hypothesis.

With 64 'Young Adult' participants, more than half the total study sample was aged between 18 - 34 years. The study's age groupings could be considered unbalanced, and while this could have influenced the results, what the data indicates is that the younger the participant, the more negative their explicit anti-fat attitudes towards their patients who are overweight and obese. This finding is in alignment with Lieberman, Tybur and Latner (2012) who found that the older the participant, the less negative the anti-fat attitudes towards the obese. Similarly, Wear, Aultman, Varley and Zarconi (2006) found that medical students did not consider derogatory humour directed toward obese patients to be inappropriate, therefore it has to be considered that minimal life experiences with people of all sizes, as well as immaturity (Flint, Hudson & Lavalley, 2015; Latner et al., 2005; Hebl et al., 2008) may have an impact on the degree of weight bias held by younger individuals. The importance placed on body image, body shape, weight and appearance has also been found to decrease with older age (Tiggemann, 2004). Therefore, the older the individual becomes, the less attention they attribute to those of a higher BMI. It could be speculated that with potentially less knowledge and experience working with patients of various weights, and/or a reduced awareness of weight bias and the various causes leading to obesity, these younger MHPs hold greater anti-fat attitudes. These negative explicit attitudes toward obesity may potentially lead to weight discrimination, and it could be speculated that the more negative these explicit anti-

fat attitudes, the higher the level of discriminatory behaviour towards these MHPs patients.

It is also worth considering how society has changed for those within the ‘Young Adult’ age group in comparison to those within the ‘Middle-age Adult’ and ‘Late Adult’ age groups. Participants between 18 – 34 years old witnessed the birth of the World Wide Web, social media and reality television. Therefore, growing up in an environment whereby the mass media constantly promotes the ‘ideal body’ in all advertising avenues, differs to the older participants upbringing, whereby television was not necessarily available, or if it was there may have only been limited channels broadcasting for a few hours daily. The older MHPs would not have had exposure to 24-hour internet access highlighting (1) the importance of appearance and body size; and (2) the popularity of a leaner body shape on every webpage. Older participants would not be as familiar as the ‘Young Adults’ with popular reality television highlighting dramatic weight loss and exercise fads. Such television shows and series include, ‘The Biggest Loser’ and ‘Revenge Body with Khloe Kardashian’, with plastic surgery shows such as ‘Botched’ and ‘Extreme Makeover’ acquiring a mass following. Older MHPs perhaps less technologically competent, may not even be aware of the exercise vlogs and online boot camps available at the click of a button. Thus, whilst older MHPs would have been exposed to some weight discrimination in magazines and newspapers growing up, it would not be to the same extent of exposure to weight bias as it is today. Obesity also was not as prevalent as it is today, with statistics highlighting that more people are heavier than ever before (WHO; 2016). Older participants would have been brought up using raw ingredients to make meals from scratch, while more recently the microwave was introduced to households around the world. Refined sugars, processed foods, take away or home delivery of convenience foods have now become the norm, with healthier food options becoming unaffordable for some. In recent years there has also been an increase in ‘cleaner’

lifestyle choices and diet fads, with yoga, Pilates, Crossfit, sushi, quinoa and bottled water becoming trendy. Perhaps the younger participants, aware of society's continued pressure of the 'ideal' weight preference, hold less tolerant weight attitudes, and perhaps these 'Young Adults' feel that in 2017, there is no excuse to be overweight or obese when there many popular 'on trend' physical activities and 'healthier' food choices conveniently accessible to all, which would result in a more 'normal' ranged BMI. As MHPs these 'Young Adults' would be empathic, warm and kind. They would also be trained to be aware of their judgements of others. These MHPs would be aware of the various psychological disorders, the related triggers, and precipitators, however, as it is early in their career they would still be inexperienced in certain areas and falter at times. It could be speculated that perhaps being shaped by society while growing up, these younger MHPs may still be influenced, or inherently hold attitudes, of varying degrees, that overweight or obese people are in control of their weight, and therefore are to blame if they fall into the overweight or obese BMI categories.

With 19 'Counsellor' participants, less than a fifth of the total study sample worked therapeutically in this capacity. While the size of the 'occupation' groups could be considered unbalanced, what the results indicated was that the Counsellors held more explicitly negative anti-fat attitudes. Specifically, these MHPs held greater fat phobic attitudes towards their patients who are overweight and obese. Of the four therapeutic roles represented in this study (Psychologists, Psychotherapists, CBT Therapists and Counsellors), there are important differences among these MHPs, with regard to level and duration of experience, training and further qualifications. Applied mental health practitioners are required to have completed (1) a Psychology degree, (2) a Doctoral programme, and (3) have had extensive training, supervision and personal therapy. Alongside this, the British Psychological Society (BPS)

require practitioners engage in Continued Professional Development (CPD) activity (BPS, 2016). The number of annual CPD hours is dependent on whether the practitioner works full-time or part time and can range from 40-70 hours in total. Chartered Counselling Psychologists and Chartered Clinical Psychologists have to be registered with the Health and Care Professions Council (HCPC) and tend to cover more serious psychological difficulties, working long-term with patients. The HCPC ensures each Practitioner Psychologist has, and maintains, a certain level of training, as well as adhering to the professional body's ethical guidelines and strict code of conduct. The HCPC's Standards of Conduct, Performance and Ethics include not discriminating against service users by allowing one's personal views to affect their professional relationships or the care, treatment or other services that they provide their patients (HCPC, 2016). The BPS's Division of Counselling Psychology (DCoP) also states that practitioners, (1) recognise social contexts and discrimination, (2) work in ways that empower rather than control, and (3) demonstrate the high standards of anti-discriminatory practice appropriate to the pluralistic nature of society today (BPS, 2016). Similarly, Psychotherapists focussed on working with clients long-term and drawing from insight into emotional problems and difficulties, are protected by the professional body, the UK Council for Psychotherapy (UKCP). The UKCP (2016) ensure a high standard of training and safety of practice and require completion of 250 CPD hours over a 5-year period. While Counsellors are registered with the British Association for Counselling and Psychotherapy (BACP), they are required to complete a minimum of 30 CPD hours annually (BACP, 2016). Counsellors complete a diploma and work short-term with patients, focussing on the patient's behavioural patterns. Counsellors encourage patients to find their own solutions rather than teaching strategies or guiding them in a certain direction. Within the BACP's Ethical Framework for the Counselling Professions (BACP, 2007) it is highlighted that Counsellors

are also required to respect their patients and avoid unfair discrimination.

Whilst only brief summaries of the therapeutic roles featured in this study, the differences in level and duration of each MHP's experience, training and further qualifications becomes evident. It could therefore be speculated that these differences resulted in Counsellors being the most fat phobic of all the MHPs in this study. No studies were found to support this speculation, but it has to be considered that perhaps these differences in training, knowledge, experience, personal therapy, supervision and CPD activities made an impact. More extensive training, personal therapy, supervision and CPD would not only raise awareness regarding the causes of obesity, and the types of weight bias within society and various mental healthcare settings, but it would also result in greater self-awareness of any anti-fat attitudes. MHPs would then be able to identify, reflect on and address any anti-fat attitudes they may hold. With a focus on the behavioural patterns of their patients, and aiming to help patients discover their own solutions to their psychological issues, perhaps the therapeutic model these Counsellors work within has somewhat blinded them from considering anything other than a patient's behaviour patterns being the cause of their weight. Counsellors might, instead of entertaining the idea that there may be other causes resulting in a higher BMI or that patients who are overweight and obese may not be in control of their weight, perceive patients who are overweight as blameworthy (Van Leeuwen, Hunt & Park, 2015; Wylie, 2015; Crandall, 1994). It could be speculated that these MHPs may be too heavily influenced by the therapeutic approach in which they work, which in turn may affect the degree of anti-fat attitudes they hold with regard to their patient's weight. It could also be speculated that these MHPs may potentially feel overwhelmingly inadequate to treat overweight or obese patients given the comorbidity of presentations, or the complexity of the case. The need for additional weight bias training is in line with the suggestions made

by Swift, Choi, Puhl and Glazebrook (2013) with regard to weight bias awareness within the training of healthcare professionals.

At baseline, for both age and occupation, only two of the explicit attitude measures were statistically significant. This is interesting because many people tend not to explicitly subscribe to biases which may be seen as socially undesirable. However, they may harbour unconscious latent preferences. Whilst explicit and implicit attitudes differ, it is possible and common for them to (1) overlap, in that an individual who is explicitly (consciously) weight biased, will usually also be implicitly (unconsciously) weight biased, or (2) contradict each other. This study's baseline results revealed that the participants' attitudes contradicted each other, in that the MHPs held statistically significant explicit anti-fat attitudes, but insignificant implicit anti-fat attitudes. In terms of social desirability and demand characteristics, it would appear that these highly self-aware participants answered the explicit self-report measures honestly without adapting their responses in an attempt to appear as though they held more 'desirable' explicit attitudes towards their patient's weight. These participants, working as MHPs, would be familiar with research and such testing procedures and environments, so it could have been expected that participation in the study would have been completed thoroughly and taken seriously, with reliable data to analyse.

It could be speculated that the MHPs making up 'Young Adults' and 'Counsellors' genuinely believed that they were strongly weight biased towards their patients who are overweight and obese, and so rated themselves more harshly on the self-report measures, when in fact working with these patients had a much less significant impact on them and their behaviour in the therapy room. Implicit attitudes are involuntarily created and participants will be unaware of them. Thus, while MHPs may believe they are explicitly weight biased,

perhaps experiences throughout life have not involved strong negative stereotypes about overweight and obese people, and it is possible that perhaps some more positive weight-related beliefs, attitudes and ideas have influenced them implicitly without their knowledge. Capturing these MHPs implicit attitudes through (1) observing non-verbal behaviour and body language, and (2) measuring the participant's physiological indicators during individual therapy sessions would have proven useful. Perhaps further research should consider including this data. Borowik, Carroll, Cicero and Ellis (2015) also highlight that explicit attitudes stem from more recent and accessible events, while implicit attitudes stem from early, largely forgotten experiences with an attitude object. Therefore, it could also be speculated that perhaps these MHPs life experiences with overweight and obese people whilst growing up have not been strongly negative, but that more recently, with obesity being as prevalent as it has ever been, MHPs have experienced negative situations or scenarios with people or patients who are overweight and obese, whereby these statistically significant explicit anti-fat attitudes have been formed.

4.1.2 Hypothesis 2: Anti-fat attitudes between-groups at post-intervention testing.

Hypothesis 2 states that at post-intervention testing, participants in the experimental group, compared to participants in the control group, will report greater decreases in explicit and implicit anti-fat attitudes. The main results at post-intervention testing do not support this hypothesis in that, while the intervention videos (control and experimental) employed in this study were shown to have had a statistically significant effect on the participants' explicit anti-fat attitudes on the ATOP at post-intervention testing, the effects were not in the direction predicted. As there was no statistically significant effect on the participants' explicit and implicit anti-fat attitudes on the BAOP, F-Scale and IAT at post-intervention testing, only one of the three explicit attitude measures demonstrated a significant difference in

participants' anti-fat attitudes between intervention groups, from pre- to post-intervention. This, however, was in the opposite direction to what was initially hypothesised. Surprisingly, the experimental intervention group participants' explicit anti-fat attitudes on the ATOP became more negative post-intervention. Therefore, the researcher rejected the null hypothesis and rejected the alternative hypothesis as the significant difference seen in the results were in the opposite direction to what was predicted.

The aim of the experimental intervention was to evoke empathy among the experimental group participants using a video in an attempt to reduce MHPs negative anti-fat attitudes towards their patients who are overweight and obese. In a review of weight bias studies, Daníelsdóttir, O'Brien and Ciao (2010) highlight that evoking empathy has been shown to reduce prejudice toward commonly stigmatised groups such as AIDS sufferers and African-Americans (Vescio, Sechrist & Paolucci, 2003; Batson et al., 1997). One could argue that perhaps empathy reduced bias with regard to race, as race and ethnicity are not within an individual's control. Myers and Rosen (1999) highlight that greater controllability beliefs will be associated with more negative attitudes about obesity. Therefore, it could be postulated that perhaps evoking empathy failed to reduce anti-fat attitudes among the experimental group participants within this study, as obesity is deemed controllable. HIV and AIDs, however, may also be viewed by many as a prognosis which is controllable, whereby sufferers are deemed blameworthy. Vescio, Sechrist and Paolucci (2003) and Batson et al. (1997), however, found that evoking empathy was effective in reducing bias towards AIDs sufferers regardless of causation. Causality is central to Attribution Theory (Weiner, 1986), which proposes that there is a process of information gathering before one is able to attach meaning, or make causal judgements of other's behaviours. Jarvis and Russell (2002) suggest that external and internal attributions are made constantly through interactions with others,

whereby (1) pleasant or unpleasant emotions are experienced and (2) beliefs and judgements of a person's behaviour is based on that individual's character (internal attribution), or on situational factors (external attribution). It could therefore be postulated that anti-fat attitudes are formed through the MHPs emotions modified by Attribution Theory (Weiner, 1986), alongside their judgements of their overweight and obese patient's behaviours, and their perceptions of controllability. As emotions can be modified by Attribution Theory (Weiner, 1986), one could speculate that this theory would also prove effective in reducing weight bias.

In a review and meta-analysis of related research however, Lee, Ata and Brannick (2014) suggest that interventions based on Attribution Theory tend to produce weaker effects than those based on empathy building, Social Consensus Theory, or more complex designs. Teachman et al. (2003) found that evoking empathy reduced weight bias, but only among the overweight participants in their study's experimental group, which may potentially have been a result of in-group bias, whereby members of the stigmatised group manifest less stigma toward fellow group members. With only a quarter of the 65 MHPs in the current study's experimental intervention group falling into the overweight/obese BMI categories, it could be speculated that in line with Social Identity Theory, members of a distinct group are more likely to view group members in a more positive light and members of the outgroup more negatively (Tajfel & Turner, 1986). In fact, Gloor and Puhl (2016) highlighted the need to include additional intervention conditions which would allow for a more comprehensive assessment, than just using an empathy evoking strategy alone.

A review of weight bias studies by Werkhoven, Cotton, Dudley and Ünlü (2016), found that interventions designed to achieve attitudinal change are most likely to succeed if

they are implemented using a combination of approaches, i.e. evoking empathy, explanations of the complex and alternate causes for obesity external to diet and exercise, personal accounts of weight bias experiences, discourse regarding socio-cultural norms toward obesity and/or promoting self-reflection to attenuate anti-fat attitudes. MacKean and GermAnn (2013) state that of critical importance is the development of a culture that supports and promotes the fundamental relationships between patients and healthcare professionals, adding that patient-centred care is vital whereby, respect and regard is provided for each individual, time is taken to understand the patient as a unique person, and credence is given to his/her experiences. It thus becomes evident that within weight bias research an approach which includes additional intervention conditions is perhaps necessary, and which may have proven more effective in reducing the MHPs anti-fat attitudes within this study. Future weight bias studies may therefore want to consider combining some or all of the below interventions - (1) raising awareness of the complex aetiologies of obesity (including the challenges in obtaining weight loss despite considerable personal effort, discipline and commitment) and various sources of weight bias; (2) the psychoeducation of (a) the importance of working empathically and compassionately and (b) the consequences of obesity and weight bias; and (3) allowing MHPs to hear the personal stories of (a) patients' experiences of weight bias (including social, economic and environmental obstacles) and (b) the experiences of respected health professionals who have become aware of their weight-related biases and found ways to address them within their practice. Future research will need to examine whether incorporating these other approaches proves successful (e.g. emphasizing social consensus, providing information about uncontrollable causes of obesity, or inducing cognitive dissonance; Ciao & Latner, 2011; Lippa & Sanderson, 2012; O'Brien et al., 2010), or targeting specific emotions (e.g., disgust; Vartanian, 2010) with empathy-evoking

approaches can improve stigma reduction toward people with obesity.

While experimental interventions combining various components (e.g. awareness, empathy and compassion) may positively impact weight bias, further investigation into these various multi-approach interventions is necessary. More importantly however, is the investigation into the possible underlying mechanisms of each of these components (i.e. what factor/s with regard to awareness, empathy or compassion may or may not impact weight bias). Previous weight bias research has failed to examine the possible underlying mechanisms of awareness, empathy or compassion, and as a result have failed to understand, address or acknowledge the various factors which may potentially be involved in attitude change. Take empathy for example - it is expected that increased empathy would shift anti-fat attitudes, however studies attempting to evoke empathy in reducing weight bias have shown to be largely unsuccessful (Teachman et al., 2003). While this has not always been the case as seen in Wiese, Wilson, Jones and Neises (1992), there has to be other possible underlying mechanisms with regard to empathy which perhaps make attitude change more difficult. While attitudes have been shown to be robust and resistant to change, the fact remains that there have been instances whereby emotional responses toward people who are obese or overweight have improved, and there have been instances whereby emotional responses have worsened and these conflicting findings are puzzling. Teachman et al. (2003) note that questions remain about what factors are needed to effectively modify these biases, adding that many studies are limited by the cross-sectional design and brevity of the manipulations used relative to the pervasive anti-fat messages in our culture, making it difficult to determine whether null results occurred because of the weakness of the prime or because the intervention does not reduce bias. Evoking empathy has shown to produce mixed results with regard to reducing anti-fat attitudes, however Gloor and Puhl (2016) highlight that unlike

sympathy, empathy has a stronger component of relating to another person and taking his or her perspective, so perhaps ‘perspective-taking’ could be considered an example of a possible underlying mechanism requiring more attention within the current weight bias research.

Hennings, Hilbert, Thomas, Siegfried and Rief (2007) used a short empathy evoking video of overweight adolescents describing personal difficulties and experiences of discrimination, to modify anti-fat attitudes. They found that despite participants reporting a greater understanding of the difficulties of being overweight, the study’s results indicated an increase in anti-fat attitudes following exposure to the video. Similarly, in the current study trained MHPs had a degree of awareness regarding the various causes of obesity, the difficulties of being overweight and the effects of obesity and weight bias on one’s mental and physical health, and even so, the results indicated an increase in anti-fat attitudes following exposure to the empathy evoking video. Perhaps participants’ anti-fat attitudes became more negative, as viewing the intervention video featuring obese actors evoked earlier memories of experiences with patients and people who are overweight and obese. It could be speculated that the experimental intervention video elicited negative feelings, such as repulsion or disgust for the experimental group participants. This is in line with research by Teachman et al. (2003) who highlighted that in attempts to evoke empathy, the portrayed negative evaluations of an obese person may have served to reinforce rather than diminish weight bias. Daníelsdóttir, O’Brien and Ciao (2010) add that if anti-fat attitudes are evoked through judgments based on unacceptable physical appearance and justified by attributions and stereotypes, then future research examining whether there may be a relationship between anti-fat attitudes and a core emotion such as disgust, with its link with morality, is necessary.

Daníelsdóttir, O'Brien and Ciao (2010) note that researchers have sought to apply this empathy evoking strategy to anti-fat attitudes via appeals to the more compassionate, social and accepting side of human nature (Gapinski, Schwartz & Brownell, 2006; Hennings et al., 2007; Rukavina, Li & Rowell, 2008). Therefore, this appeal could not be more appropriately targeted with a population of 65 accepting, compassionate, non-judgemental and empathic MHPs. Post-intervention testing, however, highlighted that the participants within the experimental intervention group reported an increase in negative explicit anti-fat attitudes after exposure to the video. It can therefore be speculated that an explicit preference for individuals of a more 'normal' weight or BMI does not necessarily imply that these MHPs devalue patients who are overweight or obese, it may simply be more about their preference of one BMI category over another.

Even with MHPs being accustomed to the research process, data collection and similar testing environments, it could be assumed that those aware and ashamed of their biased views, or fearing increased perceptions of judgement from others may try harder for more positive outcomes on the explicit attitude measures. However, the explicit attitude measures, despite being susceptible to demand characteristics, revealed that the experimental group participant's anti-fat attitudes became more negative. Exposure to an empathy evoking video of an obese woman being discriminated against by her GP and nursing staff because of her weight, resulted in an increase of negative explicit anti-fat attitudes for the experimental group participants of this study, compared to participants in the control group. While individuals will unconsciously harbour latent preferences with regard to weight, explicit attitudes considered controversial can be more susceptible to social desirability concerns (i.e. it could be assumed that MHPs would make a concerted effort to not be weight biased, to be perceived more positively by their peers and colleagues). Interestingly, despite weight bias

towards patients being a potentially sensitive topic for some to explore, especially among those working within mental healthcare, social desirability did not appear to play a significant role in this study, as participants' explicit anti-fat attitudes shown to become more negative post-intervention video. Therefore, despite potentially appearing socially undesirable, it can be assumed that these MHPs responded to this study's test measures honestly, as there would be no advantage of professionals working within mental healthcare to purposefully want to come across as negatively weight biased towards their patients. While we could expect participants to be self-conscious, MHPs are trained to be reflexive and would therefore potentially be more reflective than other study sample groups that have been included in similar studies. This being said it can be speculated that the MHPs responses to each of the explicit attitude measure items, would have been taken seriously with much deliberation.

From pre- to post-intervention testing, response consistency is apparent. Prior to exposure to the experimental video, explicit attitudes were shown to be significantly negative, and after exposure the attitudes only became more negative. It could be speculated that perhaps participants simply remembered their responses to the items making up the explicit attitudes measures at pre-intervention testing, and repeated these at post-intervention testing. Or perhaps the participants' attitudes remained negative as anti-fat attitudes have been shown to be robust, with weight bias remaining a stubborn problem (Dánielsdóttir, O'Brien, & Ciao, 2010; Lee, Ata, & Brannick, 2014). This attitude 'robustness' may be explained by the Elaboration Likelihood Model (ELM; Petty & Cacioppo, 1986) of persuasion and attitude change, whereby messages are received by a recipient, but if the recipient has a strong, negative attitude toward the position proposed by the message, a boomerang effect occurs whereby the recipient resists the message, and may move away from the proposed position (Griffin, 2012). It could be speculated that in attempting to evoke empathy toward the

overweight and obese, in order to reduce MHP's weight bias, exposure to the experimental video challenged the participant's perceptions of obesity, resulting in even more negative perceptions post-intervention. What also needs to be considered is the fact that post-intervention testing was carried out immediately after participants had completed watching the control and experimental videos. As attitudes have proven to be difficult traits to change, with anti-fat attitudes proving robust (Lee, Ata, & Brannick, 2014), this immediacy effect had to be considered when interpreting the study's results. With such a short break between intervention and re-testing, it could be postulated that there was no time or not enough time for any sort of attitude shift. Perhaps allowing more time to lapse between the intervention and re-testing would have had an impact, but only further research factoring in timing effects of the intervention would reveal whether longer breaks between pre- and post-intervention testing would have allowed participants time to digest the video content, and potentially have reduced their anti-fat attitudes. Further studies are also needed to investigate the possibility that perhaps the increase in explicit anti-fat attitudes in this study was due to immediate post-intervention testing.

The experimental intervention video used in this study, created by the Rudd Center for Food Policy and Obesity at Yale University, was initially designed to expose weight bias in healthcare as well as raise awareness of the sources and consequences of this weight bias within healthcare settings. It features both Dr Puhl and Professor Brownell providing expert commentaries on how stigma can affect individuals with obesity. During the piloting stage of this study, participants reported during de-briefing that they were alarmed by the body shaming content of this experimental intervention video, and stated that they had felt sad, upset and angry after realising the extent of weight bias patients who are overweight and obese encounter in healthcare settings, by those employed to help. While no previous

research was found whereby this specific empathy evoking weight bias video had been used to impact participants' anti-fat attitudes, a similar video excerpt from HBO's *The Weight of the Nation* documentary was used by Burmeister, Taylor, Rossi, Kiefner-Burmeister, Borushok and Carels (2016). They found that among other factors such as first-person accounts, expert commentary and expert opinion, evoking empathy proved effective at reducing weight bias. Despite the first-person accounts, expert commentary, expert opinion and evoked empathy of this study's experimental video, an increase in explicit weight bias among the same participants reporting their alarm, anger and outrage at the weight bias and discrimination the patients who are overweight and obese portrayed in the experimental video were seen to face. One could therefore speculate that perhaps this study's experimental video was not empathy evoking enough. Perhaps the content was shocking and alarming, but not empathy evoking enough to modify one's attitudes. Gapinski, Schwartz, and Brownell (2006) noted that when depictions of obese characters were overly stigmatising, this led participants to feel empathy for those characters. While Werkhoven et al. (2016) highlight that in a review of weight bias research, they noted the possibility of unintentional increases in anti-fat attitudes due to exposure of weight stigmatising beliefs and behaviour.

While this study's results indicated a significant difference in explicit attitudes from pre- to post-intervention testing due to the video intervention, the direction of this significant effect was not in the direction initially hypothesised. This important, but unexpected, finding showed that the intervention effected the experimental group participants' explicit anti-fat attitudes in that they became more negative. Thus, whilst these results were a surprise, this video still had a worthwhile effect on its participants in that its content increased the experimental group participants' explicit anti-fat attitudes. The current study's intervention may potentially not have been empathy evoking enough to lessen participant anti-fat

attitudes, Daníelsdóttir, O'Brien and Ciao (2010) highlight that it is also possible that evoking empathy is a relatively ineffective strategy for anti-fat attitude reduction simply because it emphasises the negative sides of being overweight. Daníelsdóttir, O'Brien and Ciao (2010) add that anti-fat attitudes are in part attributable to perceiving obese individuals as 'weak' (e.g. lazy, lacking self-control) and portraying them as pity worthy may merely reinforce the 'weakness' stereotype. Therefore, it may be more effective to invoke feelings of acceptance, equality and respect for obese individuals when challenging anti-fat attitudes, rather than evoking empathy or pity (Daníelsdóttir, O'Brien & Ciao, 2010). This highlights an area needing further exploration to determine potential effectiveness.

4.1.3 Sub-Hypotheses

There were 5 sub-hypotheses and two lines of enquiry to be considered regarding potential significant differences in participant's explicit and implicit anti-fat attitudes across various demographic variables, they were: (3a) overweight and obese participants would indicate more negative anti-fat attitudes towards patients who are overweight and obese, (3b) younger participants would hold more negative anti-fat attitudes towards their patients who are overweight and obese than the older participants, and (3c-e) there would be differences among ethnicity groups, sex and occupational approach with regard to the level of negative explicit and implicit anti-fat attitudes. The additional lines of inquiry pertain to differences in anti-fat attitudes dependent on (1) whether a participant worked privately or for the NHS, and (2) whether a participant considered to be currently working with patients who are overweight or obese.

At pre-intervention testing, age and occupation were the only two demographic variables which demonstrated statistically significant differences in participants' explicit anti-

fat attitudes. More specifically, the ‘Young Adults’ and the ‘Counsellors’ indicated greater negative explicit anti-fat attitudes. These results have been considered within the discussion of Hypothesis 1 (see section 4.1.1). The null hypothesis was rejected for sub-hypotheses 3b and 3e, with the researcher failing to reject the null hypothesis for sub-hypotheses 3a, 3c and 3d. No significant differences were found for MHPs working privately, or for those working at NHS, and no significant differences were found for those who did or did not report to currently work with patients who are overweight or obese. At post-intervention testing, no statistically significant differences in participant’s explicit and implicit anti-fat attitudes in either the control or experimental were found across the various demographic variables. Therefore, the researcher failed to reject the null hypothesis for sub-hypotheses 3a-e. No significant differences were found for MHPs working privately, or for those working at NHS, and no significant differences were found for those who did or did not report to currently work with patients who are overweight or obese.

While no significant differences were found for BMI (sub-hypothesis 3a) in the main findings at pre- or post-intervention, the descriptive statistics highlighted that the ‘Obese’ participants were more explicitly weight biased than the other BMI categories pre- and post-intervention testing. This is in line with earlier research which found that overweight and obese participants indicated more negative anti-fat attitudes towards their patients who are overweight and obese (Wang, Brownell & Wadden, 2004; Carels, Hinman, Koball, Oehlhof, Gumble & Young, 2011; Latner, Stunkard and Wilson, 2005). While the findings were not statistically significant for this study, it is interesting to consider the descriptive statistics and speculate whether this difference may be due to an absence of ‘in-group’ bias or a lack of positive social identity among overweight individuals (Crandall, 1994; Carels et al., 2011; Latner et al., 2005). Blaine and Williams (2004) noted that overweight participants exhibiting

negative explicit attitudes toward overweight individuals could be understood in the context of the justification-expression theory of the expression of prejudice (Crandall & Eshleman, 2002), whereby beliefs about the controllability of weight is a social norm that correlates with and justifies the expression of prejudice against heavy people. It is worth bearing in mind that of the 122 participants, only 2 were categorised as 'Obese'. The descriptive statistics of this study also revealed that at both pre- and post-intervention testing, the 'Underweight' participants held the most negative implicit attitudes. This is in line with Tajfel and Turner's (1986) Social Identity Theory whereby individuals express a more positive evaluation of members of their own group than members of the out-group in terms of 'in-group favouritism'. Crandall and Martinez (1996) highlight that the belief that weight is controllable, combined with cultural values on beauty and thinness, result in widespread prejudice and weight discrimination toward the overweight and obese. Of the 122 participants in this study, only 10 were categorised as 'Underweight', but even so, one can could speculate that perhaps continued exposure of society derogating obese individuals and glorifying thinness, may have led those of lower BMIs to hold more negative implicit attitudes. Brown, Stride, Psarou, Brewins, & Thompson (2007) found that even nurses with lower BMIs expressed more negative perceptions of obesity. While it is unknown whether these 10 participants are categorised as 'Underweight' due to genetic make-up, illness, or physical training, these participants may be more content with their weight due to various health and physical benefits, the avoidance of societal weight discrimination, and consider their body shape to be closer to the societal 'ideal' than their overweight and obese counterparts. Research also shows that overweight people evoke negative emotional reactions in others, such as, pity, fear, disgust and hostility (Allon, 1979; Hiller, 1981; Weiner, Perry & Magnuson, 1988).

While no significant differences were found for ethnicity (sub-hypothesis 3c) in the main findings at pre- or post-intervention, the descriptive statistics highlighted that across the 3 explicit attitude measures, the ‘White’ participants were more explicitly weight biased than the other ethnicity groups at pre-intervention testing. This is in line with earlier research that has shown ‘White’ participants demonstrating higher weight bias than the participants from other ethnic groups i.e. Black, Asian (Hart, Sbrocco & Carter, 2016; Van Den Berg, Neumark-Sztainer, Eisenberg & Haines, 2008; Latner et al., 2005). This data could be expected as it is in concert with traditional Caucasian European norms that equate thinness with health and beauty (Hart, Sbrocco & Carter, 2016). Continuing to consider the group means, the ‘Mixed’ participants however were more explicitly weight biased than the other ethnicity groups at post-intervention testing. Of the 122 participants, 101 were categorised as ‘White’ and only 5 were categorised as ‘Mixed. Whilst these descriptive statistics are not highlighting statistical significance, it is worth bearing in mind that while the group means showed slight differences, this data comes from unbalanced samples, and therefore generalisability is questionable. The descriptive statistics of this study also revealed that at both pre- and post-intervention testing, the ‘Black’ participants held the most negative implicit attitudes when compared to the other ethnicity groups. It is worth bearing in mind that only 3 of the 122 participants in this study were categorised as ‘Black’. While the descriptive data does not highlight statistical significance, this result is noteworthy as it was unexpected. Hart, Sbrocco and Carter (2016) note that with African Americans, especially those with high ethnic identity, weight bias is significantly less than other ethnic groups. They add that less bias matches traditional beliefs and norms for African Americans with whom being “big” is considered beautiful, healthy and perhaps even necessary to ward off potential disease and illness. It is worth speculating that perhaps these 3 participants living in

London had become more ‘Westernised’ in their attitudes towards body shape and weight due to societal influences.

While no significant differences were found for sex (sub-hypothesis 3d) in the main findings at pre- or post-intervention, the descriptive statistics highlighted that the female participants were more explicitly weight biased than the male participants pre- and post-intervention testing. This is surprising, as earlier research has largely found that male participants hold more negative anti-fat attitudes towards their patients who are overweight and obese (Lieberman et al., 2012; Hebl et al., 2008; Hague & White, 2005; Latner et al., 2005). While not statistically significant, it is interesting to consider this data as 80% of the study’s participants were female. It could be speculated that this difference may be due to the fact that preoccupation with weight gain and body image is more of an issue for woman than men. Already mentioned is that overweight people may possibly evoke negative emotions such as fear and disgust (Allon, 1979; Hiller, 1981; Weiner, Perry & Magnuson, 1988), while there is also literature highlighting women’s hate and fear of weight gain (Guille & Chrisler, 1999; Hesse-Biber, 2007). It can be speculated that this hate and fear of weight gain has to do with the extent women experience weight bias, with Puhl, Andreyeva and Brownell (2008) noting that it only takes a modest weight gain for a woman to experience weight discrimination. Considering the role of feminism, Orbach’s (1978) self-help book, *Fat is a Feminist Issue* (1978), helped women see their private struggles with hatred of their bodies as rooted in the social constraints placed on women’s autonomy and the patriarchal devaluation of all things feminine (including fat bodies). The descriptive statistics for post-intervention testing however highlight that while the female participants were more implicitly weight biased at pre-intervention testing, after the intervention video the male participants were more implicitly weight biased. This could indicate that the study’s results were potentially more in

line with previous research than originally thought. While this study's sample is unrepresentative, Banaji and Greenwald (2013) draw attention to the building evidence indicating that implicit attitudes are at least moderately good at predicting real-world behaviour, independent of the effects of people's explicit attitudes.

Lastly, it is worth considering the descriptive statistics for the additional two lines of inquiry. (1) What became evident when considering differences in attitudes between those working for the NHS and those working privately, is that at pre-intervention testing, MHPs working for the NHS were more explicitly and implicitly weight biased toward patients who are overweight or obese. At post-intervention testing however, while those working for the NHS continued to show more negative implicit weight bias, MHPs working privately were shown to hold more negative explicit attitudes toward their overweight or obese patients. While no related research exists to compare to or refer to, and the differences between these non-significant findings are small, it is worth speculating whether the mental healthcare setting, training or workplace ethos could play a role in these subtle differences. Further research is necessary. (2) What became evident when considering differences in attitudes between those working with overweight patients and those who are not, is that at pre- and post-intervention testing, MHPs working with overweight patients were shown to hold more negatively explicit weight bias toward their patients, while those who did not report working with overweight patients were shown to hold more negatively implicit weight bias toward their patients, at both pre- and post-intervention testing. While these findings are not statistically significant, further research in this area is needed because there may be more to these results. 98 of this study's 122 participants claimed to currently work with overweight or obese patients, so while the findings may not be generalisable due to disproportionate sample

sizes, the fact that those working with patients of a greater BMI report to be more explicitly weight biased is of concern.

4.2 Strengths and Limitations of the Study

4.2.1 Strengths of the study

A strength of this study was that both explicit and implicit attitudes were examined. As this study's explicit attitude measures were self-report questionnaires and therefore potentially vulnerable to response bias, social desirability concerns, political correctness and other demand characteristics (Schwartz et al., 2003), an implicit attitude measure (IAT) was also considered. By measuring the participants' implicit attitudes, the strength of the study proved more superior as these implicit evaluations occur without conscious awareness. This means that while one can choose to hide their true explicit attitudes should they wish to, implicit attitudes are more reliable in predicting behaviour, negating demand characteristics and response biases. Explicit and implicit attitudes are distinctly different (e.g., Bessenoff & Sherman, 2002) and predict different behaviours. Therefore, while other research (e.g., Diedrichs & Barlow, 2011) attempting to reduce anti-fat attitudes failed to include the measurement of implicit attitudes, this study measured both, an important inclusion for expanding on the existing weight bias research. The IAT is well-validated measure of implicit attitudes, and while no test is perfect the IAT has shown to be user friendly, in that it is easy to carry out and interpret. Should accessibility to computers be problematic in certain testing environments, the alternative is to administer the pen and paper IAT variant. The IAT is considered a good predictor of discriminatory attitudes used to measure a variety of attitudes (doping, racism, disability, gender, brands), and it is reportedly not susceptible to deception or self-presentation strategies.

This is the only study which examines, evoking empathy as an intervention to reducing anti-fat attitudes among those working within mental healthcare settings. As such, the results could only add to and expand on the existing weight bias research among those working as healthcare professionals. Despite the ineffectiveness of the experimental intervention video in reducing anti-fat attitudes, the study did highlight the fact that evoking empathy through raising awareness of weight discrimination in healthcare settings could potentially result in an increase in anti-fat attitudes. Similarly, Gapinski, Schwartz and Brownell (2006) found that weight bias persisted despite two video interventions (an empathy evoking video of obese persons and a non-weight-related control video). While this study's findings did not support Hypothesis 2 in that at post-intervention testing those in the experimental groups would report greater decreases in their explicit and implicit anti-fat attitudes compared to the control group, what the results did highlight was the fact that exposure to scenes of patients who are overweight or obese, experiencing weight discrimination by healthcare professionals maintain and potentially exacerbate anti-fat attitudes.

This study is experimental; therefore, the methodological design and techniques within such quantitative research had to be carefully thought through. Parametric statistics (SPSS Version 23, 2015) allowed for an exploratory correlational research study whereby the explicit attitude measures were carried out before administering the IAT. Thus, the study allowed for the assessment of not only a minimally explored area of research (explicit and implicit weight bias among mental healthcare professionals), but also the impact of an experimental intervention. This study thus adds to the urgent and necessary call for suggestions or new directions in researching anti-fat attitudes and weight bias (Dánielsdóttir, O'Brien & Ciao, 2010). With the widespread prevalence of weight bias demonstrated in previous research (e.g. Puhl & Brownell, 2001), Dánielsdóttir, O'Brien and Ciao (2010)

highlight the lack of reduced anti-fat attitudes following most interventions. This study adds to others like it, suggesting that there are potentially psychological mechanisms other than, or additional to, those being manipulated in this particular study which may underpin anti-fat attitudes and weight bias. Given the strength of antipathy toward those who are perceived as overweight or obese, Daníelsdóttir, O'Brien and Ciao (2010) highlight that research pertaining to this psychological mechanism is an example of an area urgently required further inquiry. Daníelsdóttir, O'Brien and Ciao (2010) add that while weight bias interventions adopting social norm- and social consensus-based approaches appear encouraging, they are scarce.

This study's participants will have either attained higher levels of education and/or professional qualifications. While some may not have completed a Master's degree or Doctorate, they may potentially have had experience in designing and administering their own research studies, or have assisted those 'in training' by regularly learning about and/or participating in trainee's research and data collection. This meant that most, if not all participants would be used to participating in and/or carrying out psychology-based experiments and manipulations, as well as being familiar with the related ethical considerations. Part of the researcher's role meant that each testing location needed to be controlled, with regard to monitoring timings, research procedures and participant behaviour. While the researcher had to be present throughout testing at each of the 125 participants' locations, their familiarity to this kind of testing environment helped the process. Participants' previous experience resulted in the researcher not needing to provide as much support, reassurance or explanations and the participants also appeared less anxious and more confident throughout the briefing, testing and debriefing stages. The researcher noted that familiarity with standard psychological testing environments appeared to lead to less

confusion about what was required from each participant when compared to testing the pilot study participants. While no similar studies were found whereby extraneous factors such as participant performance anxiety, miscommunication or inaccurate test completion affected the study, these factors were initially a concern for the researcher. It soon became apparent, however, that these ‘research-sophisticated’ MHPs competently and thoroughly completed all tasks without any of the above mentioned extraneous factors appearing to affect the study outcomes.

4.2.2 Limitations of the study

Testing locations generally proved unproblematic, however, there were a few occasions whereby limited or no internet access became an issue. As all testing was done online, having a strong internet connection was imperative. Testing usually took place at locations unfamiliar to the researcher. Therefore, without asking participants about a location’s internet reception beforehand, there was no way of knowing whether problems accessing the online attitude measures would be encountered. Assuming all test locations would have adequate Wi-Fi was a mistake. In instances, whereby internet reception was poor or non-existent, the researcher could access the internet using an Apple iPhone’s personal hotspot. However, on reflection, volunteer participants should have been informed that testing in basement or lower ground offices would not be appropriate, as internet strength was likely to be so weak that the test measures would fail to load. On two occasions, testing had to be rescheduled. On these two occasions basement testing was the only location option, and unfortunately being so removed from internet reception range meant that even the Apple iPhone’s personal hotspot failed to load. There were also three instances whereby the Inquisit 4 Web Player (Millisecond Software, 2015) failed to save participants’ data at post-intervention testing. This unfortunately was not something that could have been predicted or

prevented, and the programme malfunction resulted in three participants' data having to be removed from the study. These participants could have been re-tested at another time, but as testing was lengthy, the three participants declined the offer. Technical difficulties were unfortunately a limitation that this study had to contend with. Some NHS test locations had multiple volunteers, which due to time constraints had to be tested simultaneously. Other than the researcher's laptop, the NHS Trust computers or participant's Apple Macs were the only solution for multi-testing. Apple Macs unfortunately distorted the formatting of the questionnaire items so severely completing the explicit attitude measures was impossible, and the NHS Trust computers had impenetrable firewalls which made it impossible to access many external webpages, and this included access to the study's attitude measures. This was really limiting as simultaneous testing proved impossible. This meant that the study's testing format was not conducive to administering the explicit and implicit attitude measures at all times, given the specific requirements needed to administer the tests. Alongside measurement issues encountered, another limitation to consider is the testing organisation of the researcher.

The researcher's laptop had to be fully charged each morning, especially on days with back-to-back testing. With travelling all day from location to location and one-to-one testing lasting up to 45 minutes, the laptop constantly needed adequate energy to allow for test completion. This occasionally required that a participant be sat near a plug point (if possible) during testing. As already mentioned, one-to-one testing took on average between 35-45 minutes so testing sessions could be considered quite lengthy for some participants. One-to-one testing was also very timely for the researcher. The researcher travelled all over Greater London to be physically present at each test location. This was to ensure that each participant was fully briefed / debriefed, any questions, or concerns were answered, interruptions were controlled for or eliminated, the test was correctly loaded (as it caused confusion for those

unfamiliar with the programme), and as the IAT was a timed response task, the researcher had to ensure that each participant completed the attitude association task as quickly as they could without stopping or taking a break.

It is also worth considering generalisability, in that this study's sample was not representative of the general population. The sample was however representative of the specific industry sector, in that roles within the mental health professions are largely occupied by white women. As this study's sample was mostly women (80%) and mostly white (83%), the grouping categories making up the independent variables were unbalanced. Therefore, prior to running the various SPSS tests, the more unequal grouping categories such as BMI and ethnicity were re-categorised (e.g., combining four of the five ethnic groups to create 'White' and 'Other'). While a strength of the study was that the sample was made up of qualified MHPs experienced and knowledgeable to some extent with regard to research experiments and manipulations, these MHPs may also potentially be more self-aware and reflective than participants from a more general population. Participants which are potentially more self-conscious and analytical may be a limitation to the study as they could over-think the aims of the study, or question and amend their explicit attitudes from pre- to post-intervention testing.

While the measures selected were appropriate with regard to the aims of this study, they were not without their limitations. Computer-based testing is not always user-friendly in that it would most certainly exclude certain participants. It was therefore important to consider that those with visual and/or auditory impairments would have trouble with this method of testing (e.g., green and white wording categorising the IAT stimuli/words; hearing the experimental video's content). There was also the possibility of slower responses on the

timed IAT tasks for those less IT competent and/or confident. With regard to the choice of questionnaires - while relevant to the study in question, some of the scale items were phrased as double negatives (e.g., 'Most obese people are not dissatisfied with themselves'), which participants reported needing to carefully think about, to ensure they responded accurately. Participants also reported feeling that the explicit attitude measures consisted of too many loaded items with no context (e.g., 'Obese people tend to have family problems'), and that they had to take a position rather than remaining neutral to items. While previous studies have reported good validity and reliability using each of the three explicit attitude measures (Puhl & Brownell, 2006; Bacon et al., 2001), factoring in possible human error and the fact participants felt that they were forced to select certain responses, the researcher could not help but question the validity of the explicit attitude measures in this instance. It is also worth considering that the F-Scale (Fat Phobia Scale–Short Form) “focuses on the most negative stereotypes about fat people” (Bacon et al., 2001, p. 255), which may be the most ingrained or resistant to change. A limitation with regard to the IAT pertains to the selection of ‘concept’ and ‘attribute’ words/stimuli. Words considered ambiguous with regard to categorisation (e.g., while ‘Death’ may be considered an ‘unpleasant’ word too many of the participants, others may view ‘Death’ as a relief/release from pain; various cultures view death as positive i.e. reincarnation) may have caused confusion for participants. ‘Grief’ and ‘Pain’ were another two words categorised as ‘unpleasant’, which dependent on the participant can also be seen as ‘pleasant’. Another limitation to consider is with regard to carrying out both the pre- and post-intervention testing in one test session. Being tested twice in quick succession may have led to practice effects and/or timing effects. The participant’s memory may be able to recall the agreed attitude from pre- to post-intervention testing, and while this study was cross-sectional rather than longitudinal, the researcher has to consider the given length of time between pre- and post-measures being administered to both groups.

A break between the two sets of testing may have also reduced fatigue and allowed enough time to reinforce the empathy manipulation. This study's three explicit attitude measures were self-report questionnaires and therefore potentially vulnerable to response bias, experimenter bias, social desirability concerns, political correctness and other demand characteristics (Schwartz et al., 2003), all of which might reduce the reliability and validity of responses. To overcome this limitation, an implicit attitude measure was also considered.

It would have also been worth considering alternatives to utilising BMI, which has many weaknesses. Limitations include: an inaccurate measure for (1) those not of average adult height (i.e. the very tall and very short), (2) those with a high proportion of muscle (i.e. athletes may indicate a very high BMI which is not indicative of their fitness or general health), (3) those under the age of 18 years, and (4) those who are pregnant or nursing (NHS Choices, 2016; WHO, 2014;). As BMI does not account for different body shapes which do not necessarily have anything to do with excess body fat, the study's BMI measurements may be inaccurate. The researcher encountered this with one very heavily pregnant participant, so instead of taking her current weight measurements, this participant was only measured for height and then provided a self-report pre-pregnancy weight measurement. This was done as the participant's weight gain was considered temporary, and had nothing to do with her pre-existing levels of explicit and implicit weight bias. While considered a relatively straight forward and simple formulation ($BMI = \text{mass (kg)} / \text{height (m)}^2$), calculating an individual's BMI should be carried out by those working within the medical professions. Therefore, the researcher's competency in this case could be queried. Calculating each participant's BMI while not being a trained health practitioner (i.e. nurse, health visitor) is considered a limitation. There are also alternative tools researchers could utilise instead of, or in combination with BMI categorisation, these include: Body Adiposity Index, Waist-to-Hip

Ratio or the Waist Circumference Measurement. While these alternatives provide indications of an individual's degree of body fat, they are not free of limitations and may not be the most logical or practical option for all research studies. The Body Adiposity Index (BAI) is a ratio of hip circumference to height which is strongly correlated to an individual's body fat percentage and while widely believed as more accurate than BMI, this measurement provides 'approximates' which are still in need of further research and development with regard to a wider demographic of subjects (Rahmat, 2017). The Waist-to-Hip Ratio (WHR) which calculates the amount of fat one has around their waist cannot be used to assess pregnant women, individuals who have had liposuction to the waist or hips, or used straight after an individual have eaten as any artificial increase to a participant's waist or hips circumference will not lead to an accurate measurement (Bailey, 2015). Brasseur (2007) highlighted that the utility of the waist circumference measurement is not to replace BMI or WHR, but that it should be used in conjunction with, as it is only a partial predictor and not an independent predictor of obesity-related disease.

The IAT is considered a predictor of discriminatory attitudes, reportedly unsusceptible to deception or self-presentation strategies. It should be considered, however, that as this study's participants work within the field of psychology there is the possibility that they may be familiar with the test, and therefore could impact test outcomes. Should discrimination and attitude bias be research areas of interest, or should participants have been involved in similar studies, these MHPs potentially familiar with the IAT may recall that reaction times determine the test outcomes. Should the participants' pre-intervention results highlight that they hold negative implicit anti-fat attitudes, they could in theory slow down or speed up their association responses if they wanted the post-intervention results to differ in one direction or another. IAT reaction times could also potentially be influenced by other

factors, such as participants becoming bored, distracted, or confused when test is reversed. Age and cognitive ability could affect reaction times too. While it has been mentioned that the IAT is considered to be user friendly, it does however rely on the researcher's interpretation. It is also worth considering that participants may be more likely to associate positive attitudes with familiar concepts (e.g., due to the effects of specific media exposure, resulting in societal views rather than personal views). The IAT is limited to testing only two opposing categories / stimuli, and it also requires a certain number of correct responses in order to get results, therefore if participants made too many errors while completing the test, the feedback would report that there were too many errors to determine a result.

Lastly, while qualitative research methods cannot generalise findings, quantitative research methods do not allow for the exploration of affective experiences. Quantitative research methods, do not allow participants to give in-depth explanations, and the study's researchers cannot explore the various phenomena which may arise from the data. The structured questionnaires used (ATOP; BAOP; F-Scale) also meant that participants only had a limited number of responses along a Likert scale (e.g., -3 to +3; from 'I strongly disagree' to 'I strongly agree'). The response options selected during development of these questionnaire scales (Allison et al., 1991; Bacon et al., 2001), also failed to include a 'Neutral' response (Vagias, 2006). This meant participants were forced to pick an option on either the lower or higher end of the rating scales offering their attitudes (i.e. to 'agree' or disagreed) to varying degrees. Forcing participants to take a stance could have potentially biased the study's end results as truly neutral people had to select a category which may not have truly represented their opinion. Feedback from some participants after testing included that they would have liked to remain impartial on some of the scale's items. Testing fatigue also had to be considered, as administering and completion of the assessment battery took the

researcher and participants between 35-45 minutes.

4.2.2.1 Problems with research and theory

While it is questionable whether attempting to evoke empathy was the right approach, the experimental video in this study was designed to be emotive in order to work as an intervention. There was however the possibility that some participants may have found the video's content too sensitive or offensive, and instead of evoking empathy the video content may only have activated negative feelings (repulsion/disgust) and discomfort for the participants. Perhaps in attempting to evoke empathy participants were reminded of (1) negative experiences with individuals who are overweight/obese; or (2) negative characteristics and evaluations (e.g. pity) of individuals who are overweight/obese which only reinforced the stereotype of being weak. Thus it may potentially have been better to attempt evoking feelings of acceptance, respect or equality, with Danielsdottir et al., (2010) adding that appealing to the compassionate side of human nature may have been more effective. Given the direction of effect was not what was expected (i.e. participants' explicit attitudes becoming more negative post-intervention), future studies could consider obtaining feedback from the experimental group participants for verification of what emotions and/or reactions were evoked by the video. In fact, it remains unclear as to what was evoked from this study's intervention video, if not empathy. There is also the possibility that this study's intervention video was not overly stigmatising enough for the MHPs and that perhaps further testing, and development was necessary. Without evidence from previous studies regarding whether the video's content would be effective enough in evoking empathy, perhaps a full-scale evaluation of the intervention itself would have been warranted, whereby weaknesses would have been identified and the video would have been further refined, to a point where it could reasonably be expected to have a worthwhile effect (Medical Research Council, 2006).

The Medical Research Council (2006) discusses how frameworks for intervention development and evaluation may be useful for future studies, in that guidance on the development, piloting, feasibility, evaluation, reporting and implementation of complex interventions to improve health is provided. Taken into account is the valuable experience accumulated, and extending the coverage in the guidance of complex interventions outside the health service. These frameworks are intended to help researchers (1) choose appropriate methods, (2) understand the constraints on evaluation design, and (3) weigh up the available evidence in light of these methodological and practical constraints.

Following on from the appropriateness of the empathy evoking intervention, it would also have been worth considering the difference between affect and cognition within this study, and whether certain emotions (e.g. disgust) toward patients may have potentially interfered with the MHPs clinical work. De Dreu, Baas and Nijstad (2008) explain that while cognition is the mental activity of processing information, whereby one is able to consciously form attitudes, interpretations and judgement (i.e. liking / disliking a person, thing, or group) through analysis of sensory information, affect are the feelings we experience every day, which are both reactive and outside of conscious thought. Affect includes emotions which while short lived, are intense, caused by specific events and accompanied by high levels of arousal (De Dreu, Baas & Nijstad, 2008). While Batson and Ahmad (2009) explain that increased empathy may reduce stereotypes and prejudices of stigmatised groups via cognitive components by reducing blame or controllability attributed to targets for their situation or status), Pettigrew and Tropp (2008) highlight that empathy may function through more emotional components such as decreasing participants' anxiety felt toward the target. So while MHPs may hold certain cognitions regarding their patients and their patient's weight, perhaps this study could have paid more attention to the MHPs emotions (e.g. disgust,

distaste, contempt or anger), as these emotions may have potentially interfered with this study's measures of weight bias, and may also be interfering with the MHPs clinical practice. Iyer and Leach (2008) highlight that emotions form an important part of stereotyping, prejudice and intergroup relations.

In a study by Vartanian, Thomas and Vanman (2013), participants indicated the extent to which they felt disgust, contempt and anger toward people who are obese. Of the three emotions only disgust was a significant positive predictor of obesity stereotypes, and therefore shown to play an important role in negative attitudes toward people who are obese. Rozin, Lowery, Imada and Haidt (1999) indicate that disgust is a 'moral emotion', which is related to prejudice toward various social groups that are uniquely associated with violations of social norms or moral standards (Hutcherson & Gross, 2011). In fact, a study by Krendl et al. (2006) found activation in brain regions associated with disgust when participants viewed images of individuals who are obese. Considering these findings, this study may potentially have benefited from getting participants to indicate the extent of disgust they felt toward obesity prior to and potentially after testing. While all participants were practicing MHPs and potentially more self-aware and reflective than other target groups within the general population, what was learnt reviewing weight bias literature is that no one is immune to weight bias and anti-fat attitudes. Pope, Sonne and Holroyd (2005) highlighted that a therapist experiencing feelings of disgust during their clinical work, may, as practitioners find it "exceptionally difficult to acknowledge these feelings" (p. 142), as feelings of disgust toward a patient who is overweight or obese would not be consistent with the MHPs notion of a caring, empathic professional whose role it is to help those in need. Ignoring the presence and impact of disgust toward a patient because of their weight could be detrimental to the trust and rapport built within all therapeutic alliances. In fact, one of Yalom's (1991) patients

who he had reported being disgusted by, responded acknowledging complete awareness from their initial encounter of how he felt towards her “ *‘didn’t feel comfortable’ – that’s putting it mildly. Do you know that for the first six months you hardly ever looked at me? And in a whole year and a half you’ve never – not once – touched me? Not even for a handshake!’* ” (p. 115). While it is important to consider the impact of an emotion such as disgust being present while working with patients, MHPs realising they feel disgusted by their patient's weight would no doubt result in feelings of anger, shock, guilt, anxiety and confusion about boundaries. It could thus be speculated that an emotion such as disgust would not only be shown to impact the MHPs clinical work, but had disgust been measured for within this study, the presence of this emotion may potentially have impacted the study’s results. Disgust and the implications of MHPs holding such an emotion toward their patients who are overweight and obese was overlooked in this study, however future studies would benefit greatly by including measures which assess the presence and extent of disgust.

Perhaps another area of research overlooked was the role of compassion, and how it may potentially impact weight-related prejudice. In considering ways to address reducing weight bias and stigma in British Columbia’s healthcare system, MacKean and GermAnn (2013) note that working with patients in a safe and compassionate manner is key. They add that self-awareness i.e. personal and professional self-reflection and understanding of one’s own biases and attitudes about weight, and the extent to which they are manifested in is important if we are to ensure that our weight-related assumptions do not impact the care provided to patients. MacKean and GermAnn (2013) also found that what emerged as a dominant theme was that patients who were overweight wanted to be treated like human beings, with health professionals “checking their bias and judgement at the door”, and looking beyond the weight to see the person. Patients who were overweight and obese

reported wanting to be treated with dignity, respect and compassion by healthcare professionals. With this in mind, it could thus be speculated that within this study, perhaps attempting to elicit compassion among MHPs (rather than empathy) may have shown to be more effective in impacting anti-fat attitudes.

4.3 Direction for Future Research

In reviewing the weight bias research which currently exists, there appeared to be an imbalance of literature. This imbalance refers to the extensive number of weight bias research studies carried out solely in the USA, as well as the quantity of studies focussed on weight bias within the medical healthcare professions. To correct this imbalance, further research is necessary. There are many interesting weight bias studies which have either been (1) carried out in the USA and so need to be replicated in the UK and elsewhere in the world, to determine whether the US-based results can be generalised internationally; or (2) focussed on weight bias held by those working within medical healthcare, and so need to be replicated among those working within mental healthcare, to determine whether the results found can be generalised across other healthcare professions. For an evaluative standard, there needs to be normative data. Therefore, it has to be determined where MHPs and specifically counselling psychologists fit, when being compared to nurses, physicians, physiotherapists, dentists etc.

Weight bias studies date to the 1960's (Richardson, Goodman, Hastorf & Dornbusch, 1961) and so can be considered a relatively 'young' area of research. With less than 60 years of weight bias investigation, there are bound to be gaps in the literature needing consideration, with scope for many novel and innovative research studies. Weight bias within mental healthcare in the UK needs to be adequately represented in research, and there needs

to be specific contributions with regard to counselling psychology. Further efforts are warranted to evaluate the presence of weight bias within mental healthcare patient-provider relationships given the implications for clinical treatment and the psychological, emotional and physical health outcomes of patients who are obese. Puhl, Moss-Racusin, Schwartz and Brownell (2008) and Maclean et al. (2009) highlighted that further research was needed to examine effective ways of (1) changing people's biased attitudes toward overweight and obese individuals and, (2) addressing the societal factors that reinforce weight bias. Almost a decade on and these investigations continue as there is still more exploration needed into how we tackle societal reinforcers of weight bias, and how we effectively reduce anti-fat attitudes.

Future work should examine the explicit and implicit anti-fat attitudes of MHPs with a focus on demographic categorisation. While reviewing the literature for this study, what became apparent within weight bias research in general, was the number of studies available which considered explicit and implicit anti-fat attitudes across the participants' demographic differences. The number of studies became even more limited when reviewing the weight bias literature specific to those working within mental healthcare. The demographic differences mentioned refers to differences in explicit and implicit anti-fat attitudes based on age group, ethnic group, gender, BMI category or job role within the mental healthcare system. This data is necessary if we are to obtain a clearer understanding of overt and subtle weight bias towards patients who are overweight and obese within mental health settings. Future work should also examine what it is about weight discrimination which appears to make it more acceptable within society when compared to the more unacceptable discrimination of one's race, sex, age or sexual orientation. Adding to this research, interventions showing success in altering attitudes biased toward sex, race, age or sexual orientation need to be considered with regard to weight bias, as the intervention could also

prove helpful in modifying anti-fat attitudes.

Further research should also consider weight bias over time. No studies were found which re-tested the same participants, hours later, days later, months later or even years later to determine whether their explicit and implicit anti-fat attitudes improved or worsened over time. This study re-tested participants immediately after the intervention video with perhaps minimal time to allow any effect to take place. With attitude traits being robust to change, further studies should investigate the effects of (1) a longer time lapse before post-intervention testing, and/or (2) carrying out pre- and post-intervention testing on the same participant's weeks, months or years after the initial study to determine whether anti-fat attitudes have increased or reduced. Mixed method approaches whereby participants can be interviewed would be interesting, as insight may be gained into how or why this weight bias has reduced, increased or stayed the same.

Weight bias is bi-directional and as two individuals make up the therapeutic patient-provider relationship, it would be interesting to find out more about patients' explicit and implicit attitudes towards therapist of a higher BMI. Do patients hold anti-fat attitudes toward their overweight or obese doctors, dentists, physiotherapists or counselling psychologists? Puhl et al. (2013) found that people report more mistrust of physicians who are overweight or obese, are less inclined to follow their medical advice, and more likely to change providers if they perceive their physician to be overweight or obese, compared to non-overweight physicians who elicit significantly more favourable reactions. Researching weight bias among both healthcare professionals and patients, would benefit from more in-depth qualitative research which could explore the 'if', 'how' and 'why' of whether these anti-fat

attitudes were shown to affect the therapeutic relationship.

While future studies need to examine more effective weight bias interventions, other sources which may be influencing an individual's anti-fat attitudes need to be considered. There is also a need for a greater understanding of the relationship between the internalisation of social standards and anti-fat attitudes, in order to appreciate the affective experiences individuals, have in relation to their own and others' bodies (Vartanian, Herman & Polivy, 2005). Future research also needs to consider the effects of various weight bias training courses. While one could assume that these training courses would be carefully considered and designed, aiming to sensitively educate through raising awareness, what this study and others like it have shown (Flint, 2011), is that exposure to images or scenes of overweight and obese individuals have impacted participants' anti-fat attitudes in that they have become more negative. Therefore, research needs to be done to ensure that training courses do not negatively impact on participants' attitudes and instead, would help participants consider: (1) their attitudes towards their patient's weight; (2) the language they use when working with these patients; and (3) their actions when working with these patients, while gaining a better understanding of the stigmatising experiences overweight and obese individuals face daily within society.

Other rich areas to consider for future research would be to (1) investigate what individual differences among participants would result in the expression of weight bias or the internalisation of weight bias, or (2) explore whether evoking feelings of acceptance, equality and respect would prove more effective than evoking empathy in challenging participant's anti-fat attitudes. Evoking empathy has occasionally been shown to be a relatively ineffective strategy for anti-fat attitude reduction and as such Daníelsdóttir, O'Brien and Ciao (2010),

suggest invoking feelings of acceptance, equality and respect for obese individuals when challenging anti-fat attitudes, as evoking empathy may emphasise the negative sides of being overweight, and portray the obese as pity worthy potentially reinforcing the ‘weakness’ stereotype. Future studies could therefore investigate the impact of intervention videos which evoke feelings of acceptance, equality and respect for obese individuals rather than empathy.

Lastly, considering the limitations of this study, researchers wanting to expand on weight bias research using the explicit and implicit attitude measures used in this study, should potentially qualify, in advance, whether participants were (1) familiar with any of the test measures, (2) IT competent, (3) prepared to select preferences rather than remaining ‘attitude-neutral’, or were (4) confused by scale items. This data collection could be carried out during the study briefing, whereby sample scale items highlighted as ambiguous could be given. Researchers interested in adding to existing weight bias research should be aware of and prepared for the technical issues they may encounter (i.e. carry a spare laptop, laptop charger, and a Wi-Fi dongle for remote internet access. Pen and paper versions of each attitude measure exist; therefore the researcher should carry hardcopies of these for participants with visual disabilities or for those who have trouble viewing the measures on-screen.

4.4 Implications for Counselling Psychology Practice

Practical implications and potential impact

With weight bias being documented in research studies among physicians, nurses, medical students, student nurses, rehabilitation counsellors, dieticians and fitness professionals (Puhl & Brownell, 2001; Puhl & Heuer, 2009, Kaplan, 1984), similar studies

among MHPs are necessary to determine the implications and potential impacts within counselling psychology practice. With previous research (Huizinga et al., 2009; Ferrante et al., 2009) demonstrating that healthcare professionals report viewing patients who are obese as lazy, dishonest, lacking in self-control and unintelligent, it could be assumed that MHPs hold the same attitudes. Huizinga et al. (2009) reported that, even physicians who have taken an oath to act in the best interests of their patients and to correct any injustice which may cause patients harm, were found to view their obese patients as less self-disciplined and less compliant. Therefore, even with such ethical standards in place physicians have reported finding patients who are obese, a waste of their time and more annoying than patients of a lower BMI, physicians have also reported having less patience, less respect and less desire to help patients who are obese (Huizinga et al., 2009; Hebl & Xu, 2001). It therefore cannot be overlooked that others working within the healthcare professions may be just as susceptible to the same anti-fat attitudes. Patients picking up on these overt and/or covert anti-fat attitudes have reported feeling disrespected, berated and dismissed by healthcare providers, they perceive that they will not be taken seriously, and feel their weight is blamed for all their problems (Brown et al., 2007; Edmunds, 2005; Bertakis & Azari, 2005). Ogden and Clementi (2010) highlight that obesity is a highly stigmatised condition generating a multitude of social reactions, with this 'enacted stigma' by others, impacting the obese individual's 'felt stigma'. While Ogden and Clementi (2010) add that the influence or experience of enacted stigma toward obese individuals is a neglected area of research, it can be speculated that patients' awareness of such negative weight-related views by those who they trust and turn to for help, could possibly affect the patient-provider relationship.

Research has shown that patient care is affected by these anti-fat attitudes (Puhl, Gold, Luedicke & DePierre, 2013; Puhl & Heuer, 2009). For instance, during interactions

with their patients who are obese, healthcare professionals have reported that they spend less time in appointments, less time in discussion with patients, offer less referrals and interventions, and tend to assign more negative symptoms (Bocquier et al., 2005; Bertakis & Azari, 2005; Hebl & Xu, 2001). Amy, Aalborg, Lyons and Keranen (2006) highlight that patients have reported negative attitudes and feeling disrespected by their healthcare providers, and it is this weight bias that has shown to impact patients in that they are more likely to have lower motivation levels for change (Vartanian & Novak, 2011), have higher programme attrition (Schvey, Puhl, Levandoski & Brownell, 2013) and avoid healthcare by delaying and cancelling appointments (Drury & Louis, 2002). Within counselling psychology practice and training there is no place for weight discrimination, as weight biased MHPs would find it impossible to work as efficiently and as effectively as possible with patients who are vulnerable if their anti-fat attitudes were impacting on the therapeutic relationship and the dynamics within the therapy room. Not only does this raise the probability of relationship ruptures, but it would affect any rapport that had been built. Those working within mental healthcare understand that each patient comes with their own set of unique experiences and needs, and as patients are so different from each other, a MHP's approach to therapy needs to be customised to the patient they are working with. Interventions and therapeutic plans need to be bespoke to each individual, as the patient's presenting issue or issues that arise for patients within the therapy room can never be treated with strategies which are considered a 'one size fits all' solution.

A person-centered approach to therapy usually tends to be the foundation which MHPs build on when working with patients. Roger's person-centered approach (1951) consists of three core conditions which are essential attitudes a MHP would display to show respect and acceptance of the patient, and that they value their patient who is considered as a

human being of worth. These three core conditions include: (1) congruence, which is the requirement that MHPs be authentic and genuine while working with patients therapeutically; (2) unconditional positive regard, which refers to the MHPs deep caring for the patient, valuing them for who they are and so maintaining a positive attitude toward them, even if the MHP may not approve of some of the patient's actions; and (3) empathy, therefore sensitively and accurately understanding a patient's experiences and feelings (Rogers, 1975). With these conditions core to the foundation of mental healthcare, it would not be possible for a MHP or trainee to do good therapeutic work when, (1) attitudes towards their patients who are overweight or obese are negative, (2) they are not considering all possible interventions, or (3) their patients feel they are being disrespected. Building trust and rapport with patients is paramount for those working within mental healthcare, but if patients feel their MHP cannot be trusted, or if they feel their MHP does not accept, value or understand them, and is not being genuine this will potentially impact on the work, resulting in patients avoiding therapy sessions by delaying and cancelling appointments, and in some cases never returning. An example of this is a study by Puhl, Peterson and Luedicke (2011), who found that of 1,064 adult participants, 20% of patients stated they would avoid future appointments with their physician, while over 40% reported feeling upset, embarrassed and bad about themselves if their physician referred to their weight in a way that made them feel weight biased. While a study of 498 obese women by Amy et al. (2006) found that participants delayed accessing preventative services due to disrespectful healthcare providers holding negative attitudes, the embarrassment of being weighed, as well as medical equipment being too small.

Weight bias forms a vicious cycle for the overweight or obese individual. While this cycle may be evident in the workplace, interpersonal relationships or in educational settings, it also occurs within healthcare. Weight bias from healthcare professionals and trainees may

lead patients to experience negative feelings which may be internalised, or they may be directed toward the healthcare professional and/or healthcare experience. To escape these negative feelings patients may avoid healthcare completely, resulting in poor self-care and other unhealthy behaviours. Obesity therefore persists, and may potentially worsen, which results in various health consequences leading to increased healthcare appointments, which may be with a healthcare professional who holds anti-fat attitudes. Consideration of this cycle within mental healthcare is important, as MHPs could potentially be adding to vulnerable patients' existing patterns of negative thinking and behaving, and the associated negative feelings. For a therapeutic relationship to work, MHPs need to ensure patients feel contained in a safe, confidential and non-judgmental environment offering mutual trust. MHPs work hard to ensure patients do not avoid their sessions or avoid various cognitive and behavioural strategies aimed at managing and/or overcoming their mental health issues. Weight bias in the therapy room will compromise mental healthcare with patients reducing or ceasing various mental healthcare services.

Weight bias in mental healthcare is a sensitive area of work as patients seeking assistance will come with pre-existing mental health issues (e.g., phobias, personality disorder, post-traumatic stress) and thus, should be handled gently and with consideration. Weight bias also has psychological consequences which can make individuals vulnerable to depression, anxiety, diminished self-esteem, perceived inadequacy, poor body image, elevated risk factors, suicidality, maladaptive eating behaviours such as binge eating, unhealthy weight control practices, or eating more food to cope with the stigma (Puhl et al., 2013, Puhl & Heuer, 2009; Puhl et al., 2007; Puhl, Peterson & Luedicke, 2011). For those seeking assistance from services within the general healthcare system, weight bias has the ability to worsen a patient's current state by resulting in the addition of a mental health

concern (e.g., a diabetic developing depression). While the risk for patients with pre-existing mental health issues, is that the mental health issues are either exacerbated or the patient may develop further mental health issues (i.e. low self-esteem worsens, or generalised anxiety developed). Puhl and Brownell (2006) found that of 2,449 women, 79% reported that they turned to eating as a coping strategy in response to the stress caused from weight bias experiences, while study by Puhl, Moss-Racusin and Schwartz (2007) found that even after accounting for low self-esteem, depression and the amount of weight bias experienced, women who internalised experiences of weight bias and blamed themselves for such discrimination, engaged in more frequent binge eating. Wang, Brownell and Wadden (2004) reported that overweight individuals appear to internalise the powerful weight biases that exist in society. An implication of internalising these strong, consistent, and negative weight associations, without a preference for 'in-group' members, may in fact serve to perpetuate psychological issues (Wang, Brownell & Wadden, 2004). It is therefore important that those working within counselling psychology practices and other mental healthcare settings become aware of, and gain an understanding of, the disparities and compromised care patients with higher BMIs may face within the healthcare sector. Adding to this, MHPs holding explicit and/or implicit anti-fat attitudes toward their patients who are overweight and obese, becomes another barrier to quality healthcare, as well as reinforcing the biases they already experience within various societal contexts.

While some research indicates that being obese may not always have a negative impact upon an individual's psychological state (Jorm, Korten, Christensen, Jacomb, Rodgers & Parslow, 2003), MHPs need to bear in mind that the relationship between obesity and mental health is bidirectional. Carey et al. (2014) highlight that there is limited data on the prevalence of comorbid obesity and depression, and while the causal relationship remains

unclear, understanding more about this comorbidity is important not only because depression and obesity are both associated with social stigma, low self-esteem, and chronic health conditions (Clarke & Currie, 2009; Patten et al., 2008), but because obesity coupled with depression has significant economic implications, for example, high service usage (Atlantis & Baker, 2008). This finding, however, may be countered by the fact that while there is a huge demand for such healthcare services, patients may avoid, delay or cancel appointments and treatment due to the weight bias they have experienced by the very professionals in the positions of care, tasked in assisting them.

Counselling psychology practice along with other mental healthcare settings prides itself on offering those in need, confidential, empathetic, non-judgmental and compassionate support by qualified professionals who are considered good listeners, skilled communicators and who adhere to a code of ethical guidelines (National Institute for Health and Care Excellence; NICE, 2016). Research has however shown that no one is immune to weight bias, and this includes healthcare professionals working with obesity. Therefore, those working or training within counselling psychology, as well as those within other mental healthcare settings must consider the implications of weight bias with regard to their reputation as a practitioner, the reputation of their clinical practice and associated colleagues, as well as the reputation of their profession as an industry sector.

Explicit and implicit anti-fat attitude training courses would be beneficial for both mental healthcare trainees and practicing MHPs. Not only would such training clarify the concepts of, and differences between conscious and unconscious weight bias, but it would also highlight the prevalence of weight bias within healthcare and its associated implications, including its effects within the therapy room. The importance of training healthcare

professionals and trainees is highlighted by Swift et al. (2013), which found unacceptable levels of weight bias among that UK students training to become nurses and physicians. If such training courses were compulsory for mental healthcare trainees, it would ensure that all MHPs began their careers from an equal standpoint, in terms of societal weight bias awareness, as well as explicit and implicit anti-fat attitude self-awareness. Refresher weight bias training throughout one's career would ensure this type of discrimination remained as 'on the agenda' over the years, as other discriminated patient groups (e.g., LGBT, OAPs) have been. This refresher training would not only help supervisors to better support developing trainees, but it would also help these practitioners develop a deeper understanding of how their experiences may impact their practice. While potentially too costly, weight bias training programmes could include simulations whereby trainees and/or MHPs role played clinical experiences with patients who are overweight and obese.

4.5 Reflections

Personal Reflexivity

It is vitally important to consider one's own position within the research and how this could potentially impact on the research process. One may attempt to remain as objective as possible with regard to taking a neutral stance when viewing their research outcomes, but being so personally invested in the research will no doubt have some influence. For some time now, I have worked within mental healthcare and as an aspiring MHP, with a keen interest in counselling psychology, I felt it made complete sense to focus on this particular population group. Every day for the last 3 years, I have worked with, and been supervised and lectured by MHPs – so given the opportunity to carry out a research study of my choice, it seemed logical to focus on such an intriguing and specialist psychological cohort. In

particular I wanted to investigate their explicit and implicit anti-fat attitudes - especially considering the patients who are vulnerable they work with and the documented effects of weight bias on one's emotional, psychological and physical well-being. Additionally, this target population has previously been largely overlooked. It seems such an important and obvious area of research, but investigation of MHPs explicit and implicit anti-fat attitudes is an area largely untouched in terms of earlier studies. I also felt that regardless of this study's findings, the outcomes would no doubt be insightful and of interest to many, especially with obesity rates and weight bias statistics on the rise.

Coming from South Africa, I felt there were other factors to consider with regard to potentially shaping my views and level of interest around this topic area. (1) Witnessing much gender and racial discrimination growing up, I have always wanted to understand and know more about these prejudiced ways of thinking and behaving; and (2) culturally the norm was to spend most of your 'down time' outdoors and being physically active, and usually competitively. With hot temperatures, one tended to eat little, and drink a lot of water. Therefore, whilst being overweight or obese was not unusual, it was not very common. This type of lifestyle is what I grew accustomed to, and so I feel it is worth bearing in mind with regard to my interest in explicit and implicit attitudes towards those who are either overweight or obese.

What sparked my interest initially, and helped shape my exact research question, was a conversation a few years ago with one of my NHS placement supervisors. She highlighted an aversion toward patients who are underweight, to the point she refused to work with this specific patient group and would rerefer the patients to colleagues. I had never met anyone professionally with such a strong and overt weight bias, and I was shocked. In fact, I found

this attitude extremely offensive especially considering the fact she worked within the 'helping' professions. A realisation was that if there were MHPs who were this overtly prejudiced towards patients who are underweight, there would be others who felt similarly towards their patients who are overweight and obese. One would then also need to consider the extent to which other MHPs dealt with their weight-related attitudes in a more covert manner. MHPs are trained to be empathic, supportive, genuine, non-judgemental and treat their patients with unconditional positive regard, so discovering such paradoxical attitudes exist to the point of refusing to offer mental healthcare, was quite shocking. It thus became clear how relevant and important this research could prove, and not only for those working within mental healthcare, but for raising awareness among the general public, of the existence of explicit and implicit anti-fat attitudes.

If I had to do it all over again, but with unlimited time and resources, I would have designed a mixed methods approach to allow for further exploration. I feel the addition of open-ended interviews with up to six randomly selected participants would have allowed for more in-depth insight into the participants' knowledge, awareness, beliefs, attitudes and experiences regarding weight bias. Participants had been more than willing to participate, and I believe this was due to a combination of the participants' genuine interest in the research area, their desire to determine the existence and extent of their own anti-fat attitudes, as well as the convenient data collection process. Being MHPs, the participants were likely to be familiar with either administering or participating in qualitative research and so were surprised by my choice of methodological approach. As a trainee counselling psychologist, most assumed I would have utilised qualitative research methods over quantitative research, as qualitative research is more in line with the criteria which guides the way we work within counselling psychology. The problem however was that qualitative research methods would

not have allowed me to obtain the data I needed to answer my research questions. Morrow (2005) highlights, that in direct contrast to quantitative research traditions, which view objectivity as a goal, qualitative researchers acknowledge that the very nature of the data we gather and the analytic processes in which we engage are grounded in subjectivity. There is a focus on clarification, interpretations, emotional involvement and reflexivity around the topic of interest within the data gathering process. As qualitative research methods are more closely in line with the work done among psychology teams within mental healthcare, it becomes clearer as to why these MHPs were so interested in my choice of quantitative research methods.

4.6 Conclusions

Even though this study's participants consisted of trained MHPs, many, if not all would still have been born and raised in a society whereby weight bias was, and still is prevalent. While no UK equivalent statistics were found, Puhl et al. (2008) highlight that the prevalence of weight bias in America increased by 66% from 1995 to 2006. Puhl and Heuer (2010) noted that social constructions of body weight are ingrained in the way society perceives and reacts to obesity, and that even after several decades of literature documenting weight bias as a compelling social problem, it remains a socially acceptable form of bias and is rarely challenged. With the effects and influence of the mass media, these negative social constructions of body weight have become a global problem and while there are various factors which may impact on one's degree of weight bias, such as ethnicity, sex or age for example, it can be assumed that no one is immune to weight bias. This is important when considering and hypothesising the attitudes of a study's participants, especially when such participants work within the 'helping professions'. If society is to blame for the general

public's anti-fat attitudes, MHPs, like nurses and physicians, will inherently hold just as strong anti-fat attitudes as any other member of society.

Many are affected by weight bias, with substantial evidence of this discrimination leading to adverse effects on psychological well-being, physical health, social and economic inequalities, as well as hindered policies and treatment for obesity. Given the widespread acceptability and prevalence of weight bias and the number of domains in which weight bias is documented, such as the workplace (job selection and promotions), healthcare, educational and interpersonal settings, it is not unrealistic to suspect that MHPs may hold anti-fat attitudes toward their patients who are overweight and obese. This study's findings demonstrated that therapeutic alliances within mental healthcare settings are vulnerable to weight bias, as MHPs were seen to hold negative explicit and implicit attitudes toward their patients who are overweight and obese. It is important to investigate the extent of this weight bias, to pave the way for more protection for the obese from weight discrimination. Unfortunately, unlike other stigmatised groups (those discriminated against due to gender, religion, race, sexual orientation/identity etc.), there is currently no UK legislation in place to protect overweight and obese individuals from such negative experiences, so this study highlights the need to, (1) raise MHPs awareness of any potential weight bias they may hold toward their patients within the therapy room; and (2) consider more effective anti-fat attitude modification interventions. Savage (2017) however highlights that Theresa May has pledged to scrap the 1983 Mental Health Act as it has failed to deal with discrimination against ethnic minority patients within mental healthcare, and that a new legislation aimed at countering "unconscious bias" is necessary. While this overhaul may largely focus on the discrimination of ethnic minority groups, this fresh wave of political and public attention may potentially

begin highlighting other types of bias within mental healthcare.

This study sought to provide insight into the effects of an empathy-evoking intervention in reducing anti-fat attitudes; however, the findings demonstrated that anti-fat attitudes increased post-intervention. Future research therefore needs to examine how these robust attitudes are maintained, and how exposure to images or footage of overweight and obese individuals - to evoke empathy - potentially exacerbates anti-fat attitudes. While more effective interventions to reduce anti-fat attitudes within mental healthcare settings is necessary, the development of weight bias training programmes effectively designed for both trainees and practitioners is also much needed.

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APPENDICES

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Appendix A: Demographics Questionnaire

Please answer the following demographics questions:

Participation no: _____

Sex:

- ☐ Female
- ☐ Male

Age: _____

Race: _____

Height (in m/cms/in): _____

Weight (in kgs/lbs): _____

What is your job title?

Do you work privately?

- ☐ Yes
- ☐ No

Do you work with patients you would consider to be overweight?

- ☐ Yes
- ☐ No

Appendix B: Attitudes toward Obese Persons Scale (ATOP; Allison et al., 1991)

Please mark each statement below in the left margin, according to how much you agree or disagree with it. Please do not leave any blank. Use the numbers on the following scale to indicate your response. Be sure to place a minus or plus sign (- or +) beside the number that you choose to show whether you agree or disagree.

-3	-2	-1	+1	+2	+3
I strongly disagree	I moderately disagree	I slightly disagree	I slightly agree	I moderately agree	I strongly agree

1. _____ Obese people are as happy as non-obese people.
2. _____ Most obese people feel that they are not as good as other people.
3. _____ Most obese people are more self-conscious than other people.
4. _____ Obese workers cannot be as successful as other workers.
5. _____ Most non-obese people would not want to marry anyone who is obese.
6. _____ Severely obese people are usually untidy.
7. _____ Obese people are usually sociable.
8. _____ Most obese people are not dissatisfied with themselves.
9. _____ Obese people are just as self-confident as other people.
10. _____ Most people feel uncomfortable when they associate with obese people.
11. _____ Obese people are often less aggressive than non-obese people.
12. _____ Most obese people have different personalities than non-obese people.
13. _____ Very few obese people are ashamed of their weight.
14. _____ Most obese people resent normal weight people.
15. _____ Obese people are more emotional than non-obese people.
16. _____ Obese people should not expect to lead normal lives.
17. _____ Obese people are just as healthy as non-obese people.
18. _____ Obese people are just as sexually attractive as non-obese people.
19. _____ Obese people tend to have family problems.
20. _____ One of the worst things that could happen to a person would be for him to become obese.

Scoring instructions for the Attitudes Toward Obese Persons Scale (ATOP)

Step 1: Multiply the response to the following items by -1 (i.e., reverse the direction of scoring):

- Item 2 through Item 6, Item 10 through Item 12, Item 14 through Item 16, Item 19 and Item 20.

Step 2: Add up the responses to all items.

Step 3: Add 60 to the value obtained in Step 2. This value is the ATOP score. Higher numbers indicate more positive attitudes.

This measure and additional psychometric information can be found in the following reference:

Allison, D.B. (2009). *Handbook of Assessment Methods for Eating Behaviours and Weight-related problems. Measures, Theory and Research*. Thousand Oaks, California: Sage Publications.

Appendix C: Beliefs about Obese Persons Scale

(BAOP; Allison et al., 1991)

Please mark each statement below in the left margin, according to how much you agree or disagree with it. Please do not leave any blank. Use the numbers on the following scale to indicate your response. Be sure to place a minus or plus sign (- or +) beside the number that you choose to show whether you agree or disagree.

-3	-2	-1	+1	+2	+3
I strongly disagree	I moderately disagree	I slightly disagree	I slightly agree	I moderately agree	I strongly agree

1. _____ Obesity often occurs when eating is used as a form of compensation for lack of love or attention.
2. _____ In many cases, obesity is the result of a biological disorder.
3. _____ Obesity is usually caused by overeating.
4. _____ Most obese people cause their problem by not getting enough exercise.
5. _____ Most obese people eat more than non-obese people.
6. _____ The majority of obese people have poor eating habits that lead to their obesity.
7. _____ Obesity is rarely caused by a lack of willpower.
8. _____ People can be addicted to food, just as others are addicted to drugs, and these people usually become obese.

Scoring instructions for the Beliefs About Obese Persons Scale (BAOP)

Step 1: Multiply the response to the following items by -1 (i.e., reverse the direction of scoring):

- Item 1, Items 3 through Item 6, Item 8.

Step 2: Add up the responses to all items.

Step 3: Add 24 to the value obtained in Step 2. This value is the BAOP score. Higher numbers indicate a stronger belief that obesity is not under the obese person's control.

This measure and additional psychometric information can be found in the following references:

Allison, D.B. (2009). *Handbook of Assessment Methods for Eating Behaviours and Weight-related problems. Measures, Theory and Research*. Thousand Oaks, California: Sage Publications.

Allison, D.B., Basile, V.C., & Yuker, H.E. (1991). The measurement of attitudes toward and beliefs about obese persons. *International Journal of Eating Disorders*, 10, 599-607.

Appendix D: Fat Phobia Scale – Shortened Version (F-Scale Short Form)

(Bacon et al., 2001)

Listed below are 14 pairs of adjectives sometimes used to describe obese or fat people. For each adjective pair, please place an **X** on the line closest to the adjective that you feel best describes your feelings and beliefs.

- | | | | | | | |
|----------------------|-------|-------|-------|-------|-------|-------------------|
| 1. Lazy | _____ | _____ | _____ | _____ | _____ | Industrious |
| | 5 | 4 | 3 | 2 | 1 | |
| 2. No willpower | _____ | _____ | _____ | _____ | _____ | Has willpower |
| | 5 | 4 | 3 | 2 | 1 | |
| 3. Attractive | _____ | _____ | _____ | _____ | _____ | Unattractive |
| | 5 | 4 | 3 | 2 | 1 | |
| 4. Good self-control | _____ | _____ | _____ | _____ | _____ | Poor self-control |

	5	4	3	2	1	
5. Fast	_____	_____	_____	_____	_____	Slow
	5	4	3	2	1	
6. Endurance	_____	_____	_____	_____	_____	No endurance
	5	4	3	2	1	
7. Active	_____	_____	_____	_____	_____	Inactive
	5	4	3	2	1	
8. Weak	_____	_____	_____	_____	_____	Strong
	5	4	3	2	1	
9. Self-indulgent	_____	_____	_____	_____	_____	Self-sacrificing
	5	4	3	2	1	
10. Dislikes food	_____	_____	_____	_____	_____	Likes food
	5	4	3	2	1	
11. Shapeless	_____	_____	_____	_____	_____	Shapely
	5	4	3	2	1	
12. Under-eats	_____	_____	_____	_____	_____	Overeats
	5	4	3	2	1	
13. Insecure	_____	_____	_____	_____	_____	Secure
	5	4	3	2	1	
14. Low self-esteem	_____	_____	_____	_____	_____	High self-esteem
	5	4	3	2	1	

Scoring instructions for the Fat Phobia Scale (F-Scale Short Form)

Step 1: For items 3, 4, 5, 6, 7, 10 and 12: Score as 1, 2, 3, 4, 5.

Step 2: For items 1, 2, 8, 9, 11, 13 and 14: Score as 5, 4, 3, 2, 1.

Step 3: Add up the score for each item to get the total score. Then divide by 14 (or the number of items answered, whichever is less). The range of scores is 1-5. High scores = more “fat phobia”. Low scores = less “fat phobia”.

For more information on the Fat Phobia Scale (Short form):

Bacon, J. G., Scheltema, K. E., & Robinson, B. E. (2001). Fat phobia scale revisited: the short form. *International Journal of Obesity*, 25: 252-257.

Appendix E: IAT Word Stimuli

(Vartanian, Herman & Polivy, 2005)

IAT STIMULI – EXAMPLES OF ‘CONCEPT’ AND ‘ATTRIBUTE’ DIMENSION WORDS

Fat	Thin	Pleasant	Unpleasant
Obese	Slender	Love	Bad
Chunky	Lean	Laughter	Evil
Chubby	Bony	Peace	Poverty
Heavy	Skinny	Friend	Pain
Overweight	Slim	Miracle	Murder
		Happy	Death
		Paradise	Assault
		Lucky	Grief

Appendix F: City University London Ethics Approval



Psychology Research Ethics Committee
School of Social Sciences
City University London
London EC1R 0JD

20th April 2015

Dear Tarynne Quirk

Reference: PSYCH(P/L) 14/15 143

Project title: AN INVESTIGATION INTO WEIGHT BIAS AMONG MENTAL HEALTH PROFESSIONALS
TREATING OVERWEIGHT/OBESE PATIENTS

I am writing to confirm that the research proposal detailed above has been granted approval by the City University London Psychology Department Research Ethics Committee.

Period of approval

Approval is valid for a period of three years from the date of this letter. If data collection runs beyond this period you will need to apply for an extension using the Amendments Form.

Project amendments

You will also need to submit an Amendments Form if you want to make any of the following changes to your research:

- (a) Recruit a new category of participants
- (b) Change, or add to, the research method employed
- (c) Collect additional types of data
- (d) Change the researchers involved in the project

Adverse events

You will need to submit an Adverse Events Form, copied to the Secretary of the Senate Research Ethics Committee (), in the event of any of the following:

- (a) Adverse events
- (b) Breaches of confidentiality
- (c) Safeguarding issues relating to children and vulnerable adults
- (d) Incidents that affect the personal safety of a participant or researcher

Issues (a) and (b) should be reported as soon as possible and no later than 5 days after the event. Issues (c) and (d) should be reported immediately. Where appropriate the researcher should also report adverse events to other relevant institutions such as the police or social services.

Should you have any further queries then please do not hesitate to get in touch.

Kind regards

Karen Hunt

Departmental Administrator

Email: [REDACTED]

Katy Tapper

Chair

Email: [REDACTED]

Appendix G: HRA APPROVAL



Ms Tarynne Quirk
City University London
Northampton Square
London
EC1V 0HB

05 August 2015

Dear Ms Quirk

Study title: Weight bias among mental health professionals
IRAS project ID: 181903

Thank you for your application, which has now been reviewed by an HRA assessor. We are pleased to confirm that the **application has been given HRA Approval**, on the basis described in the application form, protocol and supporting documentation, as revised in writing to HRA.

Scope

HRA Approval provides a single approval for research in the NHS in England consisting of assessments by HRA staff alongside the independent Research Ethics Committee (REC) opinion where required.

HRA Approval applies to all research in England involving NHS patients or staff. Organisations listed in the application are not obliged to undertake this study; each NHS organisation in England will confirm participation when arrangements are in place. Further detail on what comprises confirmation of participation for this study is described in appendix B (summary of HRA assessment).

If there are participating NHS organisations in Northern Ireland, Scotland or Wales, the nation specific processes to approve research applications should be followed.

If there are participating non-NHS organisations, local agreement should be obtained in accordance with the procedures of the local participating non-NHS organisation.

Participating NHS Organisations in England

The HRA has determined that participating NHS organisations in England do not need to undertake an assessment of capacity and capability to host this research, because no local organisations will be undertaking responsibility for research activity. It is expected that these organisations will become sites 35 days after submission by the sponsor to the HRA (no later than 27 August 2015), unless

justification can be provided to the sponsor and the HRA as to why the organisation cannot participate as a site. Further details are given in the summary of HRA Assessment appendix.

Health Research Authority, Skipton House, 80 London Road, London SE1 6LH



SL45 (Approval) HRA Approval Letter, Version 1.0, 26 May 2015

Appendices

The HRA Approval letter contains the following appendices:

- A – List of Approved Documents
- B – Summary of HRA Assessment

After HRA Approval

The attached document “*After HRA Approval – guidance for sponsors and researchers*” gives detailed guidance on reporting requirements for studies with HRA Approval, including:

- Working with organisations hosting the research
- Registration of Research
- Notifying amendments
- Notifying the end of the study

The HRA website also provides guidance on these topics, which is updated in the light of changes in reporting requirements or procedures.

User Feedback

The Health Research Authority is continually striving to provide a high quality service to all applicants and sponsors. You are invited to give your view of the service you have received and the application procedure. If you wish to make your views known please use the feedback form available on the HRA website: <http://www.hra.nhs.uk/about-the-hra/governance/quality-assurance/>

HRA Training

We are pleased to welcome researchers and research management staff at our training days – see details at <http://www.hra.nhs.uk/hra-training/>

Your IRAS project ID is 181903. Please quote this on all correspondence.

Yours sincerely

Matthew Harris

HRA Assessment Manager

Email: hra.approval@nhs.net

Enclosures: After HRA Approval – guidance for sponsors and researchers

Copy to: Ms Jessica Jones Nielsen, Academic Supervisor, [REDACTED]

Mr Stuart Flint, Academic Supervisor, [REDACTED]

Appendix A - List of Approved

Documents The documents reviewed and approved were:

<i>Document</i>	<i>Version</i>	<i>Date</i>
Copies of advertisement materials for research participants	2	21 July 2015
Evidence of Sponsor insurance or indemnity (non NHS Sponsors only)	1	10 July 2015
IRAS Checklist XML		
Statement of Activities	3	05 August 2015
Participant consent form	3	05 August 2015
Participant information sheet (PIS)	3	05 August 2015
R&D Form	2	21 July 2015
Research protocol or project proposal	2	21 July 2015
Summary CV for student - Tarynne Quirk	2	10 July 2015
Summary CV for supervisor (student research) - Nielsen Jones	1	10 July 2015

Appendix B - Summary of HRA Assessment

This appendix provides assurance to you, the sponsor and the NHS in England that the information submitted about the study has met the required standards expected by the HRA, and is compliant with relevant laws and regulations. It also provides information and clarification, where needed, to participating NHS organisations on elements of the review which will assist in the determination of capacity and capability, where this assessment is required.

1.1	IRAS project filter completed correctly	Approved
2.1	Participant information/consent documents and consent process	Approved
3.1	Protocol assessment	Approved
4.1	Allocation of rights and responsibilities are agreed and documented	Approved
Statement of activities is to be used to reflect all research activities.		
4.2	Insurance/indemnity arrangements assessed	Approved
4.3	Financial arrangements assessed	Approved
No funding to be provided to participating sites.		
5.1	Compliance with Data Protection Act and data security issues assessed	Approved

Comments

2.1 The researcher has confirmed a local collaborator (either a Clinical or Counselling Psychologist) within an NHS organisation will identify potential participants to approach Heads of Department and line managers to be involved in the study. Heads of department/ line managers will inform their teams of this

research study. If members of staff are happy to take part they will contact the researcher directly.

Participating NHS Organisations

All NHS organisations will be undertaking the same activities as detailed in the Statement of Activities.

HR Arrangements

A	Determination of the need for a Principal Researcher, a Local Collaborator, or neither and associated training requirements
The researcher has identified Local Collaborators at NHS organisations to identify potential participants. Participants will contact the researcher directly if they wish to participate in the study. There are no training requirements from the sponsor for local collaborators. The researcher has confirmed they will be undertaking all research procedures and the collection of data will take place within NHS offices/meeting rooms at the participating organisations. The actual office/meeting room at each NHS site will be determined by the test taker. On the day of testing the researcher will set up in the appropriate room which offers silence, is free of disruptions and has wi-fi access. Local Collaborators should confirm with the Chief Researcher that these facilities are available at each participating organisation.	
B	HR Good Practice requirements
A Letter of Access is required as the researcher is external to the NHS and will need to enter participating NHS organisations to undertake research procedures. Where required Local Collaborators to provide assistance in supporting the Chief Researcher obtain a Letter of Access.	

Capacity and Capability

The HRA has determined that participating NHS organisations in England do not need to formally confirm their capacity and capability to host this research, because no locally employed staff will be taking responsibility for, or undertaking, research procedures. It is

expected that NHS organisations indicated in part C of the R&D form will become sites 35 days after submission (27 August 2015 date) by the sponsor to the HRA, unless they choose to formally confirm their participation at an earlier date, provide justification to the sponsor and the HRA as to why the organisation cannot participate as a site, or request additional time to make their arrangements.

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Appendix H: Recruitment Advert



Department of Psychology City University London

PARTICIPANTS NEEDED FOR RESEARCH INVESTIGATING MENTAL HEALTH PROFESSIONAL'S WEIGHT ATTITUDES

We are looking for volunteers to take part in a study investigating mental health professionals' weight attitudes.

You would be asked to complete: 3 brief questionnaires, a computer-based task and watch a 5-minute video clip before being re-tested.

Your participation would involve 1 session, lasting approximately 35-45 minutes.

In appreciation for your time, you will receive automatic entry into a prize draw for an Amazon gift voucher.

For more information about this study, or to take part, please contact:

Tarynne Quirk
Psychology Department
at

Email: 

This research project is being supervised by Dr Jessica Jones Nielsen:



This study has been reviewed by, and received ethics clearance through the Research Ethics Committee, City University London PSYCH(P/L) 14/15 143.

If you would like to complain about any aspect of the study, please contact the Secretary to the University's Senate Research Ethics Committee on 020 7040 3040 or via email:



Appendix I: Participant Information Sheet



Participant Information Sheet

Title of study:

Weight bias among mental health professionals treating overweight/obese patients.

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

What is the purpose of the study?

From a global standpoint, obesity is becoming extremely commonplace with national and international statistics climbing each year. With a rise in obesity unfortunately comes a rise in weight stigmatisation, prejudice and bias, and while some individuals may be consciously aware of their negative beliefs and attitudes towards overweight and obese individuals, others may not. Of course these beliefs and attitudes will not only occur within the general public, but also within healthcare settings where the very patients seeking assistance and advice from experts in positions of power, may be exposed. Everyone unfortunately is susceptible to explicit and implicit weight bias. While some research has investigated explicit and implicit attitudes of physicians, nurses and medical students towards their overweight and obese patients, mental health professionals (MHPs) appear to have been overlooked. With previous research indicating that weight bias within healthcare settings can disrupt the provision of care, affect and impair provider-patient relationships as well as treatment outcomes, the gap in literature considering possible weight bias toward overweight/obese patients among MHPs needs to be addressed. This is especially important considering MHPs are expected and assumed to be non-judgmental, compassionate, empathetic, genuine, transparent, and hold unconditional positive regard for every patient, regardless of their BMI. Employment within the 'helping professions', does not mean one can automatically assume that a MHPs would have more positive or neutral attitudes toward their overweight patients, treat patients equally, or have a better awareness of their weight bias and therefore treat their overweight/obese patients more sensitively. A trusting therapeutic relationship is no place for weight stigmatisation. Should findings reveal that those in positions whereby their duty of care may be affected or whereby abuses of power could occur due to the prejudiced attitudes and biases they are found to hold, we would need to allow those findings to guide and inform the creation of effective strategies and interventions.

This study is part of a Professional Doctorate in Counselling Psychology, and the estimated duration of the study is 8-10 months.

Why have I been invited?

Participants were approached to part take in the study based on occupation. Participants need to be working as private professionals within mental health. They will need to be treating overweight and/or obese patients. Testing will only include researcher and participant, and there are to be approximately 300 participants involved in the study.

Do I have to take part?

Participation in the project is voluntary, and you are permitted to withdraw at any stage of the project without being penalised or disadvantaged in any way. You may avoid answering questions which are felt to be too personal or intrusive, with assurance that this will not affect any future treatment (where applicable).

Participation is voluntary. If you do decide to take part you will be asked to sign a consent form. If you decide to take part you are still free to withdraw at any time and without giving a reason.

What will happen if I take part?

- The measures will take approximately 30 minutes to complete
- The research study is likely to last between 6-9 months
- Each participant will only need to meet the researcher once
- The meeting with the researcher will last approximately 15 minutes to complete
- What will happen: Collection of demographic information, height and weight measurements taken, potential viewing of a 5 minute emotive video, 4 brief anonymous questionnaires, followed by an anonymous computer-based response task
- The research will take place in a private, quiet area at the participant's place of work/practice.

Expenses and Payments (if applicable)

Participants will not incur any travel costs. Once all research data from each participant has been collected and analysed (early-mid 2016), the prize draw for an £30 Amazon voucher will take place.

What do I have to do?

Each participant is expected to allow the researcher to take their height and weight measurements. Participants are also expected to honestly complete a demographics document, followed by 4 short and anonymous questionnaires. Lastly, the participants are expected to complete an anonymous computer-based response task as quick as possible.

What are the possible disadvantages and risks of taking part?

Participants will have been briefed of all necessary information prior to testing, they would be aware of the procedures involved, and have the choice to be made aware of their results, should they wish. They were also made aware of being able to withdraw from the study (without consequence) at any point. It is anticipated that risk will be low.

It is not expected, however if a participant wishes to be informed of the results from their explicit and/or implicit attitude measures, and those results indicate negative attitudes towards their overweight/obese patients, perhaps some emotional distress or feelings of embarrassment may be experienced.

Each participant will be fully debriefed to ensure no harm is caused, and any questions or concerns participants may have will be answered by the researcher. The researcher and the research supervisor's contact details are on both the participant information and debriefing sheet should participants feel the need to discuss anything further related to the research.

What are the possible benefits of taking part?

- By taking part, your information will essentially add to existing knowledge which will fill the gap in literature.
- Your results will hopefully be used to help therapists and other professionals working with overweight and obese patients understand how weight bias can affect the therapeutic relationship.
- Your results could inform interventions, which in turn help future patients and the wider community.

What will happen when the research study stops?

If for some reason the research study stops, all signed consent forms will be destroyed. These hard copy consent forms are identifying documentation which will be stored in a locked filing cabinet which only the researcher and research supervisor will have access to during the project. After consent, each participant is anonymized and becomes a code. These identifiers will be kept within password-protected computer files at another site. These too will be deleted should the study stop.

Will my taking part in the study be kept confidential?

- Only the researcher and research supervisor will have access to the information before anonymizing.
- No audio/video recording/photographs are necessary for this study
- Future use of personal information: The results from this study may be published and/or referenced in other work however all personal demographic information and physical measures will be anonymized so there is no possibility of identification.
- There are no restrictions on confidentiality
- All records/emails containing personal information and consent to participate will be kept securely and no raw data will leave the UK. All records/emails will be destroyed/deleted as soon as the research results have been analysed.

What will happen to the results of the research study?

The research study results will be analysed and a thesis published for library usage. This may circulate for a period of approximately five years. Should I wish to publish my data and findings in any further articles or publications, I will inform all necessary parties at City University London. Anonymity will be maintained from research phase to publication. By taking part in this study, you are entitled to request a summary of the final results, and can request this via the contact details provided below.

What will happen if I do not want to carry on with the study?

Participation in the project is voluntary, and you are permitted to withdraw at any stage of the project without being penalised or disadvantaged in any way.

What if there is a problem?

If you have any problems, concerns or questions about this study, you should ask to speak to a member of the research team. If you remain unhappy and wish to complain formally, you can do this through the University complaints procedure. To complain about the study, you need to phone 020 7040 3040. You can then ask to speak to the Secretary to Senate Research Ethics Committee and inform them that the name of the project is: Weight bias among mental health professionals treating overweight/obese patients.

You could also write to the Secretary at:

Anna Ramberg
Secretary to Senate Research Ethics Committee
Research Office, E214
City University London
Northampton Square
London
EC1V 0HB
Email: [REDACTED]

City University London holds insurance policies which apply to this study. If you feel you have been harmed or injured by taking part in this study you may be eligible to claim compensation. This does not affect your legal rights to seek compensation. If you are harmed due to someone's negligence, then you may have grounds for legal action.

Who has reviewed the study?

This study has been approved by City University London *[insert which committee here]* Research Ethics Committee, *[insert ethics approval code here]*.

Further information and contact details

Tarynne Quirk – [REDACTED]

Jessica Jones Nielson – [REDACTED] or 0207 040 8755

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

Appendix J: Consent Form



Title of Study:

WEIGHT BIAS AMONG MENTAL HEALTH PROFESSIONALS TREATING OVERWEIGHT/OBESE PATIENTS

Ethics approval code: PSYCH(P/L) 14/15 143

IRAS: 181903

Please initial box

1.	I agree to take part in the above City University London research project. I have had the project explained to me, and I have read the participant information sheet, which I may keep for my records. I understand this will involve: • Completing 3 brief questionnaires • Completing a computer based response task • Watching a 5 minute video clip • Completing the 3 brief questionnaires and computer-based task again	
2.	This information will be held and processed for the following purpose(s): For quantitative analysis. I understand that any information I provide is confidential, and that no information that could lead to the identification of any individual will be disclosed in any reports on the project, or to any other party. No identifiable personal data will be published. The identifiable data will not be shared with any other organisation.	
3.	I understand that my participation is voluntary, that I can choose not to participate in part or all of the project, and that I can withdraw at any stage of the project without being penalized or disadvantaged in any way.	
4.	I agree to City University London recording and processing this information about me. I understand that this information will be used only for the purpose(s) set out in this statement and my consent is conditional on the University complying with its duties and obligations under the Data Protection Act 1998.	
5.	I agree to take part in the above study.	

Name of Participant

Signature

Date

Name of Researcher

Signature

Date

When completed, 1 copy for participant; 1 copy for researcher's file.

Appendix K: IAT Task Order - Stimuli Words

Task 1:

Left = Unpleasant; Right = Pleasant

(10 unpleasant and 10 pleasant words)

Task 2:

Left = Fat; Right = Thin

(10 fat-related and 10 thin-related words)

Task 3:

Left = Fat / Unpleasant; Right = Thin / Pleasant

(5 fat-related, 5 unpleasant and 5 thin-related, 5 pleasant words)

Task 4:

Left = Fat / Unpleasant; Right = Thin / Pleasant

(10 fat-related, 10 unpleasant and 10 thin-related, 10 pleasant words)

Task 5:

Left = Thin; Right = Fat

(10 thin-related and 10 fat-related words)

Task 6:

Left = Thin / Unpleasant; Right = Fat / Pleasant

(5 thin-related, 5 unpleasant and 5 fat-related, 5 pleasant words)

Task 7:

Left = Thin / Unpleasant; Right = Fat / Pleasant

(10 thin-related, 10 unpleasant and 10 fat-related, 10 pleasant words)

Appendix L: Debrief Information Sheet



Weight bias among mental health professionals treating overweight/obese patients.

DEBRIEF INFORMATION

Thank you for taking part in this study! Now that it's finished we'd like to explain the rationale behind the work.

The purpose of this project is to investigate mental health professionals (MHPs) implicit and explicit attitudes toward the overweight and obese patients they treat, in order to understand the extent of weight bias within this particular patient-provider relationship.

While some research has considered the extent of weight bias toward overweight and obese patients within various other healthcare settings, no equivalent research exists for MHPs. Much more research is necessary to ensure that if this bias is as prevalent as we believe it may be, informed treatment interventions and strategies need put in place to ensure these particular patients do not feel stigmatised or discriminated against because of their weight, and receive the best treatment possible.

By taking part, your information will hopefully be used to help therapists and other professionals working with overweight and obese patients understand how weight bias can affect the therapeutic relationship.

If you have chosen to withdraw from the study, the data collected from the measures you completed will be destroyed.

We hope you found the study interesting. If you have any other questions or need further information, please do not hesitate to contact us at the following:

Tarynne Quirk – [REDACTED]
Jessica Jones Nielson – [REDACTED] or 0207 040 8755

Ethics approval code: PSYCH(P/L) 14/15 143
IRAS: 181903

**The Professional Practice Component of this thesis has been
removed for confidentiality purposes.**

**It can be consulted by Psychology researchers on application at
the Library of City, University of London.**

Weight Bias: Investigating the Impact of an Empathy-Evoking Intervention in Reducing Mental Health Professionals Anti-Fat Attitudes – Journal of Obesity

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Email: S.W.Flint@leedsbeckett.ac.uk

Abstract

This quantitative study investigated whether Mental Health Professionals (MHPs) hold explicit and implicit anti-fat attitudes, and whether an empathy-evoking intervention would reduce these anti-fat attitudes. Participants ($n = 125$) were London-based MHPs working with, or having worked with, overweight and/or obese patients within the National Health Service (NHS) or within private clinics.

The study hypotheses were examined using Multivariate Analyses of Variance (MANOVA) and Multivariate Analysis of Covariance (MANCOVA), with one-way ANOVAs employed to examine attitudes in relation to demographic characteristics. Analysis of the overall pre- and post-intervention data suggests that participants held negative explicit and implicit attitudes toward obesity. Pre-intervention data indicated that ‘Young Adults’ and ‘Counsellors’ held statistically significant negative explicit attitudes toward overweight and/or obese patients. Post-intervention data indicated that the intervention video significantly impacted the experimental groups’ attitudes in that their anti-fat attitudes became more negative.

The study findings contribute to evidence that overweight and obese patients seeking mental healthcare are discriminated against and subjected to weight biases in such settings. These findings provide insight for MHPs who may be unaware of holding any weight biases, the difficulty in modifying these biases, and the implications of these attitudes on the therapeutic dynamics within their practice.

1. Introduction

From a global standpoint, obesity is becoming extremely commonplace with national and international statistics climbing each year (World Health Organisation, 2016). In fact, more than 1.9 billion adults aged 18 years and above, are classified as overweight (WHO, 2016), with worldwide adult obesity soaring from 105 million to 641 million from 1975 to 2014 (Ezzati, 2016). Collins (2013) describes the United Kingdom (UK) as facing a “*public health*

time bomb”, with obesity rates “*just about the worst in Europe*” (p. 8). In 2014, 7.7 million women and 6.8 million men in the UK were categorised as ‘obese’, with government statistics estimating that by 2025 approximately 40% of people in the UK will be obese, and that the UK will have the highest proportion of obese men (38%) and women (38%) in Europe (Ezzati, 2016). Costing the National Health Service (NHS) billions each year, Fry (2015) states that the expense of treating obesity in the UK could bankrupt the health service.

Alongside the health and economic implications of rising obesity rates, a less obvious implication with potentially significant societal impacts, is the development of anti-fat attitudes and the stigmatisation of obese and overweight people (Flint, Hudson & Lavalley, 2015). As our social environment continues to struggle with issues regarding body size and places a heavy emphasis on dieting and the importance of being thin (Swami & Monk, 2012), Chalker (2014) highlights that the focus on obesity (i.e. the dangers of obesity and promotion of the thin ideal) has resulted in the establishment of a divide between non-overweight and overweight individuals, and it is this divide which emphasises how overweight or obese individuals are seen as undesirable. Modern Western culture relentlessly promotes thin idealisation while disparaging obesity, and with exposure to media content that continually idealises thinness, the pressure society places on individuals to be thin is more extreme now than in the past (Sheldon, 2010). With varying societal weight-related messages and prejudiced beliefs in weight controllability which lead to blame and dislike toward the obese, the importance of needing to address and reduce the extent of anti-fat attitudes at a societal level is highlighted more than ever (Latner, Ebner & O’Brien, 2012).

While some individuals may be consciously aware of their negative beliefs, anti-fat attitudes and weight bias towards the overweight and obese, others may not. While this area of research has mainly been conducted outside of the UK, what has been demonstrated is that anti-fat attitudes and weight bias are increasing over time, and given the association between anti-fat attitudes and discriminatory behaviours, further examination of anti-fat attitudes is warranted (Flint et al., 2015). No one is immune to weight bias, and considering the emotional, psychological and physical effects weight bias has shown to have on overweight and obese individuals, it becomes vital that we not only become aware of our implicit and explicit weight biases, but also our susceptibility to them. If everyone is susceptible to explicit and implicit weight bias, it becomes important to consider anti-fat attitudes and weight bias within various healthcare settings where vulnerable patients who are overweight

or obese, are seeking assistance and advice from experts in positions of power.

Earlier research reports that overweight and obese individuals face stigma, discrimination and weight bias in multiple domains, including healthcare settings (Puhl, Luedicke & Grilo, 2013; Puhl & Heuer, 2009; Carr & Friedman, 2005), with evidence suggesting that obese patients are faced with negative attitudes and derogatory humour from healthcare providers (Puhl et al., 2013), with common perceptions that they are lazy, stupid, worthless, lacking in self-control and willpower, non-compliant with treatment, unsuccessful, undisciplined, annoying, unintelligent, and dishonest (Puhl & Brownell, 2001; Schwartz, Chambliss, Brownell, Blair & Billington, 2003; Wolf, 2012; Huizinga, Cooper, Bleich, Clark & Beach, 2009). There is further evidence indicating that weight stigma in healthcare settings leads to poor quality of care (Ross, 2013; Schwartz et al., 2003; Puhl & Heuer, 2010). Schwartz et al. (2003) add that healthcare professional's weight bias can result in patients who are overweight and obese feeling uncomfortable, which can discourage these individuals from seeking help or necessary healthcare treatments, which in turn impacts their quality of life. Phelan, Burgess, Yeazel, Hellerstedt, Griffin & van Ryn (2015) highlight that weight bias can lead patients to adopt coping strategies such as delaying or cancelling future appointments. Individuals who have experienced weight bias have been shown to avoid preventive healthcare screenings, not adhere to treatment plans, become untrusting of healthcare providers and be at heightened risk for psychological distress (Sutin & Terracciano, 2013). Puhl et al. (2014) highlighted the following potentially harmful psychological, emotional and physical consequences of weight bias: depression, anxiety, low self-esteem, suicidal ideation, body dissatisfaction and maladaptive eating behaviours. Taylor, Zarabi & Dhuper (2012) adds that other harmful effects include internalisation, stress, anger and aggression.

While earlier research has investigated the explicit and implicit anti-fat attitudes of physicians, nurses, medical and nursing students (Jochemsen-Van Der Leeuw, Van Dijk & Wieringa-de Waard, 2011; Poon & Tarrant, 2009), MHPs appear to have been largely overlooked. With previous research indicating that weight bias within healthcare settings can often disrupt the provision of care, compromise the assistance patients received, impair provider-patient relationships and affect treatment outcomes (Ross, 2013; Puhl, Gold, Luedicke & DePierre, 2013; Gudzone, Huizinga & Cooper, 2011; Phelan et al., 2015; Ferrante et al., 2016), investigating possible weight bias toward patients who are overweight and obese amongst MHPs needs to be addressed. This is especially important considering

MHPs are expected and assumed to be non-judgmental, compassionate, empathetic, genuine, transparent, and hold unconditional positive regard for every patient, regardless of their Body Mass Index (BMI). With previous research (Davis-Coelho, Waltz & Davis-Coelho, 2000; Hassel, Amicic, Thurston & Gorsuch, 2001) identifying that psychologists believe that their patients who are obese have (1) more severe psychological symptoms, (2) greater pathology, (3) more negative attributes and (4) worse psychological prognosis when compared to non-obese patients, the need to recognise antecedents of weight bias, and raise MHP's awareness of their own explicit and implicit anti-fat attitudes within mental healthcare settings becomes evident. These findings are significant especially if one considers the impact of weight bias on the therapeutic relationship in terms of patient trust and engagement. With obesity forecast to continue as a leading public health problem in most parts of the world, it becomes necessary to consider 'weight bias reduction efforts' in the form of education and training of healthcare professionals (James, 2008). Intervention efforts are required if we to (1) ensure patients do not feel stigmatised or discriminated against because of their weight, and (2) reduce the impact of weight bias on healthcare providers' provision of care ensuring patients receive the best possible treatment whereby compassion and respect is offered to all (Puhl, Gold, Luedicke & DePierre, 2013). These efforts are critical in order to allow for equal treatment for all individuals, regardless of weight (Carels et al., 2013).

In the absence of an ideal and comprehensive theory of weight bias which could (1) identify the origins of weight bias, (2) explain why weight bias is elicited by obese body types, (3) account for the association between certain negative traits and obesity, and (4) suggest methods for reducing bias. Puhl and Brownell (2003) consider Social Consensus Theory (Sherif & Sherif, 1967) as the most promising approach to modifying attitudes toward obese people, which unlike Attribution Theory (Weiner, 1986), not only proved effective in reducing weight bias but it also offered an explanation as to why obese individuals themselves express negative stereotypes (wanting to belong to the valued social 'in-group' and distancing themselves more from the 'out-group'). With increasing evidence that healthcare professionals hold and perpetuate negative stereotypes and attributions that are core within weight bias, ongoing research and education for these professionals is necessary not only because weight bias has been shown to affect rapport, communication, and the patient-provider relationship, but it has also shown to affect the level of satisfaction with regard to patient experiences with healthcare services (Brown & Flint, 2013).

2. Method

2.1. Design

A positivist study utilising an experimental design with quantitative research methods and techniques. Parametric statistics (SPSS v23, 2015) allowed for an exploratory correlational research study whereby the explicit attitude measures were carried out before administering the IAT. Investigating the impact of an empathy-evoking intervention video, the study utilised a pre-post control-intervention group design.

2.2. Sample

The study aimed to investigate weight bias among MHPs, and the impact of an empathy evoking intervention on their anti-fat attitudes. The study sample consisted of 125 volunteer participants who reportedly work with, or have worked with, overweight and obese patients within NHS or private clinic settings. As three sets of data were incomplete, the final sample consisted of 122 participants ($n = 25$ male; 97 female). Participants were between 25-69 years-old, and predominantly White-British (83 %). The remainder of the sample consisted of participants categorised as 'Mixed' (4%), 'Asian' (7%), 'Black' (3%) and 'Other' (3%). 8% of participants were categorised 'Underweight' ($< 18.5 \text{ kg.m}^2$), 71% of participants were categorised as 'Normal weight' ($18.5\text{-}24.9 \text{ kg.m}^2$), with 21% as either 'Overweight' ($25.0\text{-}29.9 \text{ kg.m}^2$) or 'Obese' ($\geq 30.0 \text{ kg.m}^2$). All participants were qualified and registered London-based MHPs, working as Psychologists ($n = 66$), Psychotherapists ($n = 26$), CBT Therapists ($n = 11$) or Counsellors ($n = 19$).

2.3. Procedure

After ethical approval of the study was obtained from both the Health Research Authority (HRA) and City, University London, pilot testing could be carried out. An opportunistic sample of 25 working professionals known to the researcher were used to pilot test the computer-based study. This was the most convenient and resource-saving option available. Piloting revealed participant confusion, misunderstandings, as well as possible pitfalls and potential obstacles to testing. Recruitment of participants was targeted, in that to be included in the study certain criteria had to be met (qualified and registered MHPs). Recruitment and selection was carried out solely by the researcher. Written consent was obtained from each participant. Testing took place face-to-face and was carried out by the researcher, a Counselling Psychologist trainee. Face-to-face testing enabled the researcher the opportunity

to (1) fully brief each participant regarding the study, (2) explain each of the three online attitude measures (3) address any queries or concerns the participants had with regard to testing and confidentiality, process, and (4) take each participants weight and height measurements. Testing required participants complete a computer-based task which consisted of three sections: (1) a demographics questionnaire, (2) a battery of three explicit attitude questionnaires, and (3) an implicit attitude measure. Both the explicit and implicit measures focused on obesity-related attitudes. The computer-based task was completed twice, once before the intervention video and once after the intervention video. Test duration differed from participant to participant, but generally completion took between 35-45 minutes. Testing took place at participants' place of work and was carried out over a 6-month period.

2.4. Measures

Testing was done on an individual basis, and involved one face-to-face meeting between participant and researcher. As testing was entirely computer-based, a quiet and secluded testing location with good internet reception was necessary. The computer-based task was built using the Inquisit 4 Web Player (Millisecond Software, 2015) and comprised of: (1) a demographic questionnaire, (2) three explicit attitude measures and (3) an implicit attitude measure.

2.4.1. Demographic questionnaire

The demographic questionnaire required participants report their sex, age, ethnicity, occupation, whether they currently or previously worked with overweight and/or obese patients, and whether they worked privately or for the NHS. Capturing all of this data was important as the participants' demographic information made up the study's seven independent variables.

2.4.2. Explicit Attitude Measures

The computer-based task commenced with the Attitudes towards Obese People Scale (ATOP: Allison, Basile & Yucker, 1991). It was then followed by the Beliefs about Obese People Scale (BAOP: Allison et al., 1991) and the F-Scale (the shortened version of the Fat Phobia Scale: Bacon, Scheltema & Robinson, 2001). These three explicit attitude measures were designed to reveal (1) negative and positive judgements about obese individuals' personalities, social functioning and self-esteem, (2) explicit beliefs regarding obesity and, (3) degree to which individuals associate stereotypical characteristics with being fat

respectively. Previous studies report good validity and reliability using each of these measures: the ATOP (α = coefficient of 0.76) (Puhl & Brownell, 2006), the BAOP (α = coefficient of 0.82) (Puhl & Brownell, 2006), and the F-Scale (α = coefficient of 0.87) (Bacon et al., 2001). Cronbach's alpha coefficients for explicit attitude measures were as follows: ATOP = 0.82, BAOP = 0.63 and F-Scale = 0.85. The Cronbach's alpha for BAOP is questionable, as it is less than 0.70, however, the item-total statistics suggest that if item 2 on the BAOP scale was removed, Cronbach's alpha would become 0.69 which is close to a 'good' reliability result.

2.4.2.1. The Attitudes towards Obese People Scale (ATOP)

The ATOP Scale (Allison et al., 1991) consists of 20 questionnaire items evaluating negative and positive judgements about obese individuals' personalities, social functioning and self-esteem. These judgements were rated on a 6-point Likert-type scale (-3 = I strongly disagree, +3 = I strongly agree), with participants' total scores ranging between 0-120. Lower scores were indicative of negative attitudes towards people with obesity. Only once answering all 20 of the ATOP Scale's items, could participants progress to the second explicit attitude measure.

2.4.2.2. The Beliefs about Obese People Scale (BAOP)

The BAOP Scale (Allison et al., 1991) consists of 8 questionnaire items measuring the extent to which one believes obesity is under the control of the obese person. These items were scored on a 6-point Likert-type scale (-3 = I strongly disagree, +3 = I strongly agree), with participants' total score will range between 0-48. Lower scores were indicative of a stronger belief that obesity is controllable.

2.4.2.3. The Fat Phobia Scale (F-Scale)

After completing the BAOP Scale, participants were then required to complete the F-Scale. The F-Scale (Bacon et al., 2001) consists of 14 items measuring the degree to which individuals associate stereotypical characteristics with being fat. Participants indicated on a scale of 1-5 which adjective best describes fat persons, with averaged total scores ranging from 1-5. Higher scores indicated a stronger perception that the characteristics are associated with being fat, while a score of 3 is considered neutral.

Participants' responses for each questionnaire item were automatically saved and stored by the Inquisit 4 Web Player (Millisecond Software, 2015) and all items making up each of three explicit attitude measures had to be completed before participants could progress to the final stage of the computer-based task, the implicit attitude measure.

2.4.3. Implicit Attitude Measure

The third and final section of the computer-based task was the Implicit Association Test (IAT: Greenwald, McGhee & Schwartz, 1998). As the IAT has the ability to capture deeply-rooted, more stable, unconscious or introspectively inaccessible representations, it can complement traditionally used explicit assessments and make vital contributions to the understanding of drivers behind certain behaviours (Greenwald et al., 1998). A unique measure of automatic biases participants may be unaware of, or unwilling to report (Greenwald, Poehlman, Uhlmann & Banaji, 2009), the IAT has been useful in providing an indication of implicit preferences for fatness or thinness (Flint et al., 2015) as well as assessing attributes associated with characteristics such as age, gender, ethnicity and weight (Schwartz et al., 2003).

The IAT is a timed dual categorisation task useful in measuring implicit associations and bias toward a target group by bypassing conscious processing (Greenwald et al., 1998).

McConnell and Leibold (2001) highlight that the IAT has proved helpful in predicting prejudiced behaviour toward various target groups (McConnell & Leibold, 2001). As the IAT is a semantic discrimination task, participants are required to categorise the presented words/stimuli (words selected from existing IAT lists) as fast and as accurately as possible, according to a *concept* or *attribute* dimension (Roefs & Jansen, 2002), to increase reliance on automatic responses. In this study, the *concept* dimension consisted of *fat/thin-related* words (colour coded in white), while the *attribute* dimension consisted of *pleasant/unpleasant* words (colour coded in green). The finalised list of stimuli words were broken down as follows: 8 *pleasant* words (e.g., love and peace), 8 *unpleasant* words (e.g., murder and evil), 5 *fat-related* words (e.g., chunky and obese) and 5 *thin-related* words (e.g., skinny and slender).

Only the response results from task 4 and task 7 were used to measure each participants' implicit attitudes. Therefore, if a participant had an implicit attitude preference for patients

who are overweight or obese, it should be easier for that participant to respond to both ‘pleasant’ and ‘fat-related’ words with the same key, as people generally find it much easier to categorise words quicker when pairing categories which match their attitude (Schwartz et al., 2003). The IAT is one of the best-known measures of implicit cognition to date, and it demonstrates satisfactory internal consistency and test-retest reliability (Nosek, Greenwald & Banaji, 2005). A meta-analysis concluded that the IAT has incremental and predictive validity independent of the predictive validity of explicit measures (Greenwald et al., 2009), and initial validation of the IAT has shown its sensitivity to individual differences in implicit effects of self-esteem, self-identity (Greenwald & Farnham, 2000), attitudes, and stereotyping (Rudman, Ashmore & Gary, 2001), with no evidence of procedural limitations or familiarity of stimulus acting as confounding variables (Dasgupta, Greenwald & Banaji, 2003). While faking is possible, the IAT is less susceptible and has demonstrated a reasonable amount of resistance to social desirability bias (Kim, 2003). Once each participant had completed all seven IAT association/discrimination tasks, the Inquisit 4 Web Player (Millisecond Software, 2015) provided a results page whereby participants would be able to see a summary of their response latency to the various tasks (in milliseconds / msec), with regard to both configurations. This results webpage also explained that the quicker response time for each participant may be more consistent with one’s attitude toward a particular category.

2.5. The Intervention

At the start of the study participants were randomly allocated into one of two groups, a control group or an experimental group. Randomised group allocation determined whether participants watched a five minute ‘control’ video clip, or a five minute ‘experimental’ video clip after the pre-intervention computer tasks. The control video clip was a compilation of time lapsed shots of British landscapes (AerialBritain, 2008), and the video’s audio was muted to ensure that the clip was as neutral and non-emotive as possible for participants. The experimental excerpt was a clip from a video created by Yale University’s Rudd Center for Food Policy and Obesity (Yale University, 2009) in response to growing concerns around weight bias in healthcare. This video was selected as it depicted an obese person’s experience of weight bias, body shaming and social rejection during a routine visit to their GP. The educational experimental video was designed to raise awareness of weight bias, as well as identify victims, sources and the consequences of anti-fat attitudes. To investigate cause and effect, pre- and post-intervention testing allowed the researcher to measure whether the experimental condition had any influence in impacting anti-fat attitudes, as Teachman et al.

(2003) stated that evoking empathy has shown in some studies to be effective as a weight bias reduction strategy.

2.6. Data Analysis

All participants' demographic information, as well as responses to each item on the pre- and post-intervention explicit and implicit attitude measures were retrieved from the Inquisit 4 Web Player (Millisecond Software, 2015) and saved in Microsoft Excel format. The raw demographic information was coded according to grouping categories (e.g. Sex consisted of two categories: 1 = 'Male' and 2 = 'Female'; BMI consisted of four categories: 1 = 'Underweight', 2 = 'Normal Weight', 3 = 'Overweight' and 4 = 'Obese'). Data was cleaned in preparation of analysis, and as three of the 125 participants did not complete post-intervention testing, their data was removed from the data set.

Each participant's total scores were calculated for each of the three explicit attitude measures (ATOP & BAOP: Allison, Basile & Yucker, 1991; F-Scale: Bacon, Scheltema & Robinson, 2001), at both pre- and post-intervention testing. The mean scores and other descriptive statistics were then calculated in SPSS and used in further analyses. The IAT D scores for each participant (pre- and post-intervention) were calculated as recommended by Greenwald, Nosek, and Banaji (2003). IAT D scores represented the difference between total response latency for the pairings of Configuration 1's 'fat + unpleasant' and 'thin + pleasant'; versus Configuration 2's 'fat + pleasant' and 'thin + unpleasant'. Participants who responded too quickly or too slowly could not be included in the analysis, therefore responses greater than 1,000 msec or less than 300 msec were deleted. Participants' pre-intervention scores were considered the baseline data which would allow the researcher to answer Hypothesis 1, while the difference between participants' post- and pre-intervention scores for each explicit and implicit attitude measure became the 'discrepancy scores' which allowed the researcher to answer Hypothesis 2.

Under investigation were the following two hypotheses. Hypothesis 1 which considered whether at pre-intervention testing, participants would report negative explicit and implicit anti-fat attitudes towards their patients who are overweight and/or obese; and Hypothesis 2 which considered whether at post-intervention testing, participants in the experimental group, would report greater decreases in their explicit and implicit anti-fat attitudes compared to participants in the control group. Using a pre-post, intervention-control group design, the

impact of the study's hypotheses were tested using the Statistical Package for Social Sciences (SPSS) Version 23 (2015).

Whilst reviewing the study's demographic characteristics, what became evident was that the breakdown of participants into each of the grouping variables was quite disproportionate. Therefore, prior to running any statistical analyses the categories making up the BMI and Ethnicity categories were combined as follows, to make the samples less unequal. 'BMI' originally consisted of four categories: 'Underweight' ($N = 10$), 'Normal Weight' ($N = 87$), 'Overweight' ($N = 23$) and 'Obese' ($N = 2$), and 'Ethnicity' consisted of five groups: 'White' ($N = 101$), 'Mixed' ($N = 5$), 'Asian' ($N = 10$), 'Black' ($N = 3$), 'Other' ($N = 3$). This original data was re-coded within the SPSS worksheet to reflect the following: 'BMI2' consisted of: 'Underweight' ($N = 10$), 'Normal Weight' ($N = 87$) and 'Overweight/Obese' ($N = 25$) and; 'Ethnicity2' consisted of 'White' ($N = 101$), and 'Other' ($N = 21$).

After checking the assumptions were met for the following statistical tests, the study's hypotheses were then examined. (1) A MANOVA was conducted on the pre-intervention data for each of the independent variables (age, sex, ethnicity, BMI, occupation, working privately / NHS, and working with patients who are overweight and/or obese), with all attitude measures as dependent variables (explicit and implicit responses). Follow-up one-way ANOVAs were employed with Welch correction to produce robust tests of equality of means to examine attitudes in relation to the demographic characteristics. Post-hoc tests with Scheffé correction were used to follow-up significant ANOVA effects. (2) A MANOVA was conducted on the discrepancy data (the difference between the dependent variables pre- and post-intervention scores) for each of the dependent variables (ATOP, BAOP, F-Scale and IAT), with 'Intervention Group' as a fixed factor. Follow-up was an independent samples t-test for the experimental and control group interventions. (3) A MANCOVA was conducted on the discrepancy data (the difference between the dependent variables pre- and post-intervention scores) for each of the dependent variables (ATOP, BAOP, F-Scale and IAT), with 'Intervention Group' as a fixed factor and the independent variables as covariates. For significant main effects follow-up, one-way ANOVAs were to be employed with Welch correction to produce robust tests of equality of means to examine attitudes in relation to the independent variables (except for sex, working privately and working with patients who are overweight and/or obese - where an independent samples t-test was used). Post-hoc tests with

Scheffé correction were used to follow-up significant ANOVA effects.

3. Results

Data from the dependent variable measures (ATOP, BAOP, F-Scale and IAT) were examined using SPSS Version 23 (2015) for accuracy of data entry, missing values, outliers, distributional properties, multicollinearity, and other assumptions specific to the General Linear Model. As the various test assumptions were met, the researcher could progress with the statistical analysis.

Pre-Intervention Multivariate and Univariate Analyses

Hypothesis 1 stated that at pre-intervention testing, participants would report negative explicit and implicit anti-fat attitudes towards their patients who are overweight and/or obese. A MANOVA demonstrated a significant effect at pre-intervention testing for both age and occupation ($p < 0.05$). Pillai's Trace for the MANOVA highlighted that: (1) age had a significant effect on participants' pre-intervention explicit and implicit anti-fat attitudes ($V = 0.16$, $F(8, 216) = 2.39$, $p = 0.02$); and (2) occupation had a significant effect on participants' pre-intervention explicit and implicit anti-fat attitudes ($V = 0.19$, $F(12, 324) = 1.79$, $p = 0.04$). The researcher therefore failed to reject the null hypothesis.

The Tests of Between-Subjects Effects summary table of ANOVAs for each dependent variable measure, concluded that significant effects were observed for age and occupation. A significant difference was found in participants' explicit anti-fat attitudes, at pre-intervention, due to (1) age group: ATOP ($p = 0.04$) and F-Scale ($p = 0.02$); and (2) occupation group: BAOP ($p = 0.03$) and F-Scale ($p = 0.03$). Follow-up Scheffe post hoc tests for age indicated a significant difference on the ATOP pre-intervention scores for 'Young Adults' and 'Middle-aged Adults' ($p = 0.04$), with the homogeneous subsets revealing that 'Young Adults' ($M = 71.46$) were associated with more negative attitudes towards obese persons than the 'Middle-aged Adults' ($M = 79.54$). Follow-up Scheffe post hoc tests for occupation indicated a significant difference on the F-Scale pre-intervention scores for 'Psychologists' and 'Counsellors' ($p = 0.03$), with the homogeneous subsets revealing that 'Counsellors' ($M = 3.71$) were associated with being more fat phobic than 'Psychologists' ($M = 3.33$).

One-way ANOVAs (see Table 1) confirmed the MANOVA results with age producing

significant effects for the ATOP ($F(2, 119) = 3.34, p = 0.04$) and F-Scale ($F(2,119) = 3.46, p = 0.04$), where follow-up Scheffe post hoc tests revealed that the ‘Young Adults’ and ‘Middle-aged Adults’ explicit anti-fat attitudes only differed significantly from the other age groups on the ATOP ($p < 0.05$). Homogeneous subsets revealed that ‘Young Adults’ ($M = 72.03$) were associated with more statistically significant negative attitudes towards obese persons than the ‘Middle-aged Adults’ ($M = 79.63$). A one way ANOVA examining occupation produced significant effects for the BAOP ($F(3, 118) = 3.13, p = 0.03$) and F-Scale ($F(3,118) = 2.92, p = 0.04$), where follow-up Scheffe post hoc tests revealed that ‘Psychologists’ and ‘Counsellors’ explicit anti-fat attitudes differed significantly from the other occupation groups on the F-Scale ($p < 0.05$). Homogeneous subsets revealed that ‘Counsellors’ ($M = 3.68$) were associated with being more fat phobic than ‘Psychologists’ ($M = 3.34$).

Table 1:

Pre-intervention: One-way ANOVAs examining attitude across sex, age, BMI, ethnicity and occupation.

	Sex	Age	BMI	Ethnicity	Occupation
<i>d.f., error d.f.</i>	(1, 120)	(2, 119)	(3, 118)	(4, 117)	(3, 118)
	<i>F</i>	<i>F</i>	<i>F</i>	<i>F</i>	<i>F</i>
ATOP	0.01	3.34*	1.33	1.31	1.03
BAOP	0.74	2.48	1.66	1.70	3.13*
F-SCALE	0.24	3.46*	0.82	1.37	2.92*
IAT-D	1.08	1.59	1.49	0.34	1.76

Note. *Value is significant at the .05 level

**Value is significant at the .01 level

The statistics run on the participants’ pre-intervention explicit and implicit attitude scores across the study’s grouping variables appear to partially support this study’s Hypothesis 1 in that the ‘Young Adults’ and ‘Counsellors’ held more statistically significant negative explicit anti-fat attitudes (ATOP and F-Scale) than the other participants at pre-intervention testing.

Discrepancy Multivariate and Univariate Analyses

Hypothesis 2 stated that at post-intervention testing, participants in the experimental group would report a greater reduction in their explicit and implicit anti-fat attitudes towards their patients who are overweight and/or obese, compared to participants in the control group. A MANOVA run on the discrepancy scores of each of the four dependent variables (ATOP, BAOP, F-Scale and IAT), with 'Intervention Group' as a fixed factor demonstrated that there was a significant difference ($V = 0.10$, $F(4, 104) = 2.73$, $p = 0.033$) in explicit and implicit anti-fat attitudes between pre-and post-intervention testing, due to the type of intervention group (control or experimental). The null and alternative hypothesis could therefore be rejected as the 'intervention groups' employed in this study were shown to have a significant effect on the dependent variables, from pre- to post-intervention, but not in the direction predicted.

The Tests of Between-Subjects Effects summary table of ANOVAs for each dependent variable measure, concluded that significant effects were observed for 'Intervention Group', but only on the ATOP discrepancy scores ($F(1, 107)$, $p = 0.004$) indicating a significant difference in participants' explicit anti-fat attitudes, from pre- to post-intervention testing, due to the impact of intervention group allocation. A follow-up independent samples t-test revealed that, on average, participants within the experimental intervention group ($M = -3.54$; $SE = 9.79$) reported more negative explicit anti-fat attitudes, than participants within the control intervention group ($M = 0.42$; $SE = 7.46$). While a significant difference was found between the experimental and control intervention groups, for the ATOP discrepancy scores ($t(120) = 2.49$, $p = 0.014$), it was not in the direction hypothesised - in that the explicit attitudes of those within the 'experimental group' became more negative. An independent samples T-Test confirmed that the experimental group participants reported more negative explicit anti-fat attitudes in comparison to the control group participants' scores on the ATOP at post-intervention. Hypothesis 2 stated that at post-intervention testing, participants in the experimental group will report greater decreases in their explicit and implicit anti-fat attitudes compared to participants in the control group. As this was not found, the null hypothesis is rejected.

A MANCOVA was run on the discrepancy scores of each of the four dependent variables (ATOP, BAOP, F-Scale and IAT), with 'Intervention Group' as the fixed factor and the grouping variables as 'Covariates'. Results reported non-significant differences ($V = 0.09$, $F(4, 97) = 2.27$, $p = 0.07$) in participants' discrepancy scores (see Table 2) for the ATOP,

BAOP, F-Scale or IAT across the grouping variables, or due to intervention group allocation (control or experimental). Therefore, no statistically significant differences were found in participants' explicit and implicit anti-fat attitudes from pre-intervention to post-intervention, due to intervention group allocation (control or experimental) or across any independent variables. We can therefore accept the null hypothesis.

Table 2:

MANCOVA: Pillai's Trace discrepancy score values from the multivariate tests.

	<i>V</i>	<i>F</i>	<i>d.f</i>	<i>error d.f</i>	<i>p</i>
Sex	0.04	1.09	4	97	0.37
Age	0.02	0.52	4	97	0.72
BMI	0.04	1.13	4	97	0.35
Ethnicity	0.03	0.84	4	97	0.50
Occupation	0.06	1.48	4	97	0.21
Privately	0.02	0.50	4	97	0.73
Patients	0.07	1.77	4	97	0.14

Note. *Value is significant at the .05 level

**Value is significant at the .01 level

4. Discussion

The present study aimed to provide insight into weight bias among MHPs. Currently no UK-based research exists which considers MHPs explicit and implicit anti-fat attitudes toward their overweight or obese patients. This study primarily aimed to (1) investigate and raise awareness of potential explicit and/or implicit anti-fat attitudes among MHPs working in a variety of therapeutic roles within various counselling psychology settings, (2) consider whether an experimental intervention may reduce MHP's weight bias, and (3) raise awareness of the associated behavioural outcomes and practice implications. What becomes apparent is the need to understand and address weight bias within mental healthcare, and begin applying strategies shown to be effective in reducing anti-fat attitudes within mental healthcare settings.

Hypothesis 1:

At pre-intervention testing, the only significant differences were found among (1) ‘Young Adults’ (18-34-year olds) which reported greater negative explicit attitudes towards obese persons, and (2) ‘Counsellors’ which reported greater explicit fat phobic responses. As Hypothesis 1 is only partially supported, the researcher fails to reject the null hypothesis.

Age

While it is worth considering that the unbalanced age category sample sizes may have influenced the results, what the data indicates is the younger the participant, the more negative their explicit anti-fat attitudes towards their patients who are overweight and obese. This is in line with earlier research (Lieberman, Tybur & Latner, 2012; Wear, Aultman, Varley & Zarconi, 2006). It could be speculated that immaturity or less experience and clinical interactions with people of all sizes may have impacted the degree of weight bias held by younger individuals (Flint, Hudson & Lavalley, 2015; Latner, Stunkard & Wilson, 2005; Hebl, Ruggs, Singletary & Beal, 2008; Davis-Coelho, Waltz & Davis-Coelho, 2000). Adding to this, Hague and White (2005) highlight that older health professionals who have had more life experience, training and greater knowledge through continued professional development, may have overcome their negative attitudes toward patients who are obese and are therefore more accepting of people of all sizes.

The importance of body image, body shape, weight and appearance has also shown to decrease with age (Tiggemann, 2004), in that the older the individual, the less attention they attribute to those of a higher BMI. Perhaps growing up in a society with the continued pressure of the ‘ideal’ weight preference, has resulted in younger participants holding less tolerant weight attitudes, feeling there is no excuse to be overweight with many popular ‘on trend’ physical activities and ‘healthier’ food choices conveniently accessible to all. It could be speculated that perhaps being shaped by society while growing up, these younger MHPs may still be influenced, or inherently hold attitudes of varying degrees, that overweight or obese people are in control of their weight, and are therefore to blame if they fall into the overweight or obese BMI categories. Similarly, Schwartz et al. (2003) hypothesised that younger healthcare professionals may be more strongly imprinted as societal pressures to be thin have only intensified in recent decades.

Occupation

While Counsellors were shown to hold significantly more explicitly negative anti-fat attitudes towards their patients who are overweight, this occupation group only made up less than a fifth of the total study sample. With no existing research considering weight bias among MHPs working within different therapeutic approaches, there is no literature available for comparisons. It could be speculated that different degrees of weight stigma are possibly due to differing levels and duration of clinical experience, training, supervision, personal therapy and further qualifications. Various registering bodies will also have different requirements with regard to degree of Continued Professional Development and adherence of ethical guidelines and code of conduct. Perhaps more extensive training, knowledge, personal therapy and supervision is necessary with regard to the causes of obesity, the types of weight bias within various societal settings, and greater self-awareness of one's own anti-fat attitudes.

It could be speculated that Counsellors may be too heavily influenced by the therapeutic approach in which they work, which in turn may affect the degree of anti-fat attitudes they hold with regard to their patient's weight. Counsellors might, instead of considering other causes resulting in a higher BMI, perceive patients who are overweight as blameworthy (Van Leeuwen, Hunt & Park, 2015; Wylie, 2015; Crandall, 1994). It could also be speculated that these MHPs may potentially feel overwhelmingly inadequate to treat overweight or obese patients given the comorbidity of presentations, or the complexity of the case.

While people tend not to explicitly subscribe to biases which may be seen as socially undesirable, they may harbour unconscious latent preferences. What this study's results indicate however, is that participants are only explicitly weight biased. It could be speculated that the 'Young Adults' and 'Counsellors' explicitly believed they are more strongly weight biased than they actually are, and working with overweight patients had a much less significant impact on them and their behaviour in the therapy room. Perhaps experiences throughout life have not involved strong negative stereotypes about overweight and obese people, and it is possible that perhaps some more positive weight-related beliefs, attitudes and ideas have influenced them implicitly without their knowledge. With Borowik, Carroll, Cicero and Ellis (2015) highlighting that explicit attitudes stem from more recent and accessible events, perhaps life experiences with overweight and obese people have not been strongly negative for the MHPS, until more recently.

Hypothesis 2:

The intervention was shown to significantly affect experimental group participants' explicit anti-fat attitudes from pre- to post-intervention testing, however instead of reducing weight bias, the explicit anti-fat attitudes of those in the experimental group became more negative. The researcher therefore rejected both the null and alternative hypotheses.

Evoking empathy has been shown to reduce prejudice toward commonly stigmatised groups (Dánielsdóttir, O'Brien & Ciao, 2010; Vescio, Sechrist & Paolucci, 2003; Batson et al., 1997). Many studies however pertain to race, gender or age which are considered uncontrollable, while Myers and Rosen (1999) highlight that greater controllability beliefs will be associated with more negative attitudes. It could be postulated that perhaps evoking empathy failed to reduce anti-fat attitudes among the experimental group participants within this study, as obesity is deemed controllable. While causality is central to Attribution Theory (Weiner, 1986), emotions have also been shown to be modified by Attribution Theory (Weiner, 1986), therefore one could speculate that this theory could potentially prove effective in reducing weight bias.

While Teachman, Gapinski, Brownell, Rawlins & Jeyaram (2003) found that evoking empathy reduced weight bias, this was only among overweight participants and may potentially have been a result of in-group bias. With only a quarter of the 65 MHPs in the current study's experimental intervention group falling into the overweight/obese BMI categories, it could be speculated that in line with Social Identity Theory, the majority of members ($n = 45$) making up the experimental group, were distinctly categorised as 'normal weight' and therefore more likely to view in-group members in a more positive light and members of the outgroup more negatively (Tajfel & Turner, 1986).

Teachman et al. (2003) also highlighted that in attempts to evoke empathy, the portrayed negative evaluations of an obese person may serve to reinforce rather than diminish weight bias. Perhaps viewing the intervention video featuring obese actors evoked earlier memories of negative experiences with patients or people who are overweight and obese. The intervention could therefore have elicited negative feelings, such as repulsion or disgust for the experimental group participants.

From pre- to post-intervention testing, response consistency is apparent. Prior to exposure to the experimental video, explicit attitudes were shown to be significantly negative, and after exposure the attitudes only became more negative. It could be speculated that perhaps participants simply remembered their responses to the items making up the explicit attitudes measures at pre-intervention testing, and repeated these at post-intervention testing. Or perhaps the participants' attitudes remained negative as anti-fat attitudes have been shown to be robust, with weight bias remaining a stubborn problem (Dáníelsdóttir, O'Brien, & Ciao, 2010; Lee, Ata, & Brannick, 2014). It could be speculated that in attempting to evoke empathy toward the overweight and obese, in order to reduce MHP's weight bias, exposure to the experimental video challenged the participant's perceptions of obesity, resulting in even more negative perceptions post-intervention. What also needs to be considered is the fact that post-intervention testing was carried out immediately after participants had completed watching the control and experimental videos. As attitudes have proven to be difficult traits to change, with anti-fat attitudes proving robust (Lee, Ata, & Brannick, 2014), this immediacy effect had to be considered when interpreting the study's results. With such a short break between intervention and re-testing, it could be postulated that there was no time or not enough time for any sort of attitude shift.

With regard to the direction of future research, more UK-based weight bias studies replicating the work done in the United States of America (USA) are necessary if we are to begin confidently generalising the results found. While weight bias within many healthcare professions has been considered, weight bias specifically among those working within mental healthcare settings has been largely overlooked. For an evaluative standard, there needs to be normative data. Therefore, it has to be determined where MHPs fit, when being compared to nurses, physicians, physiotherapists, dentists etc. Future work should also examine (1) weight bias over time (i.e. the same participants re-tested months later), (2) differences in MHPs explicit and implicit anti-fat attitudes with a focus on demographic differences among participants, and (3) whether evoking feelings of acceptance, equality and respect would prove more effective than evoking empathy in challenging participant's anti-fat attitudes.

With weight bias being documented in research studies among physicians, nurses, medical students, student nurses, rehabilitation counsellors, dieticians and fitness professionals (Puhl & Brownell, 2001; Puhl & Heuer, 2009, Kaplan, 1984), similar studies among MHPs are necessary to determine the implications and potential impacts within counselling psychology

practice. With previous research (Huizinga et al., 2009; Ferrante et al., 2009; Hebl & Xu, 2001) demonstrating that healthcare professionals report viewing patients who are obese as lazy, annoying, dishonest, lacking in self-control, unintelligent and a waste of their time, it could be assumed that MHPs hold the same attitudes. Patients picking up on these anti-fat attitudes have reported feeling disrespected, berated and dismissed by healthcare providers (Brown et al., 2007; Edmunds, 2005; Bertakis & Azari, 2005). Ogden and Clementi (2010) highlight that obesity is a highly stigmatised condition generating a multitude of social reactions, with this 'enacted stigma' by others, impacting the obese individual's 'felt stigma'. It could therefore be speculated that patients' awareness of such negative weight-related views by those who they trust and turn to for help, could possibly affect the patient-provider relationship.

Amy, Aalborg, Lyons and Keranen (2006) highlight that patients who have reported negative attitudes by their healthcare providers, have resulted in lower motivation levels for change (Vartanian & Novak, 2011), have higher programme attrition (Schvey, Puhl, Levandoski & Brownell, 2013) and avoid healthcare by delaying and cancelling appointments (Drury & Louis, 2002). Within counselling psychology practice and training there is no place for weight discrimination, as weight biased MHPs would find it impossible to work as efficiently and as effectively as possible with patients who are vulnerable if their anti-fat attitudes were impacting on the therapeutic relationship and the dynamics within the therapy room. Not only does this raise the probability of relationship ruptures, but it would affect any rapport that had been built. Building trust and rapport with patients is paramount for those working within mental healthcare, but if patients feel their MHP cannot be trusted, or if they feel their MHP does not accept, value or understand them, and is not being genuine, this will potentially impact on the work, resulting in patients avoiding therapy sessions by delaying and cancelling appointments, and in some cases never returning.

Weight bias in mental healthcare is a sensitive area of work as patients seeking assistance will come with pre-existing mental health issues (e.g., phobias, personality disorder, post-traumatic stress) and thus, should be handled gently and with consideration. Weight bias also has psychological consequences which can make individuals vulnerable to depression, anxiety, diminished self-esteem, perceived inadequacy, poor body image, elevated risk factors, suicidality, maladaptive eating behaviours such as binge eating, unhealthy weight control practices, or eating more food to cope with the stigma (Puhl et al., 2013, Puhl &

Heuer, 2009; Puhl et al., 2007; Puhl, Peterson & Luedicke, 2011). For those seeking assistance from services within the general healthcare system, weight bias has the ability to worsen a patient's current state by resulting in the addition of a mental health concern (e.g., a diabetic developing depression). While the risk for patients with pre-existing mental health issues, is that the mental health issues are either exacerbated or the patient may develop further mental health issues (i.e. low self-esteem worsens, or generalised anxiety developed). It is therefore important that those working within counselling psychology practices and other mental healthcare settings become aware of, and gain an understanding of, the disparities and compromised care patients with higher BMIs may face within the healthcare sector. Adding to this, MHPs holding explicit and/or implicit anti-fat attitudes toward their patients who are overweight and obese, becomes another barrier to quality healthcare, as well as reinforcing the biases they already experience within various societal contexts.

To conclude, many are affected by weight bias, with literature documenting how this type of discrimination can lead to adverse effects on psychological well-being, physical health, social and economic inequalities. Given the widespread acceptability and prevalence of weight bias within various social domains, it is not unrealistic to suspect that MHPs may hold anti-fat attitudes toward their patients who are overweight and obese. Weight bias within mental healthcare can impact patients' quality of care, therefore further understanding and raising awareness of explicit and implicit anti-fat attitudes among MHPs is necessary, as well as further investigation as to which interventions may be effective in reducing these negative attitudes.

Acknowledgements

The authors are grateful to all participants who volunteered to be a part of this research study.

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