

THE EFFECTS OF CLIENT OBESITY ON CLINICAL JUDGMENTS MADE  
BY TRAINEE CLINICAL PSYCHOLOGISTS

A thesis submitted to Cardiff University for part fulfilment of the degree of  
Doctor of Clinical Psychology  
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## **Word Counts\***

Paper 1: Systematic Literature Review Paper: 7,838

Paper 2: Empirical Research Paper: 7,713

Paper 3: Critical Evaluation Paper: 8,055

\*Excluding references, tables and figures and appendix material

## **Lists of tables and figures**

### **Paper 1: Systematic Literature Review**

Table 1: Medline search strategy

Table 2: Quality percentages

Table 3: Data extraction summary table- design and methodology

Table 4: Data extraction summary table- results.

Figure 1: PRISMA Flowchart of literature search stages.

### **Paper 2: Empirical Research**

Table 1: Common areas of Fat Phobia

Table 2: Mean scores (and standard deviation) on key outcome variables across experimental conditions of Obese, Slim and No photo conditions.

Figure 1: Diagnoses per condition

Figure 2: Intervention focus per condition.

Figure 3: Therapy choice per condition.

## **Thesis Abstract**

The effects of Client Obesity on Clinical Judgments made by Trainee Clinical Psychologists

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Doctor of Clinical Psychology (ClinPsyD)

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This thesis explores potential weight stigma among trainee clinical psychologists and the potential impact of this upon their clinical decision making. Overall, the thesis is presented as three papers consisting of: 1) a systematic literature review; 2) an empirical research study and; 3) personal reflections and critical evaluation of the issues and processes involved in conducting this research.

In Paper one a systematic literature review of weight stigma among mental health professionals (MHPs) was conducted. A small number of papers met inclusion criteria (8 in total) for systematic review, and results revealed significant methodological weaknesses across studies limiting the confidence in findings found. However, the review highlighted that MHPs are not exempt from having weight stigma. The review provided discussion of clinical implications and future research requirements.

Paper Two sought to build on the findings from the systematic literature review, so as to further advance and develop our understanding of weight stigma among MHPS, specifically trainee clinical psychologists. The study aimed to assess weight stigma experimentally and to analyse how it may impact clinical judgments made by trainee clinical psychologists. One-hundred and fifty-one trainees completed an online experiment. Results showed trainees hold a moderate degree of weight stigma toward service users who have obesity and this may impact on clinical judgments in several ways. Implications for training were discussed.

Paper 3 provides a critical and personal reflective account of conducting two distinct, albeit related, research studies. This paper is subdivided into two sections, with critical appraisal and personal reflections interwoven throughout. The first section of the paper relates to the process and complexities of conducting a systematic review of the literature, while the latter section pertains to the issues that arose during the experimental research process.

**DECLARATION**

This work has not been submitted in substance for any other degree or award at this or any other university or place of learning, nor is being submitted concurrently in candidature for any degree or other award.

Signed ..... (candidate)      Date .....

**STATEMENT 1**

This thesis is being submitted in partial fulfillment of the requirements for the degree of DClInPsy.

Signed ..... (candidate)      Date .....

**STATEMENT 2**

This thesis is the result of my own independent work/investigation, except where otherwise stated. Other sources are acknowledged by explicit references. The views expressed are my own.

Signed ..... (candidate)      Date .....

**STATEMENT 3**

I hereby give consent for my thesis, if accepted, to be available for photocopying and for inter-library loan, and for the title and summary to be made available to outside organisations.

Signed ..... (candidate)      Date .....

## **Acknowledgements**

I would like to thank my friends and family for all of their support over the past three years as well as the journey to prior.

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Most importantly, I would like to thank all the trainee clinical psychologists who gave their time to complete the research, without their participation it would not have been possible.

**Paper 1. Systematic literature review.**

**Title:** A systematic literature review of weight stigma among mental health professionals

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## **Abstract**

Due to the increasing rates of obesity globally, the increasing employment of mental health professionals in weight management services and the significant detrimental effects of weight stigma on individuals, it is essential to assess the beliefs and attitudes of mental health professionals (MHPs) toward individuals who have obesity. As yet there has been no systematic review of these studies. The current paper describes a systematic literature review of studies carried out between 1950 and January 2018. Findings indicated that MHPs are not exempt from having weight stigma, but the limited number of studies and methodological weaknesses highlight the need for further research in this area.

## **Introduction**

National surveys in the UK have highlighted the extent to which weight discrimination is widespread. In the English Longitudinal Study of Ageing (Stephens et al., 2012), 6.6% of individuals with moderate obesity (BMI 30-35), 24.2% of those with severe obesity (BMI 35-40) and 34.8% of those with extreme obesity (BMI  $\geq$  40) reported having been mistreated because of their weight (Jackson et al., 2015). With increasing global rates of obesity, it may be anticipated stigma toward those with higher weight would reduce but this is not the case. Weight stigma has been described as one of the last socially sanctioned biases (Latner et al., 2008), and the pervasive discrimination against higher weight individuals may be more socially acceptable than discrimination against other groups (Latner et al., 2008). Weight stigma as a term may also include stigmatisation toward thinner individuals also, however, this review refers to stigma of individuals with higher weight or obesity.

The stigmatisation of obesity has important consequences for health and wellbeing of individuals who have obesity. The psychological consequences are well-documented: people who experience weight stigma and discrimination are at increased risk of depression and anxiety disorders (e.g. Annis et al., 2004; Carr et al., 2007); low self-esteem and self-acceptance (Carr & Friedman, 2005; Annis et al., 2004); body image dissatisfaction (Vartanian & Shaprow, 2008; Rosenberger et al., 2006); and they report poorer life satisfaction and quality of life (Jackson et al., 2015). There is also emerging evidence for physiological effects, with weight discrimination having been shown to be related to increased blood pressure (Major et al., 2012), chronic inflammation (Sutin et al., 2015a), greater disease burden (Sutin et al., 2014), worsening physical health (Sutin et al., 2014), and

even increased risk of mortality (Sutin et al, 2015b), independent of health risks of obesity itself. In addition to its harmful effects on emotional wellbeing and physical health, weight stigma may contribute to further increases in the prevalence and severity of obesity through a vicious cycle of weight gain and discrimination (Jackson, 2016).

The healthcare needs, both mental and physical are therefore sometimes greater for higher weight individuals however, health care providers are not excluded from weight bias. Indeed, targets of weight stigma have rated doctors as the second most common source of stigma, among a list of over 20 possible sources (Puhl & Brownell, 2006). The impact of such weight stigma in health care professionals has been shown to impair the quality of health care delivery in areas such as general practice (e.g. Bertakis & Azari, 2005; Bocquier et al., 2005; Hebl & Xu, 2001) and cancer screening (Amy et al., 2006; Østbye et al., 2005).

There have been several reviews regarding obesity stigma in health care professionals (HCPs) (e.g. Budd et al, 2009; Puhl & Heuer, 2009; Puhl & Brownell, 2001) but none as yet have focused on mental health professionals (MHPs) specifically. This may be important as MHPs generally have a different remit in promoting wellbeing rather than addressing weight management explicitly. Also, studies enquiring into weight stigma in MHPs have used purpose-designed instruments for their clinical setting such as effects of weight on perceptions of mental health diagnosis, prognosis and treatment planning for overweight individuals (Adams, 2009).

Due to the increased likelihood of MHPs working with higher weight individuals, and given the complex relationship between weight, weight stigma, and mental health, it is critical that research be conducted about the ways in which MHPs' attitudes toward obese individuals may impact treatment and care. It would be useful to have summarised findings of such research to understand better the ways in which this may occur in order to help understand how this may be remediated and improve clinical practice as well as inform mental health training programmes in how to challenge these biases and ensure MHPs work in a dignified and respectful way to all clients.

Therefore, the present review aims to systematically review literature regarding weight stigma in MHPs, with aims to answer the following research questions:

1. To what extent, if any, is there evidence that MHPs hold negative beliefs and attitudes about obesity?

2. To what extent, if any, is there evidence that client obesity affects the clinical judgements of MHPs compared to judgements made about clients who do not have obesity?

3. To what extent, if any, is there evidence for differences between professionals (such as age, gender etc.) in the level of stigma they hold.

## **Method**

### **Procedure and search terms**

The current review was conducted and reported consistent with the Preferred Reporting Items for Systematic Reviews and Meta- Analyses (PRISMA; see Figure1) (Moher, Liberati & Tetzlaff, 2009). It's been argued that it is important to use a comprehensive triangulation of search methods (O'Brien & McGuckin, 2015); searches were conducted using electronic databases, hand searching and citation searching. Articles were identified through a range of databases to include medical, psychological and social studies; Medline, PsycINFO and The Applied Social Sciences Index Abstracts (ASSIA). A combination of keyword searches and subject heading searches were conducted. Search terms, synonyms and search strings were completed to optimise capture of all relevant articles. HCP related terms were used to ensure all studies where MHPs may be included were found.

Searches used combinations of the following keywords, title, and abstract words: obesity, overweight, fat, stigma, discrimination, prejudice, stereotype, bias, attitude, health care professional, mental health professional, psychologists, judgments, decision-making etc. (Table 1). Initial test searches were conducted and search terms refined. The literature search was last updated on 14 January 2018.

Publication date, language restrictions, and non-animal subjects were applied as automatic limits across databases. Publication date was chosen as 1950, as studies relating to weight stigma were conducted at this time due to the rising public health concern, and standardised training for MHPs did not come until well after this date.

Conference proceedings, reviews, abstracts, and presentations were excluded from review. Articles that were not written in English, published before 1950, did not include human data or original data, and did not have a full article available for review were also excluded.

Articles that were not relevant to obesity stigma in MHPS, did not use an empirical method,

were duplicates, were reviews, or did not apply to any of the study questions were also excluded.

**Table1. Medline search strategy.**

Step	Search
1	Keyword search 1: (Attitud* or belief* or opinion* or stigma* or stereotyp* or prejud* or discrimin* or bias or unfair or blam* or victim* or fat phobia or fat-phobia or oppress* or cultural competence).mp.
2	Search 2: (obes* or overweight or over-weight).mp.
3	Keyword Search 3: (doctor or doctors or nurse or nurses or psychologist* or dietitian* or physiotherapist* or physician* or psychiatrist* or psychoanalyst* or counsellor* or counselor* or psychotherapist* or GP* or general practitioner* or healthcare student* or medical student*).mp.
4	Keyword search 4: (Judgem* or decision-making or decision making or behaviour or discrimin*).mp
5	Combined search: 1+2+3+4
6	limit 4 to (yr="1950 - 2018" and english and humans and (adaptive clinical trial or case reports or classical article or comparative study or "corrected and republished article" or editorial or evaluation studies or introductory journal article or journal article or multicenter study or observational study or overall or personal narratives or practice guideline))

*[mp=title, abstract, original title, name of substance word, subject heading word, keyword heading word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms]*

### **Inclusion, exclusion criteria**

The current review includes original empirical papers (quantitative or qualitative in design) which reported studies that have assessed weight stigma in MHPS. There were no restrictions on setting of MHPs, or specific mental health profession, or training status, as it was the attitudes and clinical judgements of MHPs that were of interest regardless of setting (i.e. community or inpatient).

These criteria were used to identify potentially relevant abstracts. If abstracts indicated that the papers may be eligible for inclusion, full papers were obtained and assessed. Papers meeting the specified inclusion criteria were included in the analysis (see Figure 1). Studies that did not meet the criteria were excluded (Appendix B). To reduce bias and provide triangulation, a second researcher analysed the full texts of studies and any discrepancies were resolved by consensus (Boland, Cherry & Dickson, 2017).

## **Quality assessment**

A quality assessment was conducted of each of the individual studies to be confident that the findings of the study were credible and methodologically robust and therefore to allow more meaningful conclusions in the review (Boland, Cherry & Dickson, 2017).

The evidenced-based librarianship critical appraisal tool (EBL, Glynn, 2006) is based on models of critical appraisal from health and education. It is a generic tool and was chosen because it can be applied to studies using a range of methodologies, therefore allowing the same quality tool to be used across papers for ease of comparison of results. The tool allows appraisal of four key areas; population, data collection, study design and results and provides an overall percentage of the quality of the article in regard to the validity, applicability and appropriateness of the study (Glynn, 2006). All papers were separately rated by an independent rater and any discrepancies were resolved through discussion to reach agreement by both raters.

## **Data extraction**

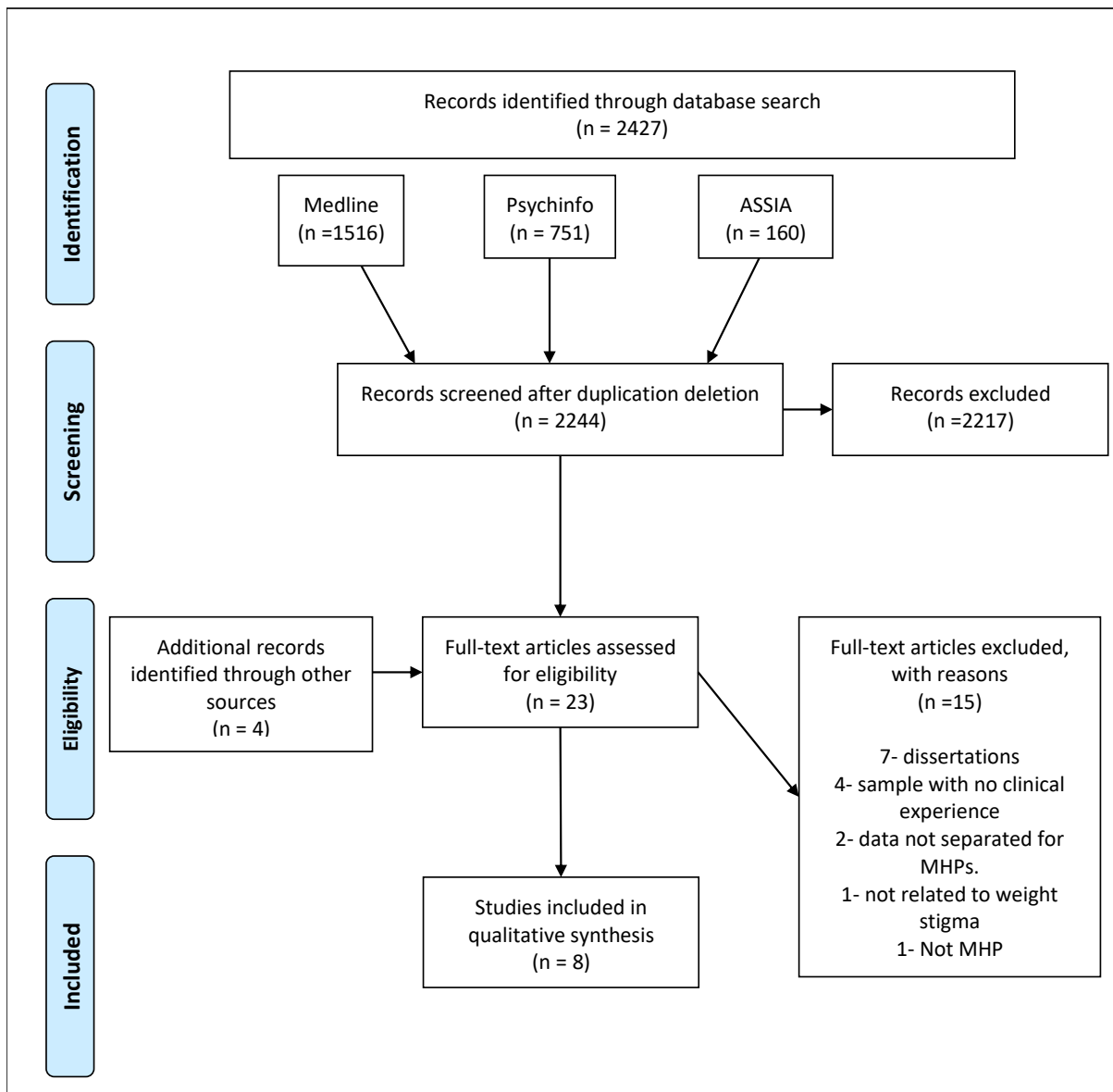
Specific information was extracted from each study to ensure the inclusion criteria were met and placed in a table for ease of comparison. Information extracted included that relating to methodology; focus of study, sample characteristics, design, setting and measures as well as results, including significance levels (Table 3). A narrative approach was used to analyse the data from the studies due to the variability of data from different instruments used a meta-analysis was not viable.

## **Results**

### **Literature search**

The results of the systematic literature search (Figure 1) show that initially 2427 articles were found in the search. After removal of duplicates (n=61), abstract articles were screened, and a further 2217 articles were removed for not meeting inclusion criteria. Nineteen articles remained for full text review, that met the inclusion criteria. An additional four articles were found in reference lists of other articles and one kept for full review. A further fifteen articles were rejected for not fulfilling the selection criteria. A second researcher completed the full text review, and substantial agreement was found between both raters. Only two papers had disagreement between the two reviewers, so were included for full review.

**Figure 1. PRISMA Flowchart of literature search stages.**



Adapted from: Moher D, Liberati A, Tetzlaff J, Altman DG, The PRISMA Group (2009). Preferred Reporting Items for Systematic Reviews and Meta-Analyses: The PRISMA Statement. *PLoS Med* 6(7).

### **Quality assessment**

The EBL Critical Appraisal checklist was then applied to each article (see Appendix C for full results) and the quality percentages calculated (Appendix D). Table 2 below, details the quality percentages per article.

**Table 2. Quality percentages**

	<b>Population</b>	<b>Data collection</b>	<b>Study design</b>	<b>Results</b>	<b>Overall</b>	<b>Valid (&gt;75%)</b>
Agell (1991)	63%	50%	80%	66%	<b>64%</b>	<b>N</b>
Bleich (2015)	66%	83%	100%	66%	<b>82%</b>	<b>Y</b>
Davis-Coelho (2000)	100%	50%	40%	66%	<b>68%</b>	<b>N</b>
Hassel (2001)	63%	50%	80%	50%	<b>60%</b>	<b>N</b>
Pascal (2012)	75%	50%	100%	66%	<b>72%</b>	<b>N</b>
Pratt (2016)	100%	66%	100%	83%	<b>87%</b>	<b>Y</b>
Stapleton (2015)	50%	33%	100%	66%	<b>61%</b>	<b>N</b>
Young (1985)	63%	50%	80%	83%	<b>68%</b>	<b>N</b>

The results in general show methodological quality of included studies was poor, with only two studies reaching the criterion of >75% overall on the EBL checklist for methodological validity and results reporting. The weakest areas across the studies were data collection (only 1/8 studies met criteria), and reporting in the results section (2/8). The strongest areas were that of study design (7/8), and population (6/8).

In regard to the methodological weaknesses, four of the studies had inadequate sample size, three of which were experimental design studies. This has implications for interpretation of findings due to the potential of limited statistical power. In addition, only one study included copies of the instruments used, thus making it unclear as to exactly what questions were asked and how, for 7/8 of the studies. In addition, only two studies used validated instruments, all other studies developed their own instruments or adapted from previous studies, making the validity of the results questionable.

In reference to the results, only two studies accounted for confounding variables, thus reducing validity of the results presented and due to methodological limitations only half of the studies' results can be generalised to a broader population, thus reducing external validity. These limitations have implications in the investment of confidence in the findings and creating a robust evidence base.

The following section describes the findings of the literature review. Table 3 and Table 4 below summarise information regarding the methodology and results of the studies, used for the review.

**Table 3. Data extraction summary table- design and methodology**

	<b>Focus</b>	<b>Design</b>	<b>Sample</b>	<b>Interventions</b>	<b>Instruments</b>	<b>Manipulation check?</b>
<b>Agell &amp; Rothblum (1991) USA</b>	Assess attitudes & clinical judgements of obese clients.	Between subjects design, 8 experimental conditions (2x case models, 2x weight 2x gender)	282 psychologists, (66% men, 34% women, 90% White, 80% 11+y experience), recruited via membership of APA, all from NE USA. (~35 ptps per condition).	Ptps were mailed material and asked to read the clinical case history model, and answer questionnaires in relation to this.	Clinical case history models and questionnaire regarding clinical judgements written by author. A demographic questionnaire, The Person Perception Inventory adapted from Worsely (1981). Not pre-tested.	Weight stated in text (135 or 190 lbs). Weight remembered by ptps in pilot study.
<b>Bleich et al., (2015) USA</b>	Beliefs of causes of obesity, weight management training and self-efficacy in obesity care.	Cross sectional survey	500 HP inc. 100 behavioural/MHP (69% female, 82% white, 62% over age of 45y, 96% more than college education). Recruited from the Medical Market Research Panel, USA.	Email invitation to complete online survey. Questions relating to causes of obesity, training in weight management, self-efficacy for providing obesity care, info. on their own weight and demographic info.	All 3 measures developed specifically for this study, but pilot study completed. A 4-point Likert scale was used.	N/a
<b>Davis-Coelho et al., (2000) USA</b>	Assess clinical judgements of overweight clients.	Between subjects design, 1x case model, 2 experimental conditions ('overweight' or 'average' weight).	200 psychologists recruited via membership of APA (28-81yo, 61% men, 39% women, 94% Caucasian, 6% non-Caucasian, all qualified psychologists, experience unknown) 100 per condition. USA.	Mailed survey, containing a person description and either a photograph of the same woman appearing 'overweight' or 'average' weight. Questions relating to clinical decision making in relation to the client.	Photographs created by researchers. Person description and questionnaire developed by author, adapted from Young & Powell (1985). Pilot study conducted.	Weight was varied by use of theatrical makeup and padding. Pilot study confirmed ratings of weight - "average" (130-139 lb) and "overweight" (170-179 lb).
<b>Hassel et al., (2001) USA</b>	Assess attitudes and clinical judgements of Christian and non-Christian MHPs toward obese clients	Between subjects, 4 conditions (m/f average weight/overweight), 4 participant groups (m/f, Christian, non-Christian).	163 MHPs (22-79y, 53% women, 47% men, 80% Caucasian, 58% Christians, all qualified & in clinical work). About 10 ptps per group per condition. Recruited via meetings of psychological associations, and at graduate schools.	Participants randomly ordered, stratified by time of administration. Received a picture of a client; male or female and 'over-weight' or 'average' weight. Completed questions related to the picture and vignette and two attitude scales.	Figure drawings of clients by artist. Clinical judgements questionnaire developed by authors. Attitude Scale adapted from Harris <i>et al</i> (1990, validated); Attitudes Toward Adult Obese Patients (ATOP) scale by Sagely <i>et al.</i> (1989) (adapted). No pre-testing.	No weight check of drawings of clients. Pictures administered by researchers prior to ptps completing questionnaires.



<b>Pascal &amp; Robinson Kurpius (2012) USA</b>	Assess attitudes and perceptions of work efficacy of MH graduate students toward obese clients.	Between subjects, 4x conditions- obese/ 'normal' weight bookkeeper, obese/'normal' weight executive.	74 graduate students in MH graduate programmes (17% men, 80% women, 3% unknown, 22-45yo, 78% Caucasian, 40% no supervised counselling experience, 4% > 4 semesters experience). Participants from one university in SW USA.	Participants given class time to complete the questionnaires. Survey distribution counterbalanced by vignette and gender.	2 x vignettes designed for the study, describing a woman as either obese or normal weight and as a bookkeeper or executive. Measures: Fat Phobia Scale short form (Bacon <i>et al.</i> , 2001); Personal Efficacy Beliefs Scale (Riggs <i>et al.</i> , 1994), both adapted to fit the vignettes; and demographic info. No pre-testing.	100% ptpts accurately reported the weight of the client. Weight described in vignette as-“very overweight (235 lbs), and in relatively good health other than constantly struggling with her weight” or “average weight (135 lbs), and as being in relatively good health”
<b>Pratt et al., (2016) USA</b>	Assess attitudes regarding people who are o/w plus ptps characteristics	Online survey	Convenience sample of 162 marriage and FT trainees on accredited programmes across the USA (84% women, 69% Caucasian, 83% Masters students, limited work experience)	Recruited via email, completed online questionnaire. Pilot study completed prior with non-MFT graduate students.	demographics, ptpts characteristics. ATOP* (Allison et al., 1991), BAOP* (Allison et al, 1991), AFA* (Crandall, 1994).	N/a
<b>Stapleton (2015) Australia</b>	Assess beliefs about the causes of obesity.	cross sectional design, using questionnaires	41 doctors, 66 psychologists, (23-64y, 89% women, 91% White Australian) 98 community members ('other health worker, student, 'other') in Australia.	Recruited through social media and newsletters of professional societies. Completed online survey.	ATOPS*, AFA*, Beliefs about causes of obesity (Ogen & Flanagan 2008).	n/a
<b>Young &amp; Powell (1985) USA</b>	Assess effect of client weight on clinical judgements	Between subjects, 3x experimental conditions ('best weight, 'over-weight', 'obese').	120 MHP (direct provision of counselling and therapy) employed in 2 USA states. Demographics of ptpts unknown.	Study completed on participants day shift. Answer questions based on vignette and photo of pseudo client.	Vignette and questions adapted from previous study (Settin & Bramel, 1981). Questions based on six- point Likert-type scale. Photos designed for this study. No pre-testing.	Computer software to adapt a single image of a female. Enlarged by 20% for 'o/w', 40% for 'obese'. No check.

Ptpts= participants, \*= Standardised, validated instrument.

**Table 4. Data extraction summary table- results.**

	Beliefs & attitudes			Clinical judgements								MHP characteristics					
	Beliefs about causes of obesity	General attitudes regarding obesity	Attitudes toward obese individual	Wellbeing	Symptomology	Diagnosis	Motivation	Prognosis	Length of treatment	Goals	Interest in working with obese client	Age	Gender	Religious orientation	Ethnicity	Experience	Weight of MHP
Agell & Rothblum (1991)			✓			X	X	X	X		X						X
Bleich et al., (2015)	✓																
Davis-Coelho et al., (2000)				✓		✓	X	X	X	✓		✓	✓			✓	
Hassel et al.,(2001)			✓	✓		✓							✓	X			X
Pascal & Robinson Kurpius (2012)			✓														
Pratt et al., (2016)	✓	✓											✓		✓	✓	✓
Stapleton (2015)	✓	✓															
Young & Powell (1985)					✓			X	X		X	✓	✓				

Key: blank space= item not measured in study (n/a), ✓ = significant difference found, X = no significant difference found.

## **Design & methodology**

As Table 3 details, eight studies were found and evaluated regarding research into MHPs' attitudes and clinical judgements toward clients who are 'obese'. With the exception of one study, all were conducted in the USA between 1985-2015. Studies adopted a cross sectional design, either survey (n=3 papers) or independent groups, experiment (n=5), and the focus of study was either regarding attitudes/ beliefs/ attributions of MHPs toward obesity (n=4) or obesity stigma and clinical judgements of MHPs as the dependent variable (n=4).

Additionally, six studies included results of correlations of stigma with participant characteristics.

In regard to the samples, the three survey design studies recruited sufficient numbers of participants to allow for generalisability of findings. However, of the experimental design studies, it is likely only one study (Davis-Coelho et al., 2000) had sufficient power to detect statistically significant differences, effects or interactions. The remaining studies (Agell & Rothblum, 1990; Hassel et al., 2001; Pascal & Robinson Kurpius, 2012 and Young & Powell, 1985) may not have had large enough sample size for their study designs or met criteria to allow for sufficient power, therefore, limiting confidence in the results found.

The majority of studies had more women participants (n=5), and all studies that described the demographics had mostly Caucasian participants (range- 69%-91% Caucasian). Three studies recruited qualified psychologists only, two studies recruited qualified MHPs and three studies recruited MHP trainees. A MHP was defined as someone 'providing direct provision of counselling and therapy' (n=1), those delivering Marriage or Family therapy (M/FT) (n=1), trainees on counselling, psychology or FT courses (n=1), graduates in psychology/ social work/ M/FT/ counselling psychology (n=1) or 'behavioural psychologists or MHP such as psychotherapists' (n=1). Although the samples were not representative of the diverse populations from which they were drawn they were arguably representative of the population of MHPs.

In regard to methodology, five studies mailed or emailed the study materials to participants and the remaining three studies asked participants to complete in situ (in class/ at work/ at meeting or in class). A range of instruments were used including standardised validated measures such as the Attitudes Toward Obese Persons Scale (ATOP, Allison *et al.*, 1991, n=2), Beliefs About Obese Persons scale (BAOP, Allison *et al.*, 1991, n=1), Anti-Fat

Attitudes Questionnaire (AFA, Crandall, 1994, n=2), and less used measures -Beliefs About Causes of Obesity (Ogen & Flanagan 2008 n=1). Some studies adapted previously validated measures (n=5) and others developed instruments specifically for their study (n=5). Only 2/6 of these studies completed pre-testing of new or adapted measures. Most studies therefore used unvalidated measures, which may affect confidence in the findings.

For those studies adopting an experimental design, a range of methods were used to manipulate and represent the weight of the client in each condition - one study used padding, one study used computer software to alter the image, one study used illustrations, and two studies stated the weight in the text and did not use images. Additionally, 3/5 studies did not complete a manipulation check that involved the participant's perception of the weight the client, i.e as 'average-weight' or 'over-weight' or 'obese'. This may affect the interpretations of the findings, if we cannot be sure of the participants perceptions of the weight of the client we cannot be sure the results are due to the effects of the independent variable.

In summary, the quality assessment and review of the methodologies of the studies show significant limitations in the design and conduct, particularly for those with experimental designs whereby small sample sizes and use of novel, unvalidated measures may result in lack of confidence in the findings.

## **Findings from studies**

### **Beliefs about the causes of obesity**

Three studies enquired to MHP's beliefs of the causes of obesity (Bleich et al., 2015; Stapleton, 2015; Pratt et al., 2015). All studies found individual behavioural factors to be the most common belief of cause or rated that obesity is more within an individual's control than not. In the Stapleton (2015) study behavioural causes (defined as 'eating too much' or 'not enough exercise') were significantly more commonly attributed (M=12.91) than biological (M=11.08), psychological (M=11.06), social (M=10.66) or structural causes (M=11.49) of obesity. Similarly, in the Bleich et al., (2015) study, 99% and 98% of MHPs respectively endorsed insufficient physical activity and overconsumption of food as 'very' or 'somewhat important' for causation of obesity. In contrast, the least commonly endorsed beliefs were for a biological cause; endocrine disorder (41%) and a structural cause; lack of safe exercise locations (40%). In Pratt et al.'s, (2016) study, a mean score of 18.74 (SD= 6.38) was found

on the BAOP, indicating most MHPs viewed obesity to be more within an individual's control than not (Range 0-48, lower scores equate to beliefs about obesity being more within the individual's control).

### **Attitudes & attributions**

All five studies that measured attitudes and attributions, showed that MHPs' attribute negative characteristics to those classed as 'obese'. In regard to general attitude scores, the two studies that measured this showed that anti-fat attitudes were present in MHP groups but were not held strongly. The validated AFA questionnaire provides scores in the range 0-117, with higher scores indicating stronger anti-fat attitudes. Stapleton (2015) showed qualified psychologists' mean scores were 44.63, (SD=20.14), whereas Pratt et al's, (2016) study returned a lower mean score for Marriage & Family Therapy (MFT) trainees of 34.16 (SD=18.15). Moreover, the latter study showed higher scores for two subscales- Fear of fat, (M= 14.63, Range 0-27) and Willpower, (M= 12.10 Range 0-26), but lower for the subscale of Dislike, (M= 7.41, Range 0-63). In regard to results of the validated ATOP scale scores, whereby full-scale scores range from 0-120, the lower the score the more negative attitudes, Pratt et al., (2016) demonstrated a mean score of 69.70 (SD=10.96). Unfortunately, no ATOP scores were presented by Stapleton (2015) study. Also, neither study detailed which factors on the scales were more commonly endorsed than others.

Unfortunately, the scales do not provide 'cut off' scores. The Pratt et al., (2016) study did not have a group to compare results to. The Stapleton (2015) study showed that the psychologists group had less anti-fat attitudes compared to the doctor group (M=56.24, SD=20.42) and the community group (M=49.87, SD=20.91).

When studies used a comparative design, whereby participants reviewed either an overweight or obese client or a 'slim' client, MHPs attributions were shown to be significantly more negative for obese clients;  $t(161)=4.34, p<.01$  (Hassel et al., 2001) and  $F(1,72)=12.53, p=.001$  (Pascal & Robinson Kurpius 2012). Hassel et al., (2001) also found that more negative attributions were made toward the female client. However, there were no further details as to which attributions were more common overall or per gender, and from which scale the results were derived (Attitude Scale or ATOP).

Further information on specific attributions were made by Pascal & Robinson Kurpius (2012) who highlighted that the obese client was more likely to be rated as lacking self-control (30% of participants), 'overeats' (60%), 'low self-esteem' (60%), unattractive' (37%), 'liking food' and being 'shapely', more than the 'normal' weight client. They also found that both obese and normal weight clients were described as 'self-sacrificing' and 'strong' (>66%) and that there was no main effect for client weight on work efficacy ( $F(1, 72)= 0.12, p= .728$ ).

In addition, Agell & Rothblum (1991) found that obese clients were significantly more likely to be rated by MHPs as having poorer appearance ( $F(1, 239)=131.91, p < .01$ ), and as more embarrassed ( $F(1, 230)=4.09, p < .05$ ) than non-obese clients. Obese clients were rated as softer and kinder ( $F(1, 230)= 5.13, p < .05$ ) than non-obese clients. No significant effects were found on the factors of Energy, Dullness, and Dependency.

In summary, MHPs hold general negative attitudes regarding obesity, which could be described as a small-moderate level of explicit weight bias. When asked to disclose perceptions of pseudo clients, those MHPs rating obese or overweight clients assign significantly more negative attributions compared to those rating 'slim' clients. This may have implications for clinical practice. The next section reviews the results from the experimental studies to explore the extent to which these negative attitudes may have upon clinical practice.

### **Clinical judgments**

The following section summarises results from the experimental studies ( $n=5$ ) that assessed MHPs clinical judgments regarding assessment and treatment of either an overweight/obese client or a 'slim' client.

### **Wellbeing**

Of the two studies that measured the effect of client weight on perceived wellbeing, both found that overweight or obese clients are perceived as having lower wellbeing as rated on GAF measure compared to 'average' weight clients. Hassel et al., (2001) found a significant difference ( $t(161)= 1.98, p < .025$ ), and Davis-Coelho et al., (2000) approaching significant difference ( $F(1, 168)=2.45, p < .06$ ).

## **Symptoms**

Only one study included symptomology ascribed to different clients in their study. Young & Powell (1985) found the attribution of negative symptoms, was significantly higher for the obese client (M=54.77) than those of the overweight client (M=45.72) and 'best' weight client (M=42.55), with no significant difference found between the overall ratings of the best weight and overweight client.

They also found significant negative differences between attributions for the obese client versus the overweight client in: agitation; emotional behaviour; impaired judgment; inadequate hygiene; inappropriate behaviour; obsessive- compulsive behaviour; self-injurious behaviour; and stereotyped behaviour. When compared to the best weight client, they found additional negative differences attributed to the obese client on: egocentrism; hypochondriasis; intolerance for change; and suspiciousness. The largest group differences occurred in the judgments of emotional behaviour (obese,  $m=3.33$ / overweight,  $m=3.28$ / best weight,  $m=4.30$ ) and self-injurious behaviour (obese,  $m=2.90$ /overweight,  $m=3.18$ /best weight,  $m=3.90$ ), with the obese client judged significantly more negatively than overweight or best weight clients. In addition, there were no significant differences found in attributions of any of the twenty symptoms between the best-weight and overweight clients.

## **Diagnosis**

In regard to diagnosis, one of the three studies that examined this found that obese clients were statistically more likely to receive a diagnosis of 'adjustment disorder' than 'average' weight clients (Davis-Coelho et al., 2000,  $X^2(1, n=199)=7.45, p < .01$ ) Hassel et al., (2001) also showed this trend, although the result was not significant ( $X^2(3, n=44)= 6.54, p<.08$ ). They also found this diagnosis was 1.43 times more likely for the female client compared to an obese male or average weight client (Hassel et al., 2001).

Davis- Coelho et al., (2000) also found the obese client was significantly more likely to receive an eating disorder diagnosis ( $X^2(1, n=199)=8.68, p < .01$ ), compared to the 'average' weight client and Hassel et al., (2001) found the obese client was 1.73 times less likely to receive a relational problem diagnosis. Neither study found any significant differences in rates of depression and anxiety diagnoses between clients. In the third study, no significant differences in diagnosis between obese and non-obese clients were found (Agell & Rothblum, 1991).

## **Motivation**

Neither study found any significant differences between participants' ratings of an obese client and non-obese weight client in regard to motivation to change (Agell & Rothblum, 1991; Davis-Coelho et al., 2000), but female clients were rated as more motivated to change compared to male clients ( $F(1, 252)=6.39, p < .05$ ; Agell & Rothblum, 1991).

## **Prognosis & length of treatment**

None of the studies found a significant difference in participants' estimated prognosis for the obese client compared to non-obese client (Agell & Rothblum, 1991; Young & Powell, 1985 & Davis-Coelho et al., 2000). Agell & Powell (1991) did find a significant difference in relation to gender, with female clients receiving a better prognosis than male clients ( $F(1, 258)=4.02, p < .05$ ).

Only one of the two studies that measured estimated length of treatment, found that MHPs judged that a successful outcome of treatment would take longer for the 'overweight' client compared to 'average' weight client, although this wasn't statistically significant (Davis-Coelho et al., 2000;  $F(1, 193)= 2.22, p < .07$ ). Conversely, Agell & Rothblum (1991) found no significant difference for the expected length of treatment between obese and non-obese clients.

## **Goals & type of treatment**

The one study that looked at goals for treatment found that the 'overweight' client was more likely to be attributed goals of 'improving body image' ( $F(1, 182) =8.19, p < .001$ ) and 'increasing sexual satisfaction' ( $F(1, 175)=7.10, p < .008$ ) compared to the 'average' weight client (Davis, 2000), despite no mention of sexual difficulties in the client information.

Davis-Coelho et al., (2000) found no significant difference in treatment modality suggested for the obese or average weight client and Agell & Rothblum (1991) found no significant differences in MHPs judgements regarding 'encouragement to seek therapy' between obese and non-obese clients. In addition, Young & Powell (1985) found no differences between groups for 'usefulness of therapeutic intervention'.



### **Interest in working with client and referral elsewhere**

Neither Young & Powell, (1985) nor Agell & Rothblum (1991) found any significant differences between MHPs interest in working with either obese or non-obese clients. In addition, Agell & Rothblum (1991) found no significant difference in MHPs judgments regarding 'referral elsewhere' between obese and non-obese clients.

### **Interactions**

Hassell et al., (2001) described completing a 'hierarchical linear model analysis' with the total ATOP score and the obese client condition as the dependent variable, and diagnosis, wellbeing and total attitude score as independent variables. They found no significant correlations between these variables. However, these analyses may have been affected by a lack of statistical power.

### **Characteristics of MHPs**

#### **Age**

For the two studies that looked at the interactions of age of participant on results, one found a significant effect in that older MHPs are less likely to differentiate between obese and non-obese clients in regard to symptomology (Young & Powell, 1985;  $F(4,)=2.96, p<.05$ ). Davis-Coelho et al., (2000) also found that participants younger than 40 years predicted less effort ( $F(1, 186)= 5.94, p < .02$ ) and poorer prognosis ( $F(1, 189)= 8.06, p < .005$ ) for the overweight client compared to the average weight client and were more likely to give the goal of 'exploring cultural expectations' ( $F(1, 168)= 4.76, p < .03$ ) for the 'average' weight client, than the overweight client.

#### **Gender**

All studies that measured the interaction effects of participant gender found some differences. Female participants, compared to males participants, were more likely to impute more negative symptoms (Young & Powell, 1985;  $F(2)=5.25, p<.01$ ); give more negative attributions and rate lower wellbeing (Hassel et al., 2001;  $t(86)=2.55, p<.03$ ); poorer prognosis (Davis-Coelho et al., 2000;  $F(1, 189)= 5.52, p < .02$ ) and suggest a goal for treatment of 'facilitating self-acceptance' (Davis-Coelho et al., 2000;  $F(1, 183)=4.24, p < .05$ ) for the obese client compared to non-obese client.

Agell & Rothblum (1991) also showed that female participants rated all clients more negatively for social attributes such as sadness, tension, depression ( $F(1, 230)=8.05, p<.005$ ), and more negatively for softness/kindness ( $F(1, 230)=4.16, p<.05$ ) and male clients as more angry ( $F(1, 230)=9.44, p<.005$ ), than did male participants. Conversely, Hassell et al., (2001) found no difference between the genders and the diagnosis given to clients.

In regard to Fat Phobia Scale outcomes (Pratt et al., 2015) the only difference found between genders was that female participants reported a greater Fear of Fat than males ( $t(159)= - 2.76, p = .006$ ).

### **Religious orientation**

Hassell et al., (2001) found no difference in diagnosis or wellbeing (GAF score) of obese or average weight clients of Christians or non-Christian MHPs. Both Christians and non-Christians assigned more negative attributions to obese clients than to average-weight clients (Christians;  $F(1, 93)= 9.13, p < .005$ ; non-Christians;  $F(1, 93) = 10.75, p < .005$ ).

### **Ethnicity**

Only one study reported differences in results regarding participant's ethnicity (Pratt et al., 2015) and found that Non-Caucasian participants had a stronger belief than Caucasian participants that obesity is not within an individual's control, ( $t(160)= -1.99, p = .048$ ).

### **Level of experience**

Only two studies enquired into either the stage of training or the level of experience held by MHPs. Pratt et al., (2015) found that doctoral students held stronger beliefs than masters students that obesity is not within an individual's control ( $t(160)= 2.84, p = .005$ ). They also found that on the AFA Willpower subscale, masters students reported a stronger belief that overweight individuals lack will power, compared to doctoral students' judgements ( $t(160)=3.01, p<.003$ ). Davis-Coelho et al., (2000) did not measure these factors but they found that less experienced participants (<15y), rated the treatment goal of 'facilitating self-acceptance' as more likely for the average weight client than for the overweight client. ( $F(1, 183)=4.24, p<.05$ ).

Only one study (Bleich et al., 2015) examined training in 'awareness of obesity bias and stigma' and found that only 15% of MHP participants reported receiving this.

One of the three studies that measured and reported possible effects of participants' weight upon obesity stigma found that those MHPs who did not self-identify themselves as overweight had a stronger belief than those who did, that obesity is not within an individual's control (Pratt et al., 2016;  $t(160)=-2.18$ ,  $p = .031$ ). They also found that MHPs who have a higher BMI category or self-identify as overweight or obese reported a greater 'Fear of Fat' than participants with a lower BMI category or self-identify as not overweight or obese (BMI;  $t(157)= -2.07$ ,  $p = .040$  and self-identify;  $t(160)= 2.96$ ,  $p = .004$ ).

Two studies found no differences regarding participant weight and attitudes, clinical judgements or symptomology for obese or non-obese clients (Agell & Rothblum, 1991 and Hassel et al., 2001 studies). Additionally, Pratt et al., (2016) found no significant differences on any results of the weight bias scales in relation to self-identification as a victim of weight bias or having a family member who was a victim of weight bias.

### **Summary**

The results of the review show that MHPs hold a small- moderate level of negative attitudes toward obese persons (n=2 studies) and they perceive the cause of obesity due to individual behavioural factors (n=3). In regard to clinical judgments, MHPs perceive higher weight clients to have poorer wellbeing (n=2); have more negative characteristics (n=3); more likely receive an 'adjustment disorder' diagnosis (n=1), or an eating disorder diagnosis (n=1) and have treatment goals of 'improving body image' (n=1) and 'improvement in sexual satisfaction' (n=1) compared to 'slim' clients. No significant differences were found for client weight for motivation (n=2); prognosis (n=3); interest in working with (n=2) or suggestion of a therapeutic approach (n=3).

Results highlighted that younger (n=2), and female (n=5) participants, perceived the obese client more negatively (n=2) compared to older or male participants. There were mixed results regarding effect of level of training or experience (n=2) or participants own weight (n=3) on the level of weight bias found. One study found no difference between Christians and non-Christians level of weight bias and only one study reported a difference regarding ethnicity in that non-Caucasian participants had a stronger belief than Caucasian participants that obesity is not within an individual's control.

The results need to be interpreted with caution due to the methodological limitations as described previously.

## **Discussion**

Only eight studies were found that met the inclusion criteria for review. The studies are varied in their focus, design, recruitment practice, methodologies and quality. Objectives were diverse and limited replication or confirmation of findings means that the evidence base is limited and generalisability is curtailed. In addition, the quality of the studies varied and only two studies met criteria for methodological validity and results reporting, thus making it difficult to draw any firm conclusions. Firstly, discussion is in regard to methodology of the studies followed by discussion of the findings, and then ideas for future research and clinical implications.

## **Methodology**

### **Overall**

The main limitation of the studies were small sample sizes meaning there was a potential lack of statistical power. This is a considerable limitation as low power inherently limits the studies' ability to detect clinical and statically significant differences, effects or interactions. As discussed by Maxwell et al., (2006), the consequences of low power include contradictory and non-representative findings, which limit the ability to draw clinical and conceptual inferences about a particular subject area.

Additionally, only two of the studies showed reasonable quality as measured by the EBL critical appraisal tool. Although most studies were found to be 'appropriate' in regard to the methodological design, the validity and applicability of the majority of the studies are in question mainly due to limited samples and data collection weaknesses. It is therefore difficult to summarise and draw any firm conclusions from the results.

### **Study design**

In regard to study design, all of the studies in the review adopted a self-report survey design, which is open to response bias. This is especially the case with a topic such as weight stigma in which individuals may feel social pressures to respond in socially desirable ways (Ruggs et al., 2010), particularly perhaps for MHPs, who may want to be seen as non-judgemental. This may have a negative impact on results, and make measuring weight stigma difficult in this way.

Of the three studies that employed a purely survey design, the overall quality of these studies was better compared to the experimental design studies. Each had large enough samples appropriate for the statistical analyses, however, two had limitations with potential population bias which may affect accuracy and generalisability of the findings. The quality scores for data collection was also limited due to one study not using a validated measure, and for the measures not being included so critical review of the questions asks in the studies are restricted.

Over half of the studies moved beyond measuring general beliefs and attitudes and employed experimental designs to attempt to assess the impact of client weight upon MHPs clinical judgments. This has been a request in the field of weight bias research for some time (O'Brien et al., 2008) as it allows researchers to start drawing causal inferences about the results. However, methodological weaknesses, and the overall limited quality of the studies of the current review reduces the ability to make these causal links.

### **Data collection & analysis**

As well as the sampling limitations as already mentioned, there were issues with instruments used, in that, all of the experimental design studies limited the psychometric robustness of their methods by developing their own instruments or adapted tools from previous studies. Four studies did not complete pilot testing of their purpose designed or adapted measures, therefore reducing the reliability of the measures and thus confidence in the results. A review of psychometric measures for weight stigma (Lacroix et al., 2017) found over forty different measures of weight bias. Future research needs to define key terms and replicate and extended previous studies using robust psychometric tools (Lacroix et al., 2017).

Additionally, many studies (3/5) did not complete a manipulation check of the weight stimulus. Therefore, we cannot be sure that participants viewed the target as obese or slim etc. This perhaps also highlights a problem in weight stigma research generally regarding the range of terminology used across studies which prevents synthesis of findings and inhibits applicability (Ruggs et al., 2010).

As well as design and data collection limitations, the statistical analysis chosen for some studies is questionable, as the studies with small samples adopted parametric statistical tests

but did not report on assumption testing or correct for the probability of Type 1 errors. Thus, the results reported may be misleading.

Despite these limitations, the review illuminates the area of obesity stigma in MHPs. It demonstrates that MHPs are not immune to society held stereotypes, despite ideas that MHPs would be more accepting, non-judgemental and client-centred than other HCPs. The discussion of the results follows in relation to previous research with other HCPs and possible explanations of findings.

## **Findings**

### **Beliefs about the causes of obesity**

All studies in the review showed MHPs commonly hold beliefs regarding individual behavioural causes, or being within the individual's control. This is in line with research of other HCPs who overwhelmingly identified individual behavioural factors as important causes of obesity (Foster et al., 2003; Finklestein et al., 2009; Ogden et al., 2001). It has been shown that stronger beliefs about individual control in obesity correlates with higher levels of weight stigma (Puhl, 2009).

The reason for this weight bias has been explained due to the corollary and longitudinal health risks associated with being at an increased weight (i.e., type 2 diabetes, high cholesterol, high blood pressure, stroke, arthritis, etc., Pratt et al., 2016). It is common for individuals to believe that weight loss is a simple formula of "calories in and calories out" which ignores the multiple social, psychological, economic, and relational factors that contribute to weight gain and loss (Pratt et al., 2016). Lack of understanding related to aetiology is one factor that can lead to the development of negative attitudes about overweight and obese individuals (Pratt et al., 2016).

### **Attitudes and attributions**

The current review found MHPs to have a small to moderate level of negative attitudes toward obese persons (AFA mean score range, 34.16- 44.63). In comparison to other HCPs, Stapleton (2015) found both the doctor (m=56.24) and community samples (M=49.87) to have a significantly greater mean score compared to the psychologists. This may point to MHPs having lower level of obesity stigma than other HCPs. Replication of the studies using the same instruments for measurement are required for comparison. Several reviews and

studies of other HCPs (e.g. Jung et al., 2015; Puhl et al., 2014) have predominantly used the Fat Phobia Scale (FPS, Bacon et al., 2001), so future studies with MHPs may want to consider this instrument to allow for comparison.

The result of lower scores for HCPs in general may be due to a problem with response bias in social desirability. As when HCPs have been asked to rate their colleagues, they report them to hold negative attitudes toward people who are obese, and that they have heard them making negative comments about obese patients (Puhl et al., 2014).

As for attribution of negative characteristics, it is unfortunate that many of the articles reviewed did not detail which attributions were more commonly made. The only study to do this was that by Pascal (2012). In comparison to the Puhl et al., (2014) study with practitioners from eating disorder services, results of the Fat Phobia Scale show similar findings for ratings of obese persons as; lacking self-control (30% of participants) and 'unattractive' (37%). In general terms, the review did show that 5/5 studies demonstrated MHPs to attribute negative characteristics toward obese persons.

### **Motivation, prognosis & length of treatment.**

In contrast to previous studies with other HCPs (mainly GPs and nurses), studies have consistently shown HCPs to perceive clients with obesity as having poor motivation (e.g. Bocquier *et al.*, 2005); being less compliant (Brown, 2006), and will spend less time with them (Hebl & Xu, 2001) compared to non-obese clients. Also, professionals treating people with eating disorders (mainly MHPS) who had stronger weight bias perceived poorer treatment outcomes for obese patients (Puhl et al., 2014). However, this difference may be to do with purpose of care, in that other HCPs are tasked to work directly on weight reduction whereas MHPs may have a different aim in working with individuals to improve well-being. This area needs to be explored further.

### **Interest in working with obese clients**

The current study showed no significant differences in interest in working with an obese client compared to a 'slim' client. This could be attributed to social desirability bias, or could be a genuine perception. Previous research within a general population has shown that weight bias is weakest in relation to helping behaviour (assistance following a traffic accident), compared to occupational decisions such as hiring someone for a job or assessing for

suitability for child adoption (Swami et al., 2010). However, previous research in health care settings shows more often HCPs to dislike, feel uncomfortable and avoid working with obese individuals (e.g. Puhl et al., 2014).

### **Individual differences**

Interestingly, more differences in results were found in the characteristics of MHPs than differences in weight of the client. Previous research has also found that females, younger (Schwartz et al., 2003, Bocquier et al., 2005), less experienced HCPs (Puhl et al., 2014; Amy et al., 2006) hold more stigma than male, older and more experienced HCPs. It has been posited that positive professional and personal experiences with obese individuals is associated with some lower explicit, but not implicit, bias (Schwartz et al., 2003). It is possible that positive experiences improve explicit attitudes or that positive attitudes lead to positive experiences (Schwartz et al., 2003).

In regard to weight of the participant, only one of the three studies demonstrated heavier MHPs to have more weight stigma than other MHPs, which is in line with previous research that shows inconsistent results in this area (lower weight individuals hold more stigma; Phelan et al., 2014; Schwartz et al., 2006) compared to heavier people holding more weight stigma (Crandall, 1994). This type of ingroup denigration is not typically seen for other stigmas (e.g. race, gender). In addition, unlike other stigmatized groups, few laws protect people on the basis of weight. This lack of protection potentially allows for greater congruency between stigmatizing attitudes and behaviours that may not be seen for other stigmatised groups (Ruggs et al., 2010).

### **Stigma in context**

It is also important to highlight that obesity stigma seemed to be more profound when participants were asked to rate in relation to a specific client, and when data is compared to a non-obese client, compared to when participants are asked to state more general attitudes in regard to obesity.

This is in line with previous research that suggests discrimination takes place on a comparative basis (O'Brien et al., 2008), when comparisons are made between overweight and non-overweight people, the latter are favoured in numerous ways (e.g. in employment settings, Roehling, 2002, as well as health settings e.g. Lee & Calamaro 2012 and Malterud & Ulriksen, 2011).



Some studies have concluded that although HCPs may hold negative stereotypes/ attitudes/ beliefs toward obese individuals, the research findings show that this doesn't affect behaviours in clinical practice (e.g. Budd et al., 2011). This may be due to methodological limitations as mentioned previously, but also when taking into account the views of obese clients that use MH services, it is clear that these cognitive biases do effect behaviours and interactions with clients (e.g. Puhl & Brownell, 2006). Therefore, future research needs to adopt designs in order to explore these behaviours further.

### **Future research**

Due to the limitations of current research in regard to the quality of the studies, it would be beneficial for all future studies to ensure they meet criteria such as adequate sample size and use of validated measures to improve validity and confidence in results. In addition, as mentioned earlier, more repetition and extension of previous studies using validated measures will allow collation and generalisation of findings which will aid in the development of knowledge in this area. Evidence that can be collated and reviewed is also important to help inform yet to be developed policies and laws to help protect overweight/ obese people from prejudice and discrimination.

In addition, future research needs to extend into real world settings to allow for better external validity as responses on questionnaires that participants make regarding heavy individuals may be very different from the responses that they make when interacting face-to-face with individuals. In this way more interactional types of methodologies may be useful such as field studies (Ruggs et al., 2010). Unfortunately, no studies have as yet been conducted in this way for MHPs.

### **Implications to clinical practice**

Negative judgments can be particularly harmful to clients who come to therapy for help, expecting not to be judged (Pascal & Robinson Kurpius, 2012). Furthermore, these biases violate the ethical principles of professional guidelines such as the British Psychological Society Code of ethics (BPS, 2018).

People seeking help from MHPs expect respect and objectivity; however, mental health professionals are human, and their attitudes and perceptions are subject to bias (Pascal, 2012). Mental health professionals must be sensitive to their perceptions and attitudes and how these

are related to their behaviours with clients (Pascal, 2012). The use of reflective practice and supervision may help in developing this awareness and sensitivity, to reflect on judgements made etc. and how these may impact the client.

The evidence that explicit and implicit weight bias can have negative psychological consequences for clients and that it can determine whether or not they continue to seek care should be in a therapist's mind first and foremost (Pratt et al., 2015).

It is evident that further training for MHPs in education around the multiple causes of obesity, including explanations of causes outside of the individuals control is needed (e.g. Bleich et al., 2015). Individuals who are obese want others to have a better understanding of the causes of obesity, the difficulties with weight loss, and the emotional burden that is attached to being stigmatized (Puhl, et al., 2007).

Weight bias training should expand on previous- established curriculums (The Rudd Center for Food Policy & Obesity, 2014), which include addressing ways to demonstrate sensitivity with the words and the dialogue used to describe a client's weight in therapy. Current weight bias modules and curriculums focus on the individual at the behavioural level and societal social justice challenges (Pratt et al, 2015).

### **Limitations**

One of the overarching limitations of the present review is the lack of psychological theory and models cited which could inform research proposals and therefore guide the review so that the existing evidence base could have been interrogated against theory predictions. It might also have supported more systematic appraisal of the objectives of the studies and standardised the myriad definitions, terminologies and instruments observed. There appears to be a dearth of studies which ground their hypotheses in theories of stigma or of how bias might operate to impact on decision-making. The systematic review task is then made more complex by needing to identify commonalities in findings which are theoretically and methodologically weak.

In addition, there may be some limitations in the EBL, using a binary outcome of quality perhaps leaves little room for variance. It also relies on authors explicitly stating the information, otherwise assumptions are made which may affect the quality rating. Also, the data in studies reviewed were insufficient to conduct a meta-analysis, limiting the ability to further interrogate information for the present review. Finally, limiting studies not in English

language may overlook important studies, as well as the possibility of publication bias as we were only able to include published work.

## **Conclusions**

There is scarce literature in the area of weight stigma of MHPs. The research that has been done to date lacks methodological rigor reducing the validity of the findings and thus a sound evidence base to which to draw conclusions. However, the review shows that MHP's are not immune from weight stigma and highlights the need for development of studies in this important area of research, ultimately to help inform clinical practice of MHPs to ensure ethical and moral and best practice for all clients.

## **Declaration of interest**

The Authors declare that there is no conflict of interest.

## **References**

*(Harvard referencing style, in line with Health Psychology Open journal author guidelines)*

Adams, L. G. (2009). Weight bias among counselors-in-training: A qualitative inquiry. ProQuest Information & Learning, US. *Dissertation Abstracts International Section A: Humanities and Social Sciences*, 70 (2), 481.

Agell, G. and Rothblum, E.D., 1991. Effects of clients' obesity and gender on the therapy judgments of psychologists. *Professional Psychology: Research and Practice*, 22(3), p.223.

Allison, D.B., Basile, V.C. and Yucker, H.E., 1991. The measurement of attitudes toward and beliefs about obese persons. *International Journal of Eating Disorders*, 10(5), pp.599-607.

Amy, N.K., Aalborg, A., Lyons, P. and Keranen, L., 2006. Barriers to routine gynecological cancer screening for White and African-American obese women. *International journal of obesity*, 30(1), p.147.

Annis, N. M., Cash, T. F., & Hrabosky, J. I. (2004). Body image and psychosocial differences among stable average weight, currently overweight, and formerly overweight women: the role of stigmatizing experiences. *Body image*, 1(2), 155-167.

Bacon, J.G., Scheltema, K.E. and Robinson, B.E., 2001. Fat phobia scale revisited: the short form. *International journal of obesity*, 25(2), p.252.

Berryman, D. E., Dubale, G. M., Manchester, D. S., & Mittelstaedt, R. (2006). Dietetics students possess negative attitudes toward obesity similar to nondietetics students. *Journal of the Academy of Nutrition and Dietetics*, 106(10), 1678-1682.

Bertakis, K.D. and Azari, R., 2005. Obesity and the use of health care services. *Obesity*, 13(2), pp.372-379.

- Bleich, S.N., Bandara, S., Bennett, W.L., Cooper, L.A. and Gudzone, K.A., 2015. US health professionals' views on obesity care, training, and self-efficacy. *American journal of preventive medicine*, 48(4), pp.411-418.
- Bocquier, A., Verger, P., Basdevant, A., Andreotti, G., Baretge, J., Villani, P. and Paraponaris, A., 2005. Overweight and obesity: knowledge, attitudes, and practices of general practitioners in France. *Obesity*, 13(4), pp.787-795.
- Boland, A., Cherry, G. and Dickson, R. eds., 2017. *Doing a systematic review: A student's guide*. Sage.
- British Psychological Society (2018) *BPS Code of ethics and conduct*. Leicester.
- Brochu, P. M., & Morrison, M. A. (2007). Implicit and explicit prejudice toward overweight and average-weight men and women: Testing their correspondence and relation to behavioral intentions. *The Journal of Social Psychology*, 147(6), 681-706.
- Brown, I., 2006. Nurses' attitudes towards adult patients who are obese: literature review. *Journal of advanced nursing*, 53(2), pp.221-232.
- Budd, G. M., Mariotti, M., Graff, D., & Falkenstein, K. (2011). Health care professionals' attitudes about obesity: an integrative review. *Applied Nursing Research*, 24(3), 127-137.
- Carr, D. Friedman, M., A. (2005). Is obesity stigmatizing? Body weight, perceived discrimination, and psychological well-being in the United States. *Journal of Health & Social Behaviour*, 46, 244-259.
- Carr, D., Friedman, M. A., & Jaffe, K. (2007). Understanding the relationship between obesity and positive and negative affect: the role of psychosocial mechanisms. *Body image*, 4(2), 165-177.
- Carr, D., Jaffe, K. J., & Friedman, M. A. (2008). Perceived interpersonal mistreatment among obese Americans: Do race, class, and gender matter?. *Obesity*, 16(S2).
- Crandall, C.S., 1994. Prejudice against fat people: ideology and self-interest. *Journal of personality and social psychology*, 66(5), p.882.
- Davis-Coelho, K., Waltz, J. and Davis-Coelho, B., 2000. Awareness and prevention of bias against fat clients in psychotherapy. *Professional Psychology: Research and Practice*, 31(6), p.682.
- Hebl, M. R., & Heatherton, T. F. (1998). The stigma of obesity in women: The difference is black and white. *Personality and Social Psychology Bulletin*, 24(4), 417-426.
- Hebl, M. R., Ruggs, E. N., Singletary, S. L., & Beal, D. J. (2008). Perceptions of obesity across the lifespan. *Obesity*, 16(S2).
- Hebl, M. R., & Xu, J. (2001). Weighing the care: physicians' reactions to the size of a patient. *International journal of obesity*, 25(8), 1246.
- Hill, C.E., 2005. Therapist techniques, client involvement, and the therapeutic relationship: Inextricably intertwined in the therapy process. *Psychotherapy: Theory, Research, Practice, Training*, 42(4), p.431.

- Finkelstein, E. A., Ruhm, C. J., & Kosa, K. M. (2005). Economic causes and consequences of obesity. *Annu. Rev. Public Health, 26*, 239-257.
- Foster, G. D., Wadden, T. A., Makris, A. P., Davidson, D., Sanderson, R. S., Allison, D. B., & Kessler, A. (2003). Primary care physicians' attitudes about obesity and its treatment. *Obesity, 11*(10), 1168-1177.
- Glynn, L., 2006. EBL Critical Appraisal Checklist. *Library Hi Tech, 24*(3), pp.387-99.
- Greenwald, A. G., McGhee, D. E., & Schwartz, J. L. (1998). Measuring individual differences in implicit cognition: the implicit association test. *Journal of personality and social psychology, 74*(6), 1464.
- Hassel, T.D., Amici, C.J., Thurston, N.S. and Gorsuch, R.L., 2001. Client weight as a barrier to non-biased clinical judgment.
- Hatzenbuehler, M. L., Keyes, K. M., & Hasin, D. S. (2009). Associations between perceived weight discrimination and the prevalence of psychiatric disorders in the general population. *Obesity, 17*(11), 2033-2039.
- Jackson, S. E. (2016). Obesity, weight stigma and discrimination. *Journal of Obesity & Eating Disorders, 2*(1).
- Jackson, S. E., Beeken, R. J., & Wardle, J. (2015). Obesity, perceived weight discrimination, and psychological well-being in older adults in England. *Obesity, 23*(5), 1105-1111.
- Jackson, S. E., Steptoe, A., Beeken, R. J., Croker, H., & Wardle, J. (2015). Perceived weight discrimination in England: a population-based study of adults aged  $\geq 50$  years. *International journal of obesity, 39*(5), 858.
- Jung, F.U., Luck-Sikorski, C., Wiemers, N. and Riedel-Heller, S.G., 2015. Dietitians and nutritionists: stigma in the context of obesity. A systematic review. *PloS one, 10*(10), p.e0140276.
- Lacroix, E., Alberga, A., Russell-Mathew, S., McLaren, L. and von Ranson, K., 2017. Weight Bias: A Systematic Review of Characteristics and Psychometric Properties of Self-Report Questionnaires. *Obesity facts, 10*(3), pp.223-237.
- Latner, J. D., O'Brien, K. S., Durso, L. E., Brinkman, L. A., & MacDonald, T. (2008). Weighing obesity stigma: the relative strength of different forms of bias. *International Journal of Obesity, 32*(7), 1145.
- Lee, S.H. and Calamaro, C., 2012. Nursing bias and the obese patient: The role of the clinical nurse leader in improving care of the obese patient. *Bariatric Nursing and Surgical Patient Care, 7*(3), pp.127-131.
- Major, B., Eliezer, D., & Rieck, H. (2012). The psychological weight of weight stigma. *Social Psychological and Personality Science, 3*(6), 651-658.
- Malterud, K., & Ulriksen, K. (2011). Obesity, stigma, and responsibility in health care: A synthesis of qualitative studies. *International journal of qualitative studies on health and well-being, 6*(4), 8404.

- Maroney, D., & Golub, S. (1992). Nurses' attitudes toward obese persons and certain ethnic groups. *Perceptual and motor skills*, 75(2), 387-391.
- Maxwell, S.E., Kelley, K. and Rausch, J.R., 2008. Sample size planning for statistical power and accuracy in parameter estimation. *Annu. Rev. Psychol.*, 59, pp.537-563.
- Moher, D., Liberati, A., Tetzlaff, J., Altman, D. G., & Prisma Group. (2009). Preferred reporting items for systematic reviews and meta-analyses: the PRISMA statement. *PLoS medicine*, 6(7).
- O'Brien, A.M. & McGuckin, C. (2015). *The systematic review method: trials and tribulations of electronic database searching at doctoral level*. London: SAGE publications.
- O'brien, K. S., Latner, J. D., Halberstadt, J., Hunter, J. A., Anderson, J., & Caputi, P. (2008). Do antifat attitudes predict antifat behaviors?. *Obesity*, 16(S2).
- Ogden, J., Bandara, I., Cohen, H., Farmer, D., Hardie, J., Minas, H., Moore, J., Qureshi, S., Walter, F. and Whitehead, M.A., 2001. General practitioners' and patients' models of obesity: whose problem is it?. *Patient education and counseling*, 44(3), pp.227-233.
- Ogden, J. and Flanagan, Z., 2008. Beliefs about the causes and solutions to obesity: a comparison of GPs and lay people. *Patient education and counseling*, 71(1), pp.72-78.
- Østbye, T., Taylor Jr, D.H., Yancy Jr, W.S. and Krause, K.M., 2005. Associations between obesity and receipt of screening mammography, Papanicolaou tests, and influenza vaccination: results from the Health and Retirement Study (HRS) and the Asset and Health Dynamics Among the Oldest Old (AHEAD) Study. *American Journal of Public Health*, 95(9), pp.1623-1630.
- Pascal, B. and Kurpius, S.E.R., 2012. Perceptions of clients: Influences of client weight and job status. *Professional Psychology: Research and Practice*, 43(4), p.349.
- Phelan, J.C., Lucas, J.W., Ridgeway, C.L. and Taylor, C.J., 2014. Stigma, status, and population health. *Social science & medicine*, 103, pp.15-23.
- Puhl, R., & Brownell, K. D. (2001). Bias, discrimination, and obesity. *Obesity*, 9(12), 788-805.
- Puhl, R. M., & Brownell, K. D. (2006). Confronting and coping with weight stigma: an investigation of overweight and obese adults. *Obesity*, 14(10), 1802-1815.
- Puhl, R. M., & Heuer, C. A. (2009). The stigma of obesity: a review and update. *Obesity*, 17(5), 941-964.
- Puhl, R.M., Luedicke, J. and Grilo, C.M., 2014. Obesity bias in training: attitudes, beliefs, and observations among advanced trainees in professional health disciplines. *Obesity*, 22(4), pp.1008-1015.
- Puhl, R. M., Moss-Racusin, C. A., Schwartz, M. B., & Brownell, K. D. (2007). Weight stigmatization and bias reduction: Perspectives of overweight and obese adults. *Health Education Research*, 23, 347-358.

- Pratt, K.J., Palmer, E., Cravens, J.D., Ferriby, M., Balk, E. and Cai, Y., 2016. Marriage and family therapy trainees' reports of explicit weight bias. *Journal of marital and family therapy*, 42(2), pp.288-298.
- Roehling, M. V. (2002). Weight discrimination in the American workplace: Ethical issues and analysis. *Journal of Business Ethics*, 40(2), 177-189.
- Rosenberger, P. H., Henderson, K. E., & Grilo, C. M. (2006). Correlates of body image dissatisfaction in extremely obese female bariatric surgery candidates. *Obesity surgery*, 16(10), 1331-1336.
- Ruggs, E. N., King, E. B., Hebl, M., & Fitzsimmons, M. (2010). Assessment of weight stigma. *Obesity facts*, 3(1), 60-69.
- Schwartz, M. B., Chambliss, H. O. N., Brownell, K. D., Blair, S. N., & Billington, C. (2003). Weight bias among health professionals specializing in obesity. *Obesity*, 11(9), 1033-1039.
- Stapleton, P., 2015. Beliefs about causes of obesity: A comparison of Australian doctors, psychologists and community members. *Journal of Obesity & Weight Loss Therapy*, 5(1), p.1.
- Stephoe, A., Breeze, E., Banks, J. and Nazroo, J., 2012. Cohort profile: the English longitudinal study of ageing. *International journal of epidemiology*, 42(6), pp.1640-1648.
- Sutin, A. R., Stephan, Y., Carretta, H., & Terracciano, A. (2015a). Perceived discrimination and physical, cognitive, and emotional health in older adulthood. *The American Journal of Geriatric Psychiatry*, 23(2), 171-179.
- Sutin, A. R., Stephan, Y., Luchetti, M., & Terracciano, A. (2014). Perceived weight discrimination and C-reactive protein. *Obesity*, 22(9), 1959-1961.
- Sutin, A. R., Stephan, Y., & Terracciano, A. (2015b). Weight discrimination and risk of mortality. *Psychological science*, 26(11), 1803-1811.
- Swami, V., Pietschnig, J., Stieger, S., Tovee, M.J. and Voracek, M., 2010. An investigation of weight bias against women and its associations with individual difference factors. *Body Image*, 7(3), pp.194-199.
- The Rudd Center for Food Policy and Obesity. (2014). Preventing weight bias: Helping without harming in clinical practice. Toolkits for Health Care Providers, Retrieved April 16<sup>th</sup>, 2018, from [http://www.yaleruddcenter.org/resources/bias\\_toolkit/index.html](http://www.yaleruddcenter.org/resources/bias_toolkit/index.html).
- Waller, T., Lampman, C., & Lupfer-Johnson, G. (2012). Assessing bias against overweight individuals among nursing and psychology students: An implicit association test. *Journal of clinical nursing*, 21(23-24), 3504-3512.
- Vartanian, L. R., & Shaprow, J. G. (2008). Effects of weight stigma on exercise motivation and behavior: a preliminary investigation among college-aged females. *Journal of health psychology*, 13(1), 131-138.
- Young, L.M. and Powell, B., 1985. The effects of obesity on the clinical judgments of mental health professionals. *Journal of Health and Social Behavior*, pp.233-246.

## **Paper 2. Empirical study**

**Title:** The effect of client obesity on clinical judgments made by trainee clinical psychologists

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## **Abstract**

In spite of the increasing prevalence of obesity, 'weight stigma' has been observed to influence professional judgements. This discrimination has significant negative consequences for individuals who experience it. The attitudes displayed by mental health professionals have received less attention. The current study aimed to assess weight stigma experimentally and to analyse how it may impact clinical judgments made by trainee clinical psychologists. One-hundred and fifty trainees completed an online experiment. Results showed trainees hold a moderate degree of weight stigma toward service users who have obesity and this may impact on clinical judgments in several ways. Implications for training are discussed.

**Key Words:** obesity stigma, psychologists, decision- making, judgements, weight bias.

## **Introduction**

Obesity prevalence is a global health concern (Flint et al., 2017). However, increases in obesity prevalence are not abating but intensifying obesity stigmatization (e.g. Flint *et al.*, 2017). This weight discrimination occurs across society in employment settings, educational institutions and healthcare services (Puhl & Heuer, 2009) and it has been suggested that weight stigma is one of the last acceptable forms of discrimination in the Western world (e.g., Andreyeva et al., 2000).

Stigma may be described as “an attribute that is deeply discrediting”, reducing a person “from a whole and usual person to a tainted, discounted one” (Goffman, 1963, p. 13). Weight stigma therefore may be conceptualised as the negative attitudes or stereotypes people hold against persons who have obesity and any subsequent prejudice or discrimination. Weight stigma as a term may also include stigmatisation toward thinner individuals, however, in this study it refers to stigma of individuals with higher weight.

Research has shown widespread negative attitudes characterising persons who have higher weight or obesity as lazy, unmotivated, lacking self-discipline, less competent, non-compliant and sloppy (Puhl & Brownell, 2008; Roehling, 1999; Teachman et al., 2003;) and the effects of weight stigma on an individual is immense. Targets of weight stigma have reported experiencing greater psychological distress, binge eating, substance use, and poor self-esteem

(see Papadopoulos & Brennan, 2015 for review) making this an important area for research and intervention.

In healthcare settings research has shown the effects of weight stigma in various ways such as clients delaying treatment and missing important preventative health screenings (e.g. Wee et al., 2000; Ostbye et al., 2005) as well as a general reluctance to seek medical help for any health issue due to perceived provider discrimination (Fruh et al., 2016). Research has found that primary care physicians spend less time with patients who have obesity compared with patients with lower weight (Hebl & Xu, 2001). In addition, healthcare providers have been shown to use stigmatizing terminology in consultations and other patient practitioner meetings (Puhl & Brownell, 2006).

Less research has looked at the effects on mental health care attendance, however, Puhl & Brownell (2006) showed that women who have higher weight or obesity reported experiencing stigma from a range of health care professionals (HCPs) including mental health professionals (MHPs) (21% of participants). These findings have stimulated research about the attitudes and beliefs held by health care providers of which they are often unaware. This has included research that has shown doctors, nurses, dieticians, GPs and MHPs hold negative attitudes toward people who have obesity (for reviews see Puhl & Heuer, 2009; Budd et al, 2011; Flint et al., 2017). Even research with practitioners working in eating disorder services found practitioners reported feeling uncomfortable caring for clients who have obesity, feeling more frustrated about treating clients with obesity and to predict poorer treatment outcomes for these clients (Puhl et al., 2014).

Although there have been some studies enquiring into weight stigma in undergraduate psychology students, (e.g. Waller et al., DeCaroli & Sagone, 2013) only one study has focused on qualified psychologists. In a study by Davis-Coelho (2000), qualified psychologists, (including clinical psychologists) were recruited to complete a questionnaire regarding clinical decision-making. Participants read a pseudo vignette of a possible client that accompanied a photograph of a person either appearing 'overweight' or 'average-weight'. They were then asked to answer some clinically oriented questions regarding assessment and treatment planning. Results showed that the sample of psychologists rated the obese client with poorer wellbeing, poorer prognosis, were more likely to explore an eating disorder or an adjustment disorder diagnosis and have goals for treatment to 'improve body

image' and 'facilitate self-acceptance'. The authors presented some practice recommendations to help clinicians reduce the impact of their weight stigma.

As in the USA, numbers of people who have higher weight or obesity is rising in the UK. Thus, the likelihood of higher weight individuals presenting at mental health services is increased. Moreover, clinical psychologists are being employed more commonly in weight management services and have a key role in modelling direct client work as well as working with staff teams and in service development. Key roles may include shaping reflective practice and building competence in staff to help them reflect on their decision making in clinical practice. The psychologist's role may be in modelling reflexivity and creating a safe and containing workplace in which stigma and discriminatory practice can be minimised.

As well as the obvious ethical and moral duty to ensure we are working in a dignified and respectful way with our clients, ultimately it is important to examine these attitudes and their potential effect on clinical practice, as it has implications for providing client-centred care and evidence based healthcare to people who have higher weight or obesity. Further research to identify approaches to reduce weight bias has been called for by WHO European Region (2017), and more research helping to inform practice-focused interventions has been suggested by leaders in the field of obesity (Flint et al., 2017).

It has been argued that one important aspect of this is to ensure the use of different research modalities and designs in the area of stigma research because of the complex nature of stigma and the influences of decisions and behaviours through conscious and unconscious bias (O'Brien et al., 2008). It is also essential that research goes beyond documenting negative attitudes but explores how this information may affect actual decision-making and behaviours (O'Brien et al., 2008) therefore providing clinically useful information more applicable to real life healthcare settings.

The method for using case descriptions with accompanying photographs has been used consistently in stigma research for over thirty years to explore the impact of stigma on clinical decision making with various health care practitioners (e.g. Davis-Coelho, 2000; Young & Powel, 1985; Puhl, et al., 2009; Hebl & Xu, 2001). Hence, for the current study this method was chosen to assess weight stigma in a sample of trainee clinical psychologists. There has been a criticism in psychological research for the lack of consistency in research design and methodology and the need for further replication and extension of studies instead.

Thus, the current study was based on the Davis-Coelho (2000) study of weight bias in qualified clinical psychologists in USA and adapted and updated to suit a UK population of trainee psychologists, at this time.

### **Aims & hypotheses**

The current study aimed to assess the extent to which trainee clinical psychologists hold weight stigma and to what extent that weight stigma may impact upon clinical judgments. It was hypothesised that trainee clinical psychologists will hold negative attitudes regarding persons with obesity and there will be significant differences in clinical judgments made in relation to the client who has obesity compared to the client appearing 'slim' and the control client. Considering the previous research as described, it was hypothesised that participants would rate the obese client, compared to the 'slim' or control client with poorer wellbeing, have a poorer outcome of intervention, receive an eating disorder diagnosis and have goals for treatment to 'improve body image' and 'facilitate self-acceptance'.

### **Method**

#### **Design**

The study was a replication and extension of a US study into effects of client obesity upon clinical judgments of psychologists (Davis-Coelho, 2000).

A between subjects' design was employed with three experimental conditions (photo of person appearing obese, photo of person appearing slim, no photo condition). The dependent variables were those related to clinical decision-making questions regarding; wellbeing, referral, diagnoses, intervention, therapy, motivation, home practice, collaboration, number of sessions, outcome, like to work with, able to help and similarity. These were measured using a purpose-designed questionnaire and attitudes regarding obesity were measured with psychometrically validated measures.

#### **Sample size determination**

A priori power analysis (G\*Power, Faul *et al.*, 2007) for the use of multiple analysis of variance (MANOVA) test indicated a total sample size of 150 participants to have 80% power to detect an effect size of 0.25, at the  $p < .05$  criterion of statistical significance. The priori power analysis for Chi Square two-tailed test revealed total sample of 93 participants

was required to have 80% power to detect an effect size of 0.3, at the at the  $p < .05$  criterion of statistical significance.

## **Participants**

All institutions offering the Doctorate of Clinical Psychology (DClinPsy) in the UK (excluding Cardiff,  $n=31$ ) were invited to take part in the study, to ensure a representative and inclusive sample of trainee clinical psychologists. The invitation was sent to Course Directors or Research Directors, and those who agreed for trainees to participate disseminated the email invitation to their trainees. Courses were listed in alphabetical order and assigned one of the three conditions. The email link to the survey was sent in three waves to enable checking of number of responses and allow for equal numbers of responses per condition (obese condition,  $n=6$ ; slim condition,  $n=7$ ; control condition,  $n=6$ ). Participation was voluntary, and each participant was offered entry into a prize draw to win a £50 book token upon completion of the questionnaires. All responses were anonymised, including participant's institution.

Inclusion criteria demanded current enrolment on a Doctorate of Clinical Psychology programme. Given the published UK trainee places (Clearing House, 2017) it was estimated that 1204 participants on programmes 'opting in' would be invited. A total of 150 trainees completed the survey giving a recruitment rate of 13%.

## **Instruments and materials**

The information and questionnaires were formatted onto an online system, Qualtrics, to allow for ease and potentially greater recruitment of participants. Participants entered into one of three experimental conditions where the body weight of a hypothetical service user was manipulated. All participants read a client referral letter (Appendix E), adapted from that used by Davis-Coelho (2000), and checked for ecological validity by a clinical psychologist working in a community mental health team, as well as trainee clinical psychologists in the pilot study. It described a young woman who has chronic low mood and anxiety, with good physical health, who wishes to access psychological therapy as a way to help manage or alleviate her difficulties. No mention was made of poor physical health or weight related problems.

In Condition one, the referral letter was accompanied by a photo of a person appearing obese,

Condition two, the same person appearing slim, and Condition three, the control, had no photo (Appendix F). The photos were taken before and after weight loss achieved by an individual and posted on the internet. Permission was sought and granted from the individual (Appendix G) to use their image. Previous studies have used this method and found it more effective than someone wearing a body suit to change their body weight image or altering images using computer software (O'Brien *et al.*, 2008). A manipulation check was included as one of the concluding items in the questionnaire battery for Conditions one and two. Participants were asked to estimate the individual's weight in kilograms on a four-point Likert scale, when given her height and photo. All participants in the obese condition rated the individual as having obesity (more than 91Kgs, 66%) or overweight (71-90Kgs-34%). In the slim condition participants' rated the individual as weighing less than 50Kgs (85%), or 51-70Kgs (15%).

The clinical judgements questionnaire was based on different elements of the clinical cycle, to explore the ways in which obesity stigma might influence the trainees' perception of the therapeutic alliance; the client's engagement; the length, focus and outcome of therapy and the scope of the assessment which might be implied by their difficulties as described in the referral letter. Participants were invited to answer thirteen questions, adapted from Davis-Coelho's (2000) study (Appendix H). The questions used response scales in Likert format (0= very low to 7= very high). Participants were also given the opportunity to note any other thoughts or comments about the individual or the potential scenario in a free text box.

In addition to these clinical questions, and as an extension of the Davis-Coelho (2000) study, participants were asked to complete two measures to assess their explicit weight bias. Crandall's 13-item Anti-fat Attitudes Questionnaire (AFA, 1994) (Appendix I) has 13 items, and three factors; prejudice towards fat people (dislike), belief in the controllability of weight (willpower), and the individual's self-relevant fear of fatness (fear of fat). Reliability coefficients for each scale have demonstrated that the dislike scale is the most consistent score obtained from the AFA ( $\alpha=0.84$ ). As the willpower and fear of fat scales contain only three items each, their reliability coefficients have been shown to be lower, however still adequate ( $\alpha=0.66$  and  $.79$  respectively, Crandall, 1994).

To compliment the AFA the 14-item Fat Phobia Scale (Bacon *et al.*, 2001, Appendix J) was chosen as the language used is more modern (i.e. doesn't use the word 'fat') and it is also a validated measure ( $\alpha=0.91$  reliability coefficient, Bacon *et al.*, 2001). In addition, participants

completed a demographic questionnaire (Appendix K) including items on satisfaction with their own body weight; information about their therapeutic orientation; experience of working with obese clients and training regarding weight stigma.

### **Pilot study**

Twenty-five trainees on the South Wales DClInPsy programme completed a pilot study to check the usability of the materials and to seek feedback on the face validity of the photograph (original used in Davis-Coelho, 2000). Participants described the photographs as 'out of date', so these were sourced and replaced. Feedback regarding the referral letter showed that the majority of trainees thought it to be realistic (80% of participants), with the remaining suggesting there was more information provided compared to that commonly included in referral letters. Overall feedback was positive, questionnaires were completed within an acceptable time (20mins) and no other changes were required.

### **Procedure**

Each of the thirty-one DClInPsy courses were randomly allocated a condition. Course or Research Directors then disseminated the email invitation with participant information (Appendix L) and a link to the online survey for consenting participants to complete. Following completion of the questionnaires, participants were thanked and debriefed with disclosure of full details of the aims of the study (Appendix M). They were also provided with contact details of the researchers should they wish to obtain further information.

### **Ethical considerations**

The study involved mild deception of the participants in regard to the aims of the study. The study's objective, to assess weight stigma, was not immediately disclosed to participants. Having knowledge about the objective of the study would have jeopardised the between group manipulation, and would likely have led to participants giving socially desirable responses that would not have reflected attitudes or feelings held consciously or unconsciously. Thus, the study was described as a project examining clinical decision making by trainee clinical psychologists.

Ethical approval (EC.17.07.11.4916R) was granted from the School of Psychology Ethics Committee (Appendix N) and all consent procedures were in accordance with British Psychological Society Code of Human Research Ethics (BPS, 2014). Full debrief was

provided at the end of the questionnaire and contact information regarding sources of support were available if participants required them. No participants reported any distress to the researchers.

### **Data analysis**

All data was transferred from Qualtrics to the Statistical Package for the Social Sciences, version 23 (SPSS 2015) for analysis. Fat Phobia questionnaire data was reverse scored as necessary using Excel prior to analysis.

All but two participants completed all questions in the study. Available case analysis was utilised whereby only the data available for each variable was analysed (Kwak & Kim, 2017).

Effect sizes were calculated for significant results using Cohen's  $f$  (Cohen, 1988) for ANOVA tests, Cramer's  $V$  (Rea & Parker, 1992) for Chi Square analyses and Cohen's  $r$  for Mann Whitney U as described by Fritz et al., (2011). See Appendix O for table of effect sizes.

## **Results**

### **Preliminary analyses**

Data for each variable within each category was assessed for normality using Shapiro-Wilk's test (Shapiro & Wilk, 1965; Razali & Wah, 2011) and Levene's test for homogeneity. This showed which variables met the assumptions for homogeneity of variance and conformed to assumptions of normal distribution. A visual inspection of their histograms and box plots revealed no outliers, so all data was entered for analysis.

One-way multiple analysis of variance (MANOVA) tests were used to check for significant differences between conditions on the clinical decision-making variables of; wellbeing, motivation, homework, collaboration, sessions, outcome, like, help and similarity. In addition, one-way ANOVAs were used to compare Fat phobia scores and AFA scores between conditions, for participant characteristics of; year of enrolment in training, experience, number of obese clients worked with and extent of stigma training completed. ANOVAs were also used to compare participant's satisfaction with weight across conditions.

Nonparametric tests were employed for data that were not normally distributed or did not display homogeneity of variance. No transformation of data was required. Chi Square analyses (two- tailed) were used for comparison between conditions for categorical data



regarding; referral, diagnoses, intervention and therapy. As well as comparisons between conditions on demographic variables: year in training; years of experience, number of obese clients worked with; level of stigma training completed.

### **Sample description**

The total sample consisted of 150 trainees, their mean age was 29.7y (+/-3.26y), 84% were female, and there was a fairly even split across year in training (year 1, 29%; 2, 39%, 3, 32%). In regard to clinical experience, most had 3-6years (64%), some 6 or more years (25%) and only 12% had less than 2 years. Cognitive Behavioural Therapy (CBT) was most frequently chosen (n=61) as clinical orientation, with Systemic/ Social Constructionist (n=29) and Integrative (n=25) as the next most frequent. Over half of the participants (52%) had worked with 6 or more obese clients, 40% between 1-5 and 8% had never worked with an obese client. The majority of trainees (62%) had not received any training in weight stigma, 32% had 'a little' and only 6% stated having received a 'moderate' or 'a lot' of training in weight stigma. Participants ranged from being very unsatisfied to very satisfied with their own body weight, with an average score of 3.90 (SD=1.64). Demographic sample characteristics are displayed in Appendix P.

### **Baseline sample characteristics**

There were no significant differences on demographic characteristics between the participants across conditions in each of the key variables. Chi square tests showed no significant differences in participant characteristics between groups for; gender ( $\chi^2(2, n=146) = 1.85, p = .396$ ), level of experience ( $\chi^2(6, n=145) = 5.31, p = .504$ ), year in training ( $\chi^2(4, n=145) = 8.79, p = .066$ ), numbers of obese clients they had worked with ( $\chi^2(6, n=146) = 2.00, p = .920$ ), stigma training completed ( $\chi^2(6, n=146) = 8.89, p = .180$ ) and clinical orientation (see Appendix Q). In addition, Kruskal-Wallis analysis revealed no significant differences between groups for age of participant (age ( $\chi^2(2, n=145) = 3.54, p = .170$ )). Finally, ANOVA tests showed no significant differences between conditions on trainees' satisfaction with their own body weight ( $F(2, 143) = 1.24, p = .292$ ); Fat Phobia score ( $F(2, 145) = 0.34, p = 0.71$ ) or the AFA score ( $F(2, 144) = 0.99, p = 0.371$ ). This demonstrated that the groups were comparable at baseline with little evidence of confounding factors in operation.

### **Fat Phobia and AFA scores**

The mean Fat Phobia score for the total sample was 3.45 (SD=0.47), representing a moderate level of fat phobia, as it lies in the middle of scores from other studies of health professionals (e.g. eating disorder professionals; M=3.16, SD=.47, (Puhl et al., 2014) and dietetics students; M=3.70, SD=.51, (Puhl et al., 2009). Table 1 highlights the common areas of Fat Phobia and shows the percentage of participants who agreed or strongly agreed (rated 4 or 5) with the different negative adjectives. It shows the majority of trainees (over 60%) perceive obese persons to have poor self-control, to be inactive, like food and overeat.

The mean AFA score for the total sample was 36.33 (SD= 18.62). There are no 'cut off' scores described for these scales, however, this average score is lower compared to a previous study of qualified psychologists that reported a mean score of 44.63, (SD=20.14, Stapleton, 2015). An independent-samples t-test revealed significant differences between these mean scores ( $t(213) = -2.94$ ,  $p = 0.004$ ).

A further study of marriage/family therapy trainees reported a mean score of 34.16 (SD=18.15, Pratt, 2015), more in line with results from the current study, and a t test revealed no significant difference between the mean scores ( $t(309) = 1.04$ ,  $p = .29$ ). Similar results were found for the Fear of Fat subscales; (Mean = 13.83 (SD=7.99) compared with Pratt (2015; Mean = 14.63) and mean scores on the Willpower subscale were slightly lower; Mean = 10.85 (SD=6.25) compared with Pratt (2015; Mean= 12.10), and slightly higher on the Dislike subscale; Mean= 11.65 (SD=10.46), compared with Mean = 7.41 (Pratt, 2015).

A T Test revealed no significant differences of the total sample for trainee gender and Fat Phobia score ( $t(144) = -1.35$ ,  $p = .180$ ) or AFA score ( $t(143) = -.61$ ,  $p = .543$ ). A Spearman's correlation co-efficient test found no significant association between age and Fat Phobia score ( $r_s(143) = .03$ ,  $p = .733$ ) or AFA score ( $r_s(143) = -.06$ ,  $p = .451$ ). Similarly, a Pearson's correlation co-efficient revealed no significant association between satisfaction with own body weight and Fat Phobia ( $r(144) = -.03$ ,  $p = .700$ ) or for AFA score ( $r(145) = .07$ ,  $p = .386$ ).

In addition, one-way ANOVA analyses revealed no significant difference between conditions for Fat Phobia or AFA and year in training ( $f(2, 142) = .22$ ,  $p = .801$ ;  $f(2, 141) = .91$ ,  $p = .407$ ), experience ( $f(3, 141) = 3.66$ ,  $p = .014$ ;  $f(3, 140) = .69$ ,  $p = .560$ ); number of obese clients worked with ( $f(3, 142) = 2.55$ ,  $p = .058$ ;  $f(3, 141) = 1.52$ ,  $p = .211$ ) or extent of stigma training completed ( $f(3, 142) = 2.33$ ,  $p = .077$ ;  $f(3, 141) = .74$ ,  $p = .528$ ) (Appendix R).

**Table 1. Percentage of participants who agreed or strongly agreed with negative adjectives on the Fat Phobia Scale (n=148).**

Negative adjective	% agreement
Lazy	31
No Will power	49
Unattractive	55
Poor self-control	62
Slow	58
Having no endurance	32
Inactive	64
Weak	17
Self-indulgent	32
Likes Food	63
Shapeless	29
Overeats	74
Insecure	49
Low self esteem	57

### **Clinical judgments**

Table 2 summarises the mean scores for each of the different variables for clinical decision making, per condition. A MANOVA analysis, showed a significant difference between conditions ( $F(18, 278) = 2.218, p = .003$ , Pillai's Trace = .251) and revealed significant differences, although small effect sizes, across conditions for the variables of collaboration, ( $F(2, 146) = 3.935, p = 0.022, \eta_p^2 = .051$ ) like to work with ( $F(2, 146) = 6.218, p = 0.003, \eta_p^2 = .078$ ) and similarity ( $F(2, 146) = 4.332, p = 0.015, \eta_p^2 = .056$ ).

There were no significant differences between conditions for the variables of perception of client's wellbeing ( $F(2, 146) = 2.501, p = 0.086$ ), level of client motivation ( $F(2, 146) = .28, p = 0.756$ ), completing homework ( $F(2, 146) = .521, p = 0.595$ ), number of sessions required ( $F(2, 146) = .332, p = 0.718$ ), outcome of intervention ( $F(2, 146) = 2.378, p = .096$ ) and perceived ability to help ( $F(2, 466) = 2.781, p = 0.065$ ).

Tukey HSD post hoc analyses, including Bonferroni adjustment ( $\alpha < .02$ ) revealed that the average rating for collaboration was significantly higher ( $p = .013$ ) in the control condition ( $M = 2.63, SD = 1.45$ ), compared to the obese condition ( $M = 3.40, SD = 1.45$ ). There was a smaller, but non-significant difference ( $p = .066$ ) between control and slim conditions ( $M = 3.31, SD = 1.45$ ) and no significant difference between slim and obese conditions

( $p=.957$ ). Thus, the participants appear to judge clients to need significantly less direct instruction if there is no photo of the client.

The same post hoc analyses and adjustment revealed a significant difference ( $p=.002$ ) in the rating of 'like to work with' between the slim ( $M=3.27$ ,  $SD=1.57$ ) and control ( $M=2.33$ ,  $SD=1.14$ ) conditions. There was a smaller, but non-significant difference ( $p=.066$ ) between slim and obese ( $M=2.68$ ,  $SD=1.22$ ) conditions and no significant difference between obese and control ( $p=.388$ ). Therefore, participants rating of whether they would like to work with the slim client was significantly higher compared to the control client. There was a trend toward preferring the slim over the obese client, but the obese client and the control client were 'liked' equally.

Post hoc analyses and adjustment for the variable of rating of perceived similarity to the client showed a significant difference ( $p=.011$ ) between obese ( $M=4.96$ ,  $SD=1.17$ ) and slim ( $M=4.21$ ,  $SD=1.39$ ) conditions. No significant difference ( $p=.304$ ) was found between the obese and control ( $M=4.58$ ,  $SD=1.28$ ) conditions, nor between the slim and control conditions ( $p=.329$ ). It appears participants judged the slim client to be significantly more similar to themselves than the obese client on control client. The participants judged the obese client to be less similar to themselves than the control client but this difference was not statistically significant.

**Table 2. Mean scores (and standard deviation) on key outcome variables across experimental conditions of Obese, Slim and No photo conditions.**

	<b>Condition 1 (Obese), Mean (SD), N=53</b>	<b>Condition 2 (Slim), Mean (SD), N=48</b>	<b>Condition 3 (No photo), Mean (SD, N=48)</b>
<b>Variable:</b>			
Wellbeing †	2.47 (0.64)	2.75 (0.81)	2.75 (0.73)
Motivation †	4.89 (0.99)	5.02 (0.78)	4.96 (0.89)
Home practice †	4.40 (0.86)	4.40 (0.79)	4.25 (0.78)
Collaboration † †	3.40 (1.45)	3.31 (1.45)	2.63 (1.45)*
No. of sessions †	2.36 (0.56)	2.25 (0.76)	2.31 (0.69)
Outcome †	4.79 (0.82)	4.88 (0.84)	5.13 (0.70)
Like to work with † †	2.68 (1.22)	3.27 (1.57)*	2.33 (1.14)
Able to help † †	2.98 (1.22)	3.42 (1.45)	2.81 (1.16)
Similarity † †	4.96 (1.17)	4.21 (1.39)*	4.58 (1.28)

† = Likert scale 1-7 (1=very low, 7=very high)

† † Likert scale 1-7 (1=very high, 7=very low).

\* = significant difference,  $p < .05$  between conditions.

## **Referral**

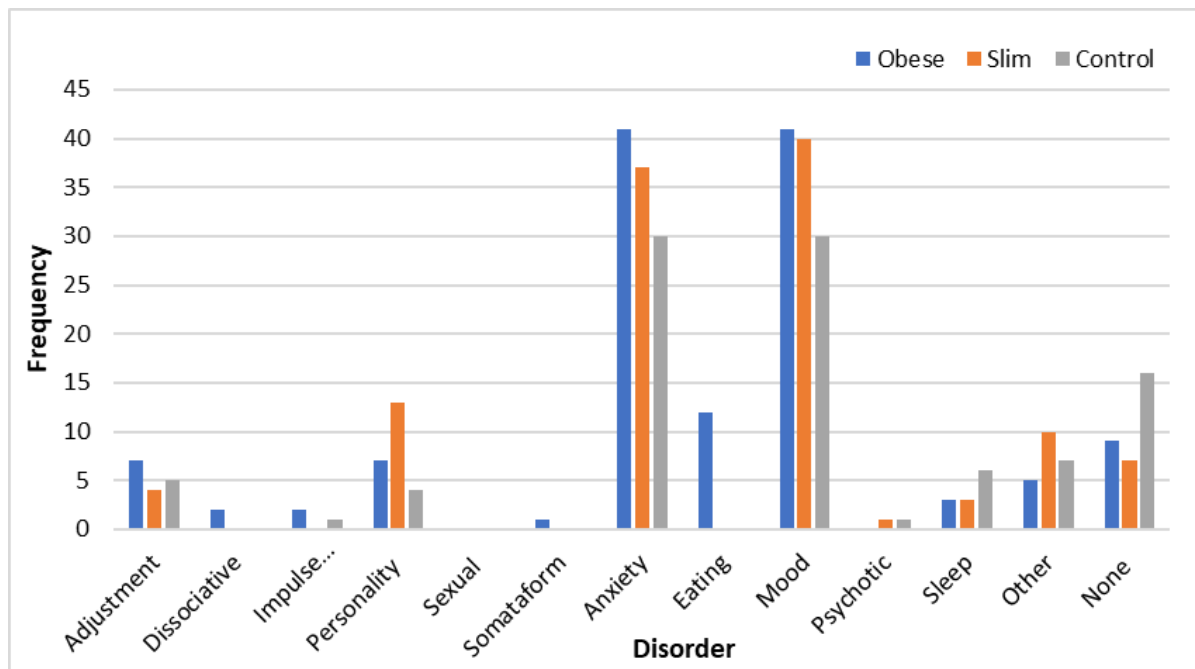
There were no significant differences across conditions with the majority suggesting accepting clients into the community mental health team (CMHT) (obese n=28; slim n=28; control n=25), or into the primary care mental health service (PCMHS) (obese n=24; slim n=18; control n=22). No participants suggested referring the client to inpatient services or back to the GP. It appears the size of the client or whether there was a photo with the referral has no significant effect on decision regarding acceptance of the client into the service.

## **Diagnoses**

Overall the obese client received more diagnoses and greater variance in diagnoses than the other conditions (obese n=121 (range=7); slim n=108 (range=5); control n=84 (range=5)). However, an ANOVA test revealed no significant difference between the group means for total number of diagnoses offered (obese,  $M=2.28$ , slim,  $M=2.20$ , control,  $M=1.75$ ,  $F(2,147)$

=2.16,  $p=.119$ ). In addition, only for the obese client was an eating disorder diagnosis advanced (obese  $n=12$ ; slim  $n=0$ ; control  $n=0$ ), and Chi Square analysis and Bonferroni adjustment ( $\alpha=0.0038$ ) revealed a significant difference ( $X^2(2, n=149) = 23.64, p=.00$ ). Figure 1 highlights the differences in diagnoses chosen across conditions.

**Figure 1. Diagnoses per condition**



*Note. Participants could select more than one diagnoses to explore with the client.*

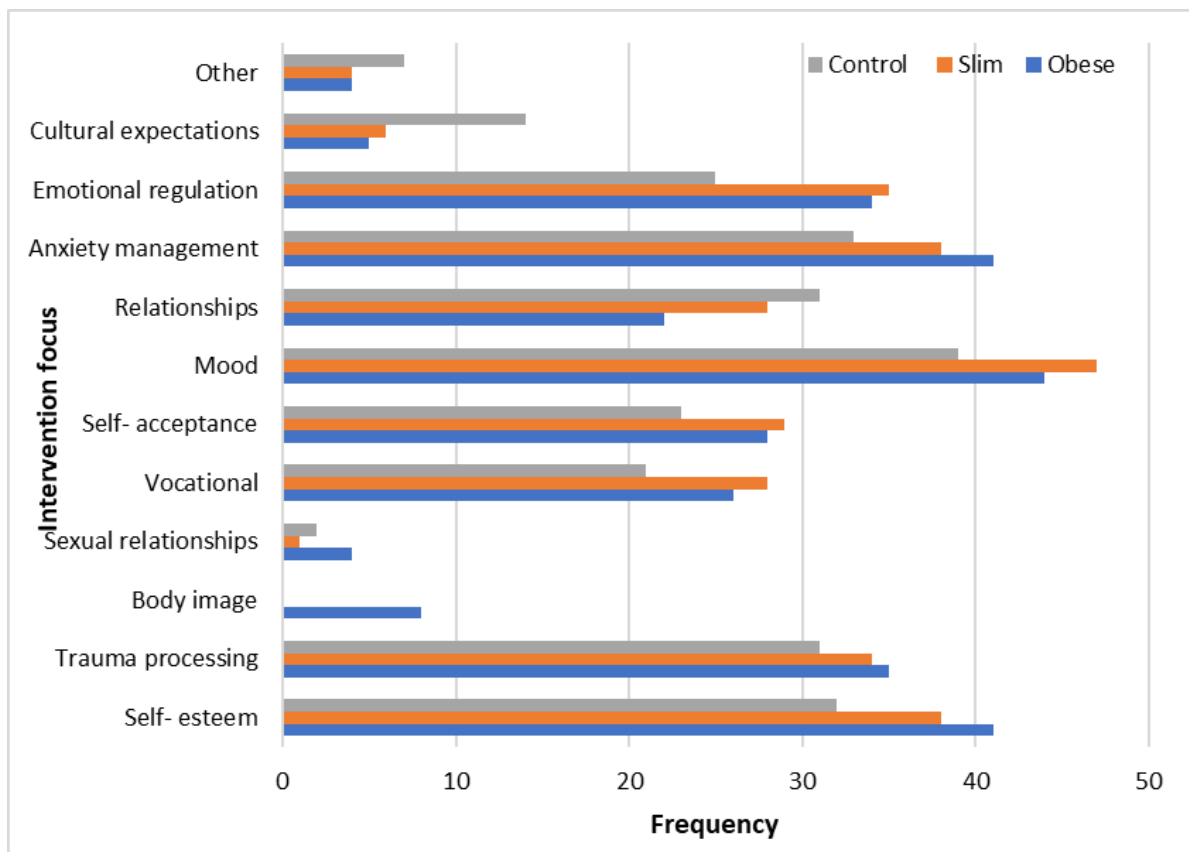
### Intervention focus

For suggestions of likely area of intervention (Figure 2), ‘improving mood & wellbeing’ was the most commonly chosen intervention across conditions (obese,  $n=44$ ; slim,  $n=47$ ; control,  $n=39$ ) and Chi Square analyses revealed a difference between conditions ( $X^2(2, n=149) = 7.31, p=.026$ ) but this was statistically non-significant after Bonferroni adjustment ( $\alpha=0.0038$ ).

There was also a difference between conditions for area of intervention of ‘exploring cultural expectations’ (obese  $n=5$ ; slim  $n=6$ ; control  $n=14$ ), ( $X^2(2, n=149) = 7.95, p=.019$ ) but this was non-significant after Bonferroni adjustment ( $p=0.0038$ ).

The option of ‘improving body image’ was chosen seldom but only for the obese client ( $n=8$ ), no trainees selected this as an option for the slim client or when there was no photo.

**Figure 2. Intervention focus per condition.**



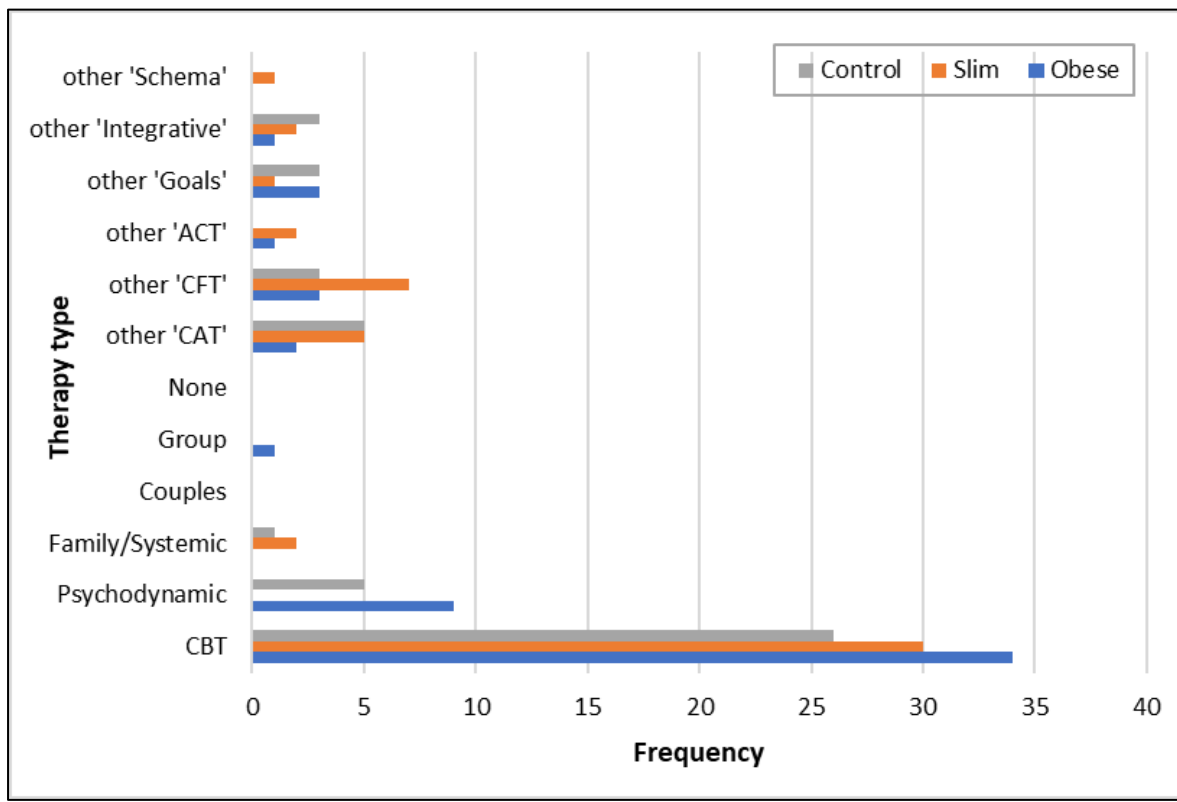
Notes. Participants were asked to select one intervention type only.

'Other' intervention focus consisted of; family/ systemic (obese n1); goal focused (obese n2, slim n1, control n4); compassion (slim n1), formulation (obese n1; slim n1; control n1).

## Therapy

There was largely agreement as to the therapy modalities chosen across conditions with CBT being chosen most commonly (obese n=34; slim n=30; control n=26). Chi Square analyses revealed a difference across conditions for the choice of psychodynamic/ psychoanalytic therapy for the client ( $\chi^2(2, N=149) = 8.61, p = .013$ ), but this proved non-significant after Bonferroni adjustment ( $\alpha = 0.0042$ ). Figure 3 highlights the therapy choices for each condition.

**Figure 3. Therapy choice per condition.**



*Note. Participants asked to select one therapy type only.*

## Discussion

The results from this study support the hypothesis that the trainee clinical psychologists will hold negative attitudes regarding obese persons. The results do not fully support the second hypothesis as clinical judgments regarding the obese client did not differ significantly from the slim and control conditions except on a limited number of clinical judgment items: collaboration; like to work with; and perceived similarity between the trainee and the client. It is worth noting the conservatism of Bonferroni adjustments particularly for the differences found regarding intervention focus and therapy choice.

The results compared to the original Davis-Coelho (2000) study, have similarities in that both studies found the obese client was more likely to get an eating disorder diagnosis and be suggested a treatment goal of 'improving body image'. The original study also found the obese client to more likely receive an adjustment disorder diagnosis and have goals of 'facilitating self-acceptance' and 'increasing sexual satisfaction' which was not found in the current study. Additionally, the original study found significant differences with participant



characteristics such as younger psychologists predicting a lesser degree of effort from the client appearing obese, compared to older psychologists. No such individual differences were found in the current study. The current study found significant differences for the slim client and client without a photo that were not assessed or found in the original study.

### **Obesity attitudes**

The results of the current study show that the trainee clinical psychologists are not exempt from having weight stigma and show a moderate level of negative attitudes towards obese persons. In relation to previous studies these scores are similar to other mental health trainees (Pratt, 2016) and significantly lower than those of a sample of qualified psychologists (Stapleton, 2015). The strongest stereotypes are also similar, in that obese individuals are judged by the majority of trainees (55-74%) as; unattractive, having poor self-control, being slow, inactive, liking food, overeating and to have low self-esteem.

Potentially the best supported explanation for why this anti-fat bias is so powerful and pervasive is attribution theory developed most fully by Crandall and colleagues (Crandall, 2000; Crandall et al., 2001). This work emphasizes causality and controllability. If the stigmatized trait is thought to be under personal control, blame is assigned, bias seems reasonable, and discrimination is justified (Schwartz & Brownell, 2004). Personality explanations then arise like those described above and the stigmatized person is seen as defective (Puhl et al., 2014).

This may then affect empathising with a client who has obesity (Magliocca et al., 2005) and thus may have negative implications in developing a therapeutic relationship with associated impact on the clinical cycle. It was therefore pertinent for the current study to go beyond documenting biased attitudes and to experimentally assess the impact of a client's weight on trainees' perceptions toward a client's assessment and potential treatment outcomes. Several significant differences were found between conditions in the clinical judgments made by the trainees. Differences were found in judgments made of the obese client as well as for the slim client and of the client without a photo.

### **Effects of client obesity on clinical judgements**

In regard to exploration of diagnoses, the client who has obesity was more likely to be in receipt of more diagnoses overall as well as more likely to receive an eating disorder

diagnosis, a finding which is in line with that of the original study (Davis-Coelho, 2000). This may be due to attribution of controllability and individual responsibility for the development of disorders (obesity as well as eating disorders) and has been associated with more stigmatizing attitudes toward the disorder (Ebner et al., 2011). Previous research has shown that MHPs hold beliefs that obesity is due to individual factors more so than of social, or cultural ones (Bleich et al., 2015). It would have been interesting to study beliefs about causality in this sample to see if they correlated with disclosures and judgments made on the other variables. It may also be important to acknowledge that although trainees were given the option to not choose any diagnoses to explore with the client, the questionnaire did not ask about possible formulation, as in normal practice, which may have led them to feel inclined to choose a diagnosis and thus showing bias when perhaps there wasn't any.

As well as more diagnoses, the obese client was more likely (although not statistically significant) to get a goal for intervention regarding improving body image, even when there was no mention of this whatsoever in the referral letter. This was also found in the original study (Davis-Coelho, 2000) and was in line with findings that when clients who have obesity visit GPs they frequently report being asked about their weight, when they came for help on an unrelated issue (Hebl & Xu, 2001). Moreover, they felt generally dismissed by professionals and that they received no or little treatment for their additional health problems (Merrill & Grassley, 2008). It should be said that there is clear evidence that obesity is linked with poor body image, but not all obese persons suffer from this problem or are equally vulnerable (Schwartz & Brownell, 2003). It was argued that it is perhaps more important to address how body image distress can be prevented rather than 'treated' (Schwartz & Brownell, 2003).

### **Slim Favouritism**

As well as differences in judgements of the obese client, trainees also judged the slim client differently, perceiving the slim client as more similar to themselves and liking to work with them more, compared to the client with obesity and control condition.

This is in line with previous research showing slim favouritism whereby the average weight person was more likely to be chosen to be hired, promoted, selected for adopting a child and helped following a hypothetical traffic accident scenario (Swami et al., 2010) compared to the person with obesity. Also, previous research has shown those with greater weight bias show greater preference for thinness (Carels & Musher-Eizenman, 2010; De Caroli &

Sagone, 2013) and that the same attitudes that contribute to an antifat bias also contribute to a pro-thin bias when contemplating personality attributes (Schwartz & Brownell, 2003). This may be explained by Social Identity Theory (Tajfel & Turner, 1986), according to which individuals express a more positive evaluation of members of own group than members of out-group in terms of 'in-group' favouritism.

Thus, the current study has shown that client weight may affect clinical judgements, via weight stigma but also perhaps by a 'slim favouritism'. There also appears to be an effect of providing a photo on perception of the individual and their needs with subsequent clinical decision-making implications.

### **Perceptual reliance**

The current study also found differences in clinical judgements made when there was no photo accompanying the referral letter. Trainees perceived the client in the control condition to need less directive instruction and receive fewer diagnoses compared to the client with a photo (slim or obese).

This may highlight an effect of appearance alone upon person perception. Photos provide a wealth of information that may influence perceptions, such as weight, attractiveness, socio-economic status, gender, ethnicity etc. Also, individuals may differ in their perceptual reliance, which is explained as the propensity to judge individuals based on physical appearance (Carels & Musher-Eizenman, 2010) and studies have shown that perceptually reliant individuals may attend more closely to body weight and be more likely to judge individuals consistent with prevailing attitudes toward weight (Carels & Musher-Eizenman, 2010).

### **Participant characteristics**

This individual difference of perceptual reliance would be interesting to explore further, particularly the correlations with anti-fat attitudes and clinical judgements. Individual differences found in the current study included a high rate of Fear of Fat, which is similar to that displayed by trainees in a previous study (Pratt, 2016). This is important as greater concern about becoming fat has been shown to be significantly associated with greater weight stigma (Swami et al., 2010). This may be explained by internalised weight stigma or socio-cultural pressure for the 'thin ideal'.

However, no statistical differences were found in the current study between Fat Phobia and AFA scores for; gender, age, year in training, experience, number of obese clients worked with, level of stigma training completed and satisfaction with own weight. This is different from other studies that have, for example, found older HCPs to show less bias toward obese patients than younger HCPs (Budd et al., 2011). However, the age range in the current study is small so may account for the limited differences found. Effects of satisfaction with own weight have produced mixed results, some showing no effect on attitudes toward people with obesity (Budd et al., 2011) and some showing correlations of poorer satisfaction with greater negative attitudes (Puhl et al., 2014; Scwartz et al., 2006).

In addition, recent research (Meadows et al, 2017) proposed that favourable contact experience with higher-weight patients had less impact on anti-fat attitudes of students after four years of medical school. They explained this in terms of individual difference in that students who were more egalitarian and empathic at baseline held less anti-fat attitudes.

Overall it may support previous research that has found individual factors to explain only small amounts of variance (4%) in weight bias, suggesting they are at best, weak predictors of weight bias (Swami et al., 2010). This has implications, in that weight bias may therefore be more amenable to change and intervention.

### **No differences.**

It is equally important to reflect on the areas of clinical judgements that found no difference between conditions for; wellbeing, referral acceptance, client motivation, completion of home practice tasks, number of sessions estimated for intervention, prediction of outcome and rating of ability to help. This is opposite to previous research that has shown practitioners to predict poorer outcomes for their obese clients (e.g. Puhl et al., 2014) as well as feeling less competent in working with them (Stapleton et al., 2015). This is perhaps due to healthcare professional role differences with psychologists aiming to use treatment to improve well-being rather than weight management as in previous studies.

It is encouraging that the trainees did not rate the obese client significantly differently in regard to their motivation or treatment outcome and that for these aspects weight bias does not impinge on their clinical judgments. However, as with all results we should bear in mind the limitations of the study in interpreting the results.

## **Study limitations**

Undertaking a replication and extension of Davis-Coelho's, (2000) US study may be a strength of the current study, and it attests to the utility of their methodology that adopting it resulted in a broadly similar set of findings. Given MHPs are under-represented in weight bias research, it was also a strength to apply this method with trainee clinical psychologists in the UK. However, the lack of theoretical underpinning to allow prediction of the domains in which bias might be expressed throughout the clinical cycle, may be a limitation of the design. Hence, perhaps the lack of instruments and psychometrically validated measures available for indexing these domains and outcomes.

In addition, there may be shortcomings in the use of vignettes to try to study implicit and explicit bias and the design overall may not have been sufficiently sensitive to capture the effects on trainees' decision making, mainly due to participants gaining potential insights which weakened the deception manipulation and introduced social desirability into their responses. This was potentially a confounding factor of this study despite safeguards in recruitment to the conditions.

To overcome this, field studies may be more appropriate, with greater ecological external validity to help explore the potential effect of weight bias on actual behaviours in real life settings, that clients with obesity often report (Lee & Pause, 2016). This may also help as it has been shown that it is within the interaction that discrimination often occurs (O'Brien et al., 2008). Thus, future research is required to capture obese clients' perceptions of weight bias in interactions with trainee clinical psychologists and to determine whether these experiences influence their health care decisions. Similarly, research is necessary to investigate how healthcare professionals and their supervisors can alleviate the impact of weight bias on their clinical practice and be guided to reflect and learn from their interactions with people who have obesity.

To recruit similar numbers to each condition and safeguard the deception manipulation, trainees who were enrolled in separate programmes were recruited as a cohort to a condition creating a cluster design as opposed to an independent group design with random allocation of volunteers across all groups. Similar numbers of courses were recruited to each condition so each was made up of a representative sample of trainees. However, the analyses did not take into account the cluster-based recruitment strategy. To improve this, inflation of the sample size would be needed to increase the representativeness of the sample and the

reliability and validity of the results. Greater numbers and recruitment of independent samples would also allow for regression analysis which could be used to investigate which variables are most predictive of weight bias and which are important to mediation of these relationships.

### **Clinical and service implications**

It is essential that as health professionals we have respect for the dignity of persons and peoples (3.1 BPS code of ethics and conduct, 2018):

*” Respect for dignity recognises the inherent worth of all human beings, regardless of perceived or real differences in social status, ethnic origin, gender, capacities, or any other such group-based characteristics.”*

The BPS Practice Guidelines suggest reflective practice is one of the key processes in being able to have a complex understanding of self in the context of others (1.3 BPS Practice Guidelines, 2007).

*“Decision-making is often subject to various competing biases. Psychologists should be aware of the possibility that they may be influenced by considerations which are not driven by professional knowledge, skills or experience. A key factor in developing and maintaining these skills is the use of consultation or supervision .....It is also important for psychologists to evaluate effectiveness of practice, by welcoming feedback from clients.”*

As well as supervision, and given that the majority of trainees (62%) had received no training regarding weight stigma, it seems warranted to raise awareness of this issue and include stigma-reduction interventions as part of standardised clinical psychology curriculum.

Experimental studies have demonstrated effective strategies to reduce weight stigma among students and professionals in health-related fields (O’Brien et al., 2010). This work indicates that providing educational interventions that emphasize the complex aetiology of obesity (e.g., information on biological and genetic contributors to body weight that are outside personal control) and challenge common weight-based stereotypes can effectively reduce weight stigma (O’Brien et al., 2010; Swift et al., 2013). These strategies have been tested using different approaches (e.g., via lecture format, written information, brief educational films), suggesting that these stigma-reduction interventions can be feasibly implemented in clinical training or practice settings. With an increasing obese demographic, it has been

further suggested that these anti-stigma interventions are part of mandatory training of practitioners (Flint et al., 2017).

Fundamentally we need to understand and acknowledge the inherent power we hold as healthcare providers and our role in tackling the discursive practices that may continue to promote weight stigma in clinical practice (Malterud & Ulrikson, 2011). In this way we can help to ensure we provide a dignified and respectful service to all people who may require it.

## **Conclusions**

Trainee clinical psychologists are not immune to weight stigma. Holding negative attitudes about people with obesity may have an impact on clinical -decision making in various ways. Trainees need to be aware of the potential stigma they hold. Clinical doctorate training could support further trainees to develop this self-reflection and provide stigma-reduction training to aid trainees in working with their clients.

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## **Declaration of interest**

The Authors declare that there is no conflict of interest.

## **References**

*(Harvard style as per Health Psychology Open author guidelines)*

Andreyeva, T., Puhl, R.M. and Brownell, K.D., 2008. Changes in perceived weight discrimination

Bacon, J.G., Scheltema, K.E. and Robinson, B.E., 2001. Fat phobia scale revisited: the short form. *International journal of obesity*, 25(2), p.252.

Blanton, H., Jaccard, J., Klick, J., Mellers, B., Mitchell, G. and Tetlock, P.E., 2009. Strong claims and weak evidence: Reassessing the predictive validity of the IAT. *Journal of Applied Psychology*, 94(3), p.567.

- Bleich, S.N., Bandara, S., Bennett, W.L., Cooper, L.A. and Gudzone, K.A., 2015. US health professionals' views on obesity care, training, and self-efficacy. *American journal of preventive medicine*, 48(4), pp.411-418.
- British Psychological Society (2014). BPS Code of Human Research Ethics, 2nd edition. Leicester.
- British Psychological Society (2018) BPS Code of Ethics and Conduct. Leicester.
- British Psychological Society (2007) BPS Practice Guidelines, Leicester.
- Budd, G.M., Mariotti, M., Graff, D. and Falkenstein, K., 2011. Health care professionals' attitudes about obesity: an integrative review. *Applied Nursing Research*, 24(3), pp.127-137.
- Carels, R.A. and Musher-Eizenman, D.R., 2010a. Individual differences and weight bias: Do people with an anti-fat bias have a pro-thin bias?. *Body Image*, 7(2), pp.143-148.
- Cohen, J., 1988. Statistical power analysis for the behavioral sciences 2nd edn.
- Crandall, C.S., 2000. Ideology and lay theories of stigma: The justification of stigmatization. *The social psychology of stigma*, pp.126-150.
- Crandall, C.S., 1994. Prejudice against fat people: ideology and self-interest. *Journal of personality and social psychology*, 66(5), p.882.
- Crandall, C.S., D'Anello, S., Sakalli, N., Lazarus, E., Nejtardt, G.W. and Feather, N.T., 2001. An attribution-value model of prejudice: Anti-fat attitudes in six nations. *Personality and Social Psychology Bulletin*, 27(1), pp.30-37.
- Davis-Coelho, K., Waltz, J. and Davis-Coelho, B., 2000. Awareness and prevention of bias against fat clients in psychotherapy. *Professional Psychology: Research and Practice*, 31(6), p.682.
- De Caroli, M.E. and Sagone, E., 2013. Anti-fat prejudice and stereotypes in psychology university students. *Procedia-Social and Behavioral Sciences*, 84, pp.1184-1189.
- Ebneter, D.S., Latner, J.D. and O'Brien, K.S., 2011. Just world beliefs, causal beliefs, and acquaintance: Associations with stigma toward eating disorders and obesity. *Personality and Individual Differences*, 51(5), pp.618-622.
- Faul, F., Erdfelder, E., Lang, A.G. and Buchner, A., 2007. G\* Power 3: A flexible statistical power analysis program for the social, behavioral, and biomedical sciences. *Behavior research methods*, 39(2), pp.175-191.
- Flint, S.W., Oliver, E.J. and Copeland, R., 2017. Obesity stigma in healthcare: impacts on policy, practice, and patients. *Frontiers in psychology*, 8, p.2149.
- Fritz, C.O., Morris, P.E. and Richler, J.J., 2012. Effect size estimates: current use, calculations, and interpretation. *Journal of experimental psychology: General*, 141(1), p.2.
- Fruh, S.M., Nadglowski, J., Hall, H.R., Davis, S.L., Crook, E.D. and Zlomke, K., 2016. Obesity stigma and bias. *The Journal for Nurse Practitioners*, 12(7), pp.425-432.
- Goffman, E., 1963. Stigma: Notes on a spoiled identity. *Jenkins, JH & Carpenter*.



- Hassel, T.D., Amici, C.J., Thurston, N.S. and Gorsuch, R.L., 2001. Client weight as a barrier to non-biased clinical judgment. *Faculty publications- Grad School of Clinical Psychology*, Paper 121.
- Hebl, M.R. and Xu, J., 2001. Weighing the care: physicians' reactions to the size of a patient. *International journal of obesity*, 25(8), p.1246.
- Jacobson, N., 2009. Dignity violation in health care. *Qualitative health research*, 19(11), pp.1536-1547.
- Kwak, S.K. and Kim, J.H., 2017. Statistical data preparation: management of missing values and outliers. *Korean journal of anesthesiology*, 70(4), pp.407-411.
- Lacroix, E., Alberga, A., Russell-Mathew, S., McLaren, L. and von Ranson, K., 2017. Weight Bias: A Systematic Review of Characteristics and Psychometric Properties of Self-Report Questionnaires. *Obesity facts*, 10(3), pp.223-237.
- Lee, J.A. and Pausé, C.J., 2016. Stigma in practice: barriers to health for fat women. *Frontiers in psychology*, 7, p.2063.
- Luppino, F.S., de Wit, L.M., Bouvy, P.F., Stijnen, T., Cuijpers, P., Penninx, B.W. and Zitman, F.G., 2010. Overweight, obesity, and depression: a systematic review and meta-analysis of longitudinal studies. *Archives of general psychiatry*, 67(3), pp.220-229.
- Magliocca, K.R., Jaber, M.F., Alto, D.L. and Magliocca, J.F., 2005. Knowledge, beliefs, and attitudes of dental and dental hygiene students toward obesity. *Journal of Dental Education*, 69(12), pp.1332-1339.
- Malterud, K. and Ulriksen, K., 2011. Obesity, stigma, and responsibility in health care: A synthesis of qualitative studies. *International journal of qualitative studies on health and well-being*, 6(4), p.8404.
- Merrill, E. and Grassley, J., 2008. Women's stories of their experiences as overweight patients. *Journal of advanced nursing*, 64(2), pp.139-146.
- Ogden, J., 2016. Do no harm: Balancing the costs and benefits of patient outcomes in health psychology research and practice. *Journal of health psychology*.
- O'Brien, K.S., Puhl, R.M., Latner, J.D., Mir, A.S. and Hunter, J.A., 2010. Reducing anti-fat prejudice in preservice health students: a randomized trial. *Obesity*, 18(11), pp.2138-2144.
- Østbye, T., Taylor Jr, D.H., Yancy Jr, W.S. and Krause, K.M., 2005. Associations between obesity and receipt of screening mammography, Papanicolaou tests, and influenza vaccination: results from the Health and Retirement Study (HRS) and the Asset and Health Dynamics Among the Oldest Old (AHEAD) Study. *American Journal of Public Health*, 95(9), pp.1623-1630.
- Pratt, K.J., Palmer, E., Cravens, J.D., Ferriby, M., Balk, E. and Cai, Y., 2016. Marriage and family therapy trainees' reports of explicit weight bias. *Journal of marital and family therapy*, 42(2), pp.288-298.
- Puhl, R.M. and Brownell, K.D., 2006. Confronting and coping with weight stigma: an investigation of overweight and obese adults. *Obesity*, 14(10), pp.1802-1815.

- Puhl, R.M., Latner, J.D., King, K.M. and Luedicke, J., 2014. Weight bias among professionals treating eating disorders: attitudes about treatment and perceived patient outcomes. *International Journal of Eating Disorders*, 47(1), pp.65-75.
- Puhl, R., Wharton, C. and Heuer, C., 2009. Weight bias among dietetics students: implications for treatment practices. *Journal of the American Dietetic Association*, 109(3), pp.438-444.
- Razali, N.M. and Wah, Y.B., 2011. Power comparisons of shapiro-wilk, kolmogorov-smirnov, lilliefors and anderson-darling tests. *Journal of statistical modeling and analytics*, 2(1), pp.21-33.
- Rea, L.M. and Parker, R.A., 2014. *Designing and conducting survey research: A comprehensive guide*. John Wiley & Sons.
- Roehling, M.V., 1999. Weight-based discrimination in employment: Psychological and legal aspects. *Personnel Psychology*, 52(4), pp.969-1016.
- Ruggs, E.N., King, E.B., Hebl, M. and Fitzsimmons, M., 2010. Assessment of weight stigma. *Obesity facts*, 3(1), pp.60-69.
- Schwartz, M.B. and Brownell, K.D., 2004. Obesity and body image. *Body image*, 1(1), pp.43-56.
- Schwartz, M.B., Vartanian, L.R., Nosek, B.A. and Brownell, K.D., 2006. The influence of one's own body weight on implicit and explicit anti-fat bias. *Obesity*, 14(3), pp.440-447.
- Shapiro, S.S. and Wilk, M.B., 1965. An analysis of variance test for normality (complete samples). *Biometrika*, 52(3/4), pp.591-611.
- Stapleton, P., 2015. Beliefs about causes of obesity: A comparison of Australian doctors, psychologists and community members. *Journal of Obesity & Weight Loss Therapy*, 5(1), p.1.
- Swami, V., Pietschnig, J., Stieger, S., Tovee, M.J. and Voracek, M., 2010. An investigation of weight bias against women and its associations with individual difference factors. *Body Image*, 7(3), pp.194-199.
- Swift, J.A., Tischler, V., Markham, S., Gunning, I., Glazebrook, C., Beer, C. and Puhl, R., 2013. Are anti-stigma films a useful strategy for reducing weight bias among trainee healthcare professionals? Results of a pilot randomized control trial. *Obesity facts*, 6(1), pp.91-102.
- Tajfel, H. and Turner, J.C., 2004. The social identity theory of intergroup behavior.
- Teachman, B.A., Gapinski, K.D., Brownell, K.D., Rawlins, M. and Jeyaram, S., 2003. Demonstrations of implicit anti-fat bias: the impact of providing causal information and evoking empathy. *Health Psychology*, 22(1), p.68.
- Thompson, R.L. and Thomas, D.E., 2000. A cross-sectional survey of the opinions on weight loss treatments of adult obese patients attending a dietetic clinic. *International Journal of Obesity*, 24(2), p.164.

Young, L.M. and Powell, B., 1985. The effects of obesity on the clinical judgments of mental health professionals. *Journal of Health and Social Behavior*, pp.233-246.

Wee, C.C., McCarthy, E.P., Davis, R.B. and Phillips, R.S., 2000. Screening for cervical and breast cancer: is obesity an unrecognized barrier to preventive care?. *Annals of internal medicine*, 132(9), pp.697-704.

WHO European Region (2017). Weight bias and obesity stigma: considerations for the WHO European Region. Denmark.

Vartanian, L.R. and Novak, S.A., 2011. Internalized societal attitudes moderate the impact of weight stigma on avoidance of exercise. *Obesity*, 19(4), pp.757-762.

### **Paper 3. Critical evaluation**

**Title:** Critical reflections on the systematic literature review and empirical research study

**Word Count:** 8,055

## **Introduction**

The aim of this paper is to provide a critical and personal reflective account of conducting two distinct, albeit related, research studies. This paper is subdivided into two sections, with critical appraisal and personal reflections interwoven throughout. The first section of the paper relates to the process and complexities of conducting a systematic review of the literature, while the latter section pertains to the issues that arose during the experimental research process.

In Paper one a systematic review of weight bias among mental health professionals (MHPs) was conducted. A small number of papers met inclusion criteria (8 in total) for systematic review, and results revealed significant methodological weaknesses across studies limiting the confidence in findings found. However, the review highlighted that MHPs are not exempt from having weight bias. The review provided discussion of clinical implications and future research requirements.

Paper Two sought to build on the findings from the systematic review, so as to further advance and develop our understanding of weight bias among MHPS, specifically trainee clinical psychologists. The study aimed to assess weight bias experimentally and to analyse how it may impact clinical judgments made by trainee clinical psychologists. One-hundred and fifty trainees completed an online experiment. Results showed trainees hold a moderate degree of weight bias toward service users who have obesity and this may impact on clinical judgments in several ways. Implications for training were discussed.

## **Thesis context and relevance of the topic**

There are increasing rates of people with higher weight and obesity, both nationally and globally. However, stigmatisation of higher weight individuals is increasing not decreasing (e.g. Flint *et al.*, 2017).

Weight stigma has been described as the last socially sanctioned stigma (Latner *et al.*, 2008), probably due to the societal held beliefs that weight control is very much due to individual behavioural factors (Puhl & Heuer, 2009), despite the evidence highlighting the complex and multiple factors involved in obesity (e.g. Rossner, 2003).

In the medical profession, stigmatisation may still be seen as a ‘motivator’ to aid weight loss, and it has been suggested that professionals may be concerned that reducing the social stigma of higher weight could reduce people’s efforts to maintain a healthy weight (Burke, & Heiland, 2018). Stigmatisation in this way has even been described as a ‘policy’ (Burke & Heiland, 2018) deployed to basically shame people into losing weight, although, unsuccessfully. Research suggests that stigmatization of overweight people is not effective at reducing their weight, for example, obese adults who are subject to weight stigmatization have been shown to be more prone to binge eating (Almeida, et al., 2011), thus leaving a vicious cycle of weight gain and discrimination (Jackson, 2016).

The effects of stigmatisation on an individual have been shown to be wide ranging. Research has shown people who experience weight stigma and discrimination report poorer life satisfaction and quality of life (Jackson et al., 2015); are at increased risk of depression and anxiety disorders (e.g. Annis et al., 2004; Carr et al., 2007); low self-esteem (Carr & Friedman, 2005); increased blood pressure (Major et al., 2012); greater disease burden (Sutin et al., 2014), and even increased risk of mortality (Sutin et al, 2015), independent of health risks of obesity itself.

It is therefore important that as health professionals we are aware of potential negative attitudes we may hold about higher weight individuals and importantly how these may impact upon our clinical practice. It is important we work within our ethical and moral guidelines to ensure dignity and respect for our clients, to help improve their wellbeing and equally ensure we do no harm.

## **Paper 1: Systematic Review**

### **Rationale for the topic**

In light of the context as described above; due to the increasing numbers of people who have higher weight, the significant effect of weight stigma on individual’s wellbeing, and the role of MHPs in services, it was felt important to review the literature pertaining to weight stigma in MHPs in order to better understand the evidence, help inform clinical practice and highlight areas requiring further research.

On initial scoping of the evidence base, there was a considerable amount of literature regarding weight bias in health care professionals (HCPs) in medical fields such as general

practice, bariatric surgery dietetics, (see Puhl & Heuer, 2009) but considerably less so for services with MHPs. It was considered important to explore the perceptions of MHPs separately due to the inherently different models and tasks used by MHPs in working with clients, and their remit to improve wellbeing rather than perhaps weight management. Also, the methodology that had been adopted for these studies (purpose-designed instruments for specific clinical settings) was bespoke to this group, so the literature was quantitatively and qualitatively different from that with other HCPs, and thus perhaps justified reviewing separately. However, studies generally reported results in isolation.

Thus, it was appropriate to facilitate collation and comparison of these studies, in order to examine the quality of methodology, including the instruments as well as the findings, to allow for a more concise overview of the research field as a whole. In doing this, commonalities and discrepancies in results could be highlighted, common themes summarised and discussed, and areas requiring future research and exploration could be ascertained. Consequently, it was decided that a systematic review of the literature pertaining to weight bias among MHPs would develop understanding of this area, and ultimately could help inform clinical practice of MHPs.

## **The search process**

### **Rationale for conducting a Systematic review**

It was felt that a systematic review would be the best mechanism through which the existing research findings pertaining to weight bias among MHPs could be reviewed and summarised. By adopting this systematic and transparent approach to the review limited the likelihood of any bias by removing personal opinion and preferences. Techniques such as using clearly stated objectives, predetermined eligibility criteria and systematic searching were helpful in this regard (Popovich et al., 2012).

In addition, the systematic review required detailed data extraction, which allows for more unbiased and accurate comparison of studies, required particularly for this literature due to the bespoke methodologies adopted, allowing for better interpretation of the results as a whole. This may highlight gaps in knowledge and the review could act as a prelude to future research (Lang, 2004).

### **Rationale for choice of Systematic review title**

It was necessary to do a number of separate preliminary literature searches to determine the level and nature of existing research within the area of weight bias among MHPs, this was to ensure potential review ideas were not already in publication, and also to identify potential gaps in the evidence base. It was also prudent to check the PROSPERO database for any upcoming or ongoing systematic reviews registered in this area. Previous reviews regarding weight stigma in health care professionals had been completed (e.g. Budd et al, 2009; Puhl & Heuer, 2009; Puhl & Brownell, 2001) but none had yet focussed on MHPs specifically.

Preliminary searches were also important to check the extent of the literature available and whether a review of the studies in this area would be a contribution to the literature base. The results of these searches highlighted several studies that could be included in the review and due to the different methodology adopted in these studies and varying findings as previously described, a review was thought important to understand these findings as a collective and provide a coherent overview that would contribute to the literature.

The term ‘weight bias’ was used so as to capture studies that may have focussed on attitudes and beliefs of MHPs regarding weight stigma but also experimental studies that assessed the clinical judgments of MHPs, regarding hypothetical higher weight clients. Additionally, thought was made to the term ‘weight’ over ‘obesity’ to ensure inclusion of all relevant studies as there was such a varied use of terminology across studies; ‘overweight’, ‘obese’, ‘higher weight’ etc. Thus, it was also important to define the inclusion and exclusion criteria so to only include studies referring to stigma of higher weight rather than lower weight. As although stigma to lower weight individuals is another possible issue in healthcare (Puhl & Heuer, 2009), the mechanism or stereotypes of which the stigma is based is likely to very different to that toward higher weight individuals, thus making it perhaps a separate, although related topic for review. This could be a further area of research to be reviewed.

### **Search term strategy**

Refining search terms was one of the most time-consuming tasks of the project. Search terms endeavoured to reflect representative key words within the existing literature. However, there was a huge array of different terminology and taxonomy used to describe similar processes, which has been a general critique in stigma research as a whole (Ogden, 2006).

Consequently, initially a wide range of search terms were used to ensure the search was as thorough and inclusive as possible. However, each search yielded a considerable number of



irrelevant papers, mainly regarding obesity in medical terms, rather than addressing social stigma. Additionally, refining the terms used to represent MHPs, was also required due to the large number of irrelevant articles that were produced with the term 'nurse' for example. It was evident that search terms would have to be selective in order to balance the sensitivity and specificity of the search. The search terms then needed to be checked independently in order to identify the terms that yielded the most relevant literature.

Thus, the recursive process of refining terms, running and assessing the search outputs provided an opportunity to learn about the field from a biopsychosocial perspective. This process also highlighted the challenge of ensuring the search terms were inclusive to reduce risk of relevant papers being overlooked, whilst also ensuring the number of irrelevant papers yielded was minimal. In the end, the search term strategy was potentially over inclusive, so the process of selecting eligible articles for inclusion was time consuming. However, it ensured the search strategy was comprehensive and thorough, which minimised risk of excluding important articles. This process developed my learning in the literature review process significantly. My learning was aided by collaboration with a health librarian who provided me with invaluable advice and guidance on the search term strategy.

### **Inclusion & exclusion criteria**

The inclusion and exclusion process was relatively straightforward for this review, and perhaps aided by the clear objectives necessary for the systematic process. Just one challenge occurred as to which studies to include when they were inclusive of a range of HCPs as well as MHPs. Having a second rater and research supervision allowed us to come to sensible decisions, in including just those studies that had reported sufficient separate information (such as participant characteristics and results) for the different professional groups, to allow for assessment and comparison with other studies.

In addition, it could be argued that the review missed relevant information from some 'grey literature' however, there is some debate as to whether systematic reviews should attempt to include this type of literature. Due to a lack of peer review and the potentially questionable validity of these studies has led to the exclusion of such literature in many reviews (Sacks et al.,1996). Additionally, reviews excluding grey literature are likely to over-represent studies with positive findings (Conn et al., 2003). Although the Cochrane Collaboration recommends that reviews include grey literature, there is acknowledgement that this is a time-consuming

exercise and can itself be a source of bias (Hopewell et al, 2007). The systematic review in the current thesis excluded unpublished studies, conference abstracts, poster presentations, dissertations and theses. The inclusion of such literature would have widened the scope of the review and potentially altered the findings. However, the exclusion of studies that had not been peer reviewed was justified on the grounds of potential lack of quality, common practice and time constraints. The range of findings from studies in the current review indicate that the studies in this area were not subject to positive publication bias.

### **Quality assessment**

Research has demonstrated that the quality of reporting in systematic reviews is often highly variable and conclusions should be interpreted critically (Moher, et al., 2007). This study attempted to address this issue and reduce the variability by assessing the methodological quality of included papers. This aimed to promote standardisation by facilitating comparison between various studies. However, choosing a relevant tool, created an opportunity to compare and contrast the plethora of measures that exist, many of which are designed for randomised controlled trials (RCTs) or other specific designs (e.g. surveys, qualitative data analysis) and not for those reviewing a variety of methodologies and designs. Indeed, a systematic review by Katrak et al., (2004) of the content of critical appraisal tools brought to light the vast array of critical appraisal tools available at the time; 121 in total. This perhaps highlights a somewhat ironic problem in the literature appraisal field, as this variability of tools, may then provide different findings of the review, and thus reducing the coherency of the broader evidence base in a given area.

The evidenced-based librarianship critical appraisal tool (EBL, Glynn, 2006) was chosen as a generic tool that can be applied to studies using a range of methodologies, therefore allowing the same quality tool to be used across papers, which allowed for ease of comparison of results. The tool allows appraisal of four key areas; population, data collection, study design and results and provides an overall percentage of the quality of the article in regard to the validity, applicability and appropriateness of the study (Glynn, 2006).

Although this tool has been used in previous research (e.g. Catalano, 2013; Kaur et al., 2012), it has been designed for aiding librarianship and may not yet be a standard tool employed by researchers and this limits the extent to which the quality ratings are comparable across reviews. On a broader level, while it is widely acknowledged that quality assessments are

valuable, the diversity and lack of consistency in implementation is a concern (e.g. Liberati et al., 2007). Rating tools may assess and rank different features of studies and so study quality ratings are potentially highly arbitrary and may fluctuate significantly depending on the rating tool employed (e.g. Liberati et al., 2007). This would have obvious negative implications regarding accurate comparison and representativeness of findings.

### **Review procedure**

Narrative approach was judged the most viable option given the small number of studies and the variety of instruments used meant a meta-analysis not appropriate in this instance. The narrative approach did allow for detailed inspection and comparison of studies which allowed for understanding of the research area, the strengths and areas required for future research.

The greatest challenge was interpretation of the findings of the studies given the poor quality and methodological weaknesses, which then had implications on any generalisations about the findings. This is a commonly encountered issue in psychological research, perhaps due to lack of research governance, and has led to a plethora of different methodologies and instruments in the same area of research with a lack of a consistent approach required to build a coherent evidence base, and stigma research is an example of this (e.g. Ogden, 2016).

Attempts to improve this, for instance, in health psychology research, include production of a taxonomy of terms or interventions. For example, due to the variability and inconsistency in research into behaviour change techniques, Michie and colleagues (2011) have developed a taxonomy of such techniques used within individual behavioural support for smoking cessation, which they argue can provide a starting point for investigating associations as well as help inform clinical competencies of practitioners working in this area. It would be advantageous to complete a similar study in the area of weight stigma research as a whole to help improve the findings of reviews to allow perhaps more meaningful information to help inform practice as well as develop the literature base.

This prompted me to reflect on the wider structural systems and processes of psychological research, perhaps say compared to medical research that is substantially more funded and supported, and how this may impact upon larger scale decisions such as national guidance on evidence based practice.

### **Procedural reflections**

Having never completed a systematic literature review before, it provided me with a significant learning opportunity, however, the realisation of the amount of work required to complete one was somewhat overwhelming. Coupled with completing an empirical study and doing clinical work was challenging. However, completing the systematic review helped me to not only appreciate the advantages of completing a *systematic* review, in terms of reduction in bias and therefore better quality than other approaches perhaps, but also to develop and refine literature searching and critical appraisal skills, which are useful in our daily clinical practice and service development. It also reminded me that as the only health staff that get trained in these skills it is essential not only for service development- to know what interventions, processes etc may be useful in a certain setting but also in supporting other staff who do not receive such training and to help them develop their skills to critically review evidence and literature in order to help inform their practice and service development.

### **Implications of review findings**

Due to the variety of instruments adopted in the studies reviewed, it would be suggested that future research focuses more on repetition and extension of previous studies using validated measures which will allow collation and generalisation of findings which will aid in the development of knowledge in this area. Evidence that can be collated and reviewed is also important to help inform clinical practice as well as yet to be developed policies and laws to help protect higher weight individuals from prejudice and discrimination. This may relate to the wider issue of a need for further research governance as mentioned previously. This highlights to me, the various ways as clinical psychologists we may be able to influence the systems around us that perhaps hold the power to change policies and procedures. One way to do this may be in conducting research and ensuring dissemination of the findings in appropriate forums.

Despite the methodological limitations of the studies, the findings highlight the importance of all health staff to be aware of the attitudes and beliefs they hold toward people of higher weight, and MHPs are not exempt from this, despite ideas that we may be more accepting and non-judgmental. People seeking help from MHPs expect respect and objectivity, and MHPs, just like other HCPs need to be aware that their attitudes and perceptions are subject to bias (Pascal, 2012), and how these may affect their judgements and behaviours with clients

(Pascal, 2012). The use of reflective practice and supervision may help in developing this awareness and sensitivity, to reflect on judgements made etc and how these may impact the client.

More broadly it relates to the Francis Inquiry report (2013) that catalogued numerous systemic problems including what was described as ‘a culture focused on doing the system’s business – not that of the patients’ (Francis, 2013) and the need to provide education and training for staff to ‘ensure the integration of essential shared values of the common culture into everything they do’. A core value to practice with compassion was recommended. The report highlighted the need for changes in the system to enable and support staff to work in a patient centred and compassionate way. In light of this, health boards are responsible for providing a place and resources to allow staff to challenge their perspectives and those of the teams in which they are working. This could be achieved for example, via reflective practice peer groups, compassion circles (e.g. Bushe, 2013) or Schwartz rounds (Lown & Manning, 2010).

Schwartz rounds were developed due to the realisation of the importance of the relationships between patients, their families and care providers. The idea was to enable monthly meetings, Schwartz Rounds, to take place where individual staff members could feel free and safe to express and understand their feelings about the care of patients (Pepper et al., 2012). The rounds aim to nurture the relationships between patients and all members of staff within an institution. Everyone is welcomed to the Schwartz Rounds – e.g. porters, catering staff, pharmacists, etc., not just health staff. The meetings help develop compassion, not only to others but to ourselves as it is argued that showing compassion towards oneself is crucial if we are to continue showing compassion towards patients and their families (Lown & Manning, 2010). By taking time to debrief as a team and discuss what the experience of caring for people in distress is like, we can guard against the long-term effects of the stress of such challenging situations (Pepper et al., 2012) and develop more compassionate, values based common culture.

Conducting this research has certainly prompted me to reflect on my own attitudes and biases toward obesity and people with higher weight, as well as reflect on thoughts and feelings about my own weight and appearance. In doing so has also evidenced to me, how these views are not fixed, are amenable to change and through education and reflective practice can help

reduce these biases. This research has been both challenging and rewarding both professionally and personally.

## **Paper 2: Empirical paper**

### **Rationale**

Due to the limitations of previous studies of weight bias among MHPs, it was thought pertinent to extend the evidence base and complete a replication and extension of a previous study (Davis-Coelho, 2000) of weight bias with a UK population of trainee clinical psychologists. The wide variation of studies conducted has some advantages, in perhaps viewing phenomena in different ways providing information on the breath of an issue, however, psychological research has been criticised for the poor replication of studies, and wide use of instruments and methodologies (e.g. O'Brien, 2008) providing an inconsistent evidence base and making generalisation of the findings difficult.

As well as the increased likelihood of clinical psychologists working with clients with a higher weight, they are also being employed more commonly in weight management services and have a key role in modelling direct client work as well as working with staff teams and in service development. Thus, increasing the importance of our understanding in this area. There is also an obvious ethical and moral duty to ensure we are working in a dignified and respectful way with our clients, the hope of the current study was to develop our understanding of the attitudes and judgments we may hold regarding obesity and ultimately help inform clinical practice and evidence based healthcare to people with higher weight.

### **Design & methodology**

#### **Case vignette**

It was felt important to extend previous research, rather than merely seeking to examine the extent that trainees held positive or negative attitudes, to experimentally assess how weight stigma may impact upon clinical decision making, thus making the findings more clinically relevant and applicable.

The case vignette methodology was adopted as previous research (e.g. Puhl, et al., 2009; Hebl & Xu, 2001) had used this technique to experimentally assess the effect of implicit stigma on clinical judgements. A replication and extension of previous methodology was also

important in regard to validity of the method but also with a hope to contribute to building of a consistent and coherent evidence base.

It was important to update the instrument to be relevant for current clinical language use and for a UK population. Amending the vignette to make relevant to the current population but also limiting effects of potential confounding factors, such as stating physical health was fine, was challenging. It was therefore imperative to check validity of the vignette by professionals in the area and run a pilot test with other trainee clinical psychologists.

The vignette was developed from the original study (Davis-Coelho, 2000), and adapted to form a referral letter which was deemed more relevant to clinical practice of UK trainees who generally work in NHS settings rather than private settings as per participants in the US study. A draft of the referral letter was critiqued by both research supervisors who work in clinical practice, including in the field of weight management as well as a clinical psychologist working in an adult community mental health team, which was the setting of the hypothetical scenario. Only a few amendments were required such as more information was needed on the clinical presentation of the potential client.

It was also advantageous to test the validity of the referral letter in the pilot study of a sample of participants in the same role as participants in the main study. This feedback proved invaluable as many of the participants in the pilot study suggested the photos that were used (same as those used in the original study) looked old and not in keeping with current times, thus reducing their realism. It was therefore decided to find more recent photos of an individual. This in itself was a challenge, due to the importance of finding two photos with minimal difference other than the weight of the individual to try and reduce any potentially confounding factors such as gender, attractiveness, socio-economic status, race etc upon judgments made of the hypothetical client. This is a common challenge in the use of this methodology (e.g. O'Brian et al., 2008; Hebl & Xu, 2001) and researchers have used various methods such as padding, theatrical make up and specialist software to try and alter the appearance of weight of a pseudo client. However, pre and post weight loss photos of an individual has been shown to be most effective, realistic and reduces the potential confounding factors as mentioned (O'Brien, et al., 2008). Therefore, this method was chosen and due to social media and particularly adverts for weight loss products it was not difficult to find someone to provide appropriate images.

This process of developing the study instruments was essential in improving their validity to allow for potentially greater meaning of the results found. Despite these precautions, there are limitations to this methodology in that the hypothetical scenario may lack ecological validity (Ogden, 2016). Also, the cross-sectional design makes conclusions about the longer-term effects harder to make (Ogden, 2016). It may be more useful to know whether the in vivo initial perceptions of someone (informed by the referral letter) change in any way once meeting and working with the individual.

### **Bracketing**

During the process of developing the client referral letter and throughout the research process as a whole, it was deemed appropriate and important to be reflective upon my own beliefs and attitudes in regard to higher weight as this may produce researcher or experimenter bias and have an effect on the research process and findings. Bracketing is a method mainly used in qualitative research to mitigate the potentially deleterious effects of preconceptions that may taint the research process (Tufford & Newman, 2010), but was also deemed useful in this study due to the focus regarding stigma which could potentially be an emotive topic. The authors explain given the sometimes close relationship between the researcher and the research topic that may both precede and develop during the process of research, bracketing can act as a method to protect the researcher from the cumulative effects of examining what may be emotionally challenging material. Bracketing importantly facilitates the researcher reaching deeper levels of reflection across all stages of research and the opportunity for sustained in-depth reflection may enhance the acuity of the research and facilitate more profound and multifaceted analysis and results (Tufford & Newman, 2010).

The bracketing methods adopted during the research included completion of a reflexive journal as well as reflective conversations with the research supervisors. The reflexive journal enabled preconceptions to be identified throughout the research process with the aim to enhance the ability to sustain a reflexive stance (Ahern, 1999). Suggested aspects to explore in the reflexive journal included: the researchers' reasons for undertaking the research; assumptions regarding higher weight in this case; the researcher's place in the power hierarchy of the research; the researcher's personal value system (Hanson, 1994); potential role conflicts with research participants; feelings such as blame or disengagement that may indicate presuppositions (Paterson and Groening, 1996).



I found the process of completing a reflexive journal both an important and enlightening one. It helped me become aware of my preconceptions regarding weight, and my role as a trainee myself, conducting research upon other trainees, and the importance of applying the principles I was learning to my own practice, but also to become aware of perhaps some critical thoughts I held of other health staff and the importance of remaining objective in this research process. I found the process was more effective from continued use of the journal, and there were times it didn't get completed. To aid this, meeting with my research supervisors to continue self-reflection and discuss the content as well as the process of completing the reflexive journal was invaluable. This further bracketing method of engaging in reflective conversations can serve as an interface between researcher and research data (Rolls and Relf, 2006) and allows for reduction in bias throughout the research process.

### **Recruitment and data collection**

Using online survey software was an incredibly useful, and efficient method to help recruitment due to the geographical spread of the trainees and time constraints of competing the study. It was decided to invite trainees from all courses to attend, in order to increase the potential participants recruited, and to reduce potential sampling bias. However, due to limitations of the software, we were unable to randomly allocate the condition per participant, which had consequences on the data analyses adopted. We therefore had to allocate condition per course, adding a possible confounding factor to the results.

Additionally, not all courses agreed to send out the invitation to complete the study, thus reducing potential numbers of participants. Recruitment can in general be a frustrating and challenging part of the research process and this experience has reminded me of the importance of considering possible recruitment challenges in the design of a study and how to overcome these as recruitment of participants is such an essential component for a successful study. However, it was also exciting and gratifying when the courses committed to the research and agreed to send the invitation to their trainees. As well as positive feedback from participants completing the study and providing comments upon how important they felt this research was and asking to be sent a copy of the findings of the study once completed.

Upon reflection, in order to try and increase numbers of potential participants and provide an accessible recruitment process, it may be fruitful if there was a system in place upon recruitment of trainee clinical psychologists for them to be asked, as part of their contracts, if

they would consent to be added to a database of trainees willing to participate in research studies. This perhaps could be a role for The Group of Trainers in Clinical Psychology (GTiCP) which is a network for colleagues involved in delivering training programmes in clinical psychology across the UK whose role includes strategic matters and operational support to those involved in different aspects of training delivery. This would be beneficial for furthering studies within our field, which can only aid in developing training and clinical practice.

Alternatively, trainees from other, related disciplines such as educational or health psychologists may have been invited to complete the study, however, preserving the homogeneity of the trainee clinical psychologist sample was of greater clinical utility and would provide more accurate, representative results. It was a reminder of such challenges in research balancing feasibility and representativeness of samples. Future studies would need to try for randomisation of condition per person, perhaps using different software for the online study, and aim to recruit enough participants to enable sufficient statistical power.

### **Ethical considerations**

As part of the design and recruitment of participants, a further main consideration regards ethical implications. It is essential that studies are carried out in an ethical manner in order to ensure no distress or harm is caused to anyone involved in the research. The experience of deception in psychological research may have the potential to cause distress and harm, and can make the recipients cynical about the activities and attitudes of psychologists (BPS, Code of Human Research Ethics, 2014). However, it is accepted by the society that there is a difference between withholding some of the details of the hypothesis under test and deliberately falsely informing the participants of the purpose of the research (BPS, Code of Human Research Ethics, 2014).

The current study involved mild deception of the participants in regard to the aims of the study. The study's objective, to assess weight bias, was not immediately disclosed to participants. Having knowledge about the objective of the study would have jeopardised the between group manipulation, and would likely have led to participants giving socially desirable responses that would not have reflected attitudes or feelings held consciously or unconsciously. Thus, the study was described as a project examining clinical decision making by trainee clinical psychologists.

This is a consistent challenge in stigma research, in assessing implicit beliefs and attitudes of participants, where mild deception is necessary in order to assess more accurately the effect of these implicit cognitive processes upon decision making or behaviours. It was important therefore that the deception in the study was managed and the method designed in such a way that it protected the dignity and autonomy of the participants.

Ethical approval (EC.17.07.11.4916R) was granted from the School of Psychology ethics committee (Appendix N) and all consent procedures were in accordance with British Psychological Society Code of Human Research Ethics (BPS, 2014) and BPS Code of Ethics & Conduct (BPs, 2014). Full debrief was provided at the end of the questionnaire (Appendix M) and contact information regarding sources of support were available if participants required them. No participants reported any distress to the researchers.

### **Data analysis**

Unfortunately, due to the cluster design and lack of participant numbers, there were limitations on the statistical methods that could be adopted. For a multi factor design such as the current study it would have been useful to complete multivariate statistics, such as multivariate MANOVAs, cluster analysis or discriminant function analysis or regression analysis, in order to examine interactions between the variables measured and refine understanding of their mediating effects on clinical decision making. This would have provided a better understanding of which factors are more or less important in the judgment process and therefore be more useful for informing clinical practice. Thus, this would be an important area of improvement for future studies.

The research process has definitely reminded me of the challenges of research, in despite careful preparation of the research design, inevitably, during the process, unanticipated constraints may occur, such as in this case with data and recruitment strategies. Improvement may involve consideration of post hoc statistical analyses as well initial statistical analyses and anticipate the potential confounding variables and how to hold these constant or minimise their effects.

### **Strengths and limitations of the study**

A strength of the current study includes replication & extension of a previous experimental

design study to allow for growth of a more consistent and coherent evidence base. Also, the piloting of measures, and recruitment of a reasonable number of participants has meant a contribution to the literature base regarding weight stigma among MHPs. It has also provided some directions for future research.

Fundamentally, the choice of topic is a potential strength of the study as it is perhaps prudent to assess attitudes, beliefs and practice within our own profession, before perhaps advocating certain ideas or practices to others. Having ownership perhaps of a very human phenomenon and modelling reflective practice and motivation to become more aware and educate oneself is perhaps good professional practice and essential in leadership of our services.

Limitations of the study include the lack of theoretical underpinning to allow prediction of the domains in which bias might be expressed throughout the clinical cycle. Understanding and exploring the mechanisms that may underpin weight bias and discrimination is essential area of research required in this area. A number of theories have been proposed such as Attribution Theory (Crandall, 2000; Crandall et al., 2001) and disgust sensitivity (e.g. Lieberman et al., 2011) but further research is needed to test these theories specifically how they may relate to clinical practice.

In addition, there may be shortcomings in the use of vignettes to try to study implicit and explicit bias and the design overall may not have been sufficiently sensitive to capture the effects on trainees' decision making. The effects of social desirability bias and trying to reduce them is a significant challenge generally in the area of stigma research. The practicability of design, resource constraints, and recruitment provide challenges in completing perhaps more ecologically valid field studies, in an attempt to overcome this bias. However, the current literature review found no such field studies and may reflect the level of challenge in conducting studies with this design.

Lastly, as previously mentioned, although, similar numbers of courses were recruited to each condition and made up of a representative sample of trainees the allocation of condition was not randomised per participant, therefore potentially reducing the representativeness of the sample and therefore generalisability of the results. It was a lesson in design of studies to ensure research of tools and facilities meet the requirements of the study. Utilising a different software to host the online survey that could randomly allocate condition per participant would need to be adopted to overcome this limitation.

## **Clinical Implications**

It is essential that as health professionals we have respect for the dignity of persons and peoples (3.1 BPS code of ethics and conduct, 2018). It is essential that we take time to reflect on our attitudes and beliefs that may impair our work with vulnerable people. Regular reflective practice and supervision focused on looking at these potentially held stereotypes, will aid this awareness. Additionally, the inclusion of stigma-reduction interventions as part of standardised clinical psychology curriculum could be beneficial.

It may be particularly pertinent for trainee clinical psychologists and MHPs as a whole to be informed of the growing evidence base of the link between the development of obesity in individuals who have experienced childhood trauma (e.g. Gustafson & Sarwer, 2004; Gunstad et al., 2006). Additionally, the Adverse Childhood Experiences (ACES) research that initiated in the USA in weight management services, and has been replicated in Wales (Public Health Wales, ACES report, 2015). The overall research has found that individuals with a greater number of adverse childhood experiences such as neglect, abuse parental separation, poverty etc. are more likely to have long term health conditions in adulthood such as heart disease, cancers and mental illness (Fellitti, 2009). It is therefore important for these factors to be included in psychological assessment and formulation when working with someone with higher weight. This understanding of potential causes of obesity outside of individual behavioural control may also help the reduction of stigma toward higher weight individuals.

It was not surprising, due to my own experience of training that the majority of trainees (62%) in the study reported receiving no training regarding weight stigma. DCLinPsy courses, as well as The BPS and Committee on Training in Clinical Psychology (CTCP) who set the curriculum have a role in ensuring that their trainees have essential self-reflective skills and knowledge about other influences upon their clinical thinking, as stated in their own practice guidelines (BPS Practice Guidelines, 1.3, 2007).

It is only since completing this research that I have dispelled my own stigma regarding obesity, and learnt about the complex aetiology of obesity, some of the myths around higher weight and poorer health, and the level of stigmatisation and discrimination that people with higher weight experience on a daily basis and how fundamentally detrimental this is to their wellbeing. Sources included “Health at Every Size” (Bacon & Aphramor, 2011) and The Rudd Centre for Food Policy & Obesity website (see reference list). This has provided me

with greater insight, awareness and a deeper level of compassion for perhaps a misunderstood, and potentially vulnerable group of people. I have also found that with this knowledge I can also help educate others as the topic arises, and with a ripple effect, hopefully more people will become aware and compassionate regarding obesity. It also highlights the importance of dissemination of such research.

### **Future research**

Further research is required to assess the impact of weight stigma on actual behaviours of MHPs, including trainee clinical psychologists. This is no mean feat, as discriminatory behaviours can often be so subtle, and due to social desirability may be very difficult to measure. Research has shown that that it is within the interaction that discrimination often occurs (O'Brien et al., 2008), so field studies may be appropriate to capture these effects in real life settings. It would also be pertinent to capture obese clients' perceptions of weight bias in interactions with trainee clinical psychologist and to determine whether these experiences influence their health care decisions.

Finally, research to date has tended to focus on stigma at the level of the individual rather than the social consequences of stigma (Ogden, 2016), which may be quite different and some research has started to explore this in relation to migration (Misra & Ganda, 2007) and social networks (Christakis & Fowler, 2007).

Upon reflection I think it important that research in the area of weight stigma continues, for the purpose of improving clinical practice, for the wellbeing of our clients. It would be beneficial for the incorporation or influence of weight stigma research on the broader field of weight management research, to help inform this area and provide perhaps alternative ideas for weight management policies and practices. This may be in line with developing paradigms such as 'health at every size' (Bacon & Aphramor, 2011).

### **Dissemination**

It is intended to disseminate the findings from both studies through publication in a peer reviewed journal; Health Psychology Open. Additionally, the authors have been asked to submit a proposal to The British Psychology Society webinar series on the subject of obesity, based on the findings from the thesis.

Additionally, the BPS, Division of Clinical Psychology annual conference in January 2019, of the theme identity is proposed as a possible avenue for a poster presentation of the findings, as well as submission to the Appearance Matters conference which is an international multi-disciplinary conference hosted by the Centre for Appearance Research.

### **Professional and personal reflection**

Although the topic for thesis was not one I would have necessarily chosen, the area of stigma, exclusion and injustice is one I feel passionate about. The significant amount of time, energy and self that goes into research is considerable. As researchers, and humans, we need to find a balance of being able to do research we are passionate about (as that is what enables us to put in the hours and continue against adversity), along with the wider research and clinical needs, so to ensure we are building a consistent and coherent evidence base to which we can then help inform clinical practice and therefore our clients. This highlights one of my challenges, in remaining objective during the research process, to limit the effect of my thoughts and feelings on the findings and reduce the effect of potential bias. Essentially the bracketing methods adopted and good quality research supervision enabled this, and highlighted to me the need for this and to work within a research team to provide the essential support and reflection required to complete good quality research.

### **Conclusions**

Overall this thesis aimed to advance our understanding of weight stigma in MHPs and how this may impact upon clinical decision making. The aims were two-fold: 1). to systematically review and summarise the existing literature in relation to weight bias among MHPs and 2). to build on this foundation by conducting a replication and extension of a previous experimental design study to investigate the extent to which trainee clinical psychologists hold weight stigma and the extent to which a higher weight client may have upon clinical judgements of the trainees. Overall, the results from this thesis suggest that MHPs, including trainee clinical psychologists are not exempt from having weight stigma and the weight of the client may impact upon clinical decision making in various ways. Limitations of the approaches and research methodology used in both studies have been identified, and amendments and directions for future research have been proposed. The overall research

however, is considered appropriate, relevant and valuable and the conclusions drawn from both studies are believed to be valid.

## References

(Harvard referencing style to be in keeping with Paper One and Paper Two).

Ahern, K. J. (1999) 'Pearls, Pith, and Provocation: Ten Tips for Reflexive Bracketing', *Qualitative Health Research* 9(3): 407–11.

Almeida, L., Savoy, S. and Boxer, P., 2011. The role of weight stigmatization in cumulative risk for binge eating. *Journal of clinical psychology*, 67(3), pp.278-292.

Annis, N. M., Cash, T. F., & Hrabosky, J. I. (2004). Body image and psychosocial differences among stable average weight, currently overweight, and formerly overweight women: the role of stigmatizing experiences. *Body image*, 1(2), 155-167.

Bacon, L. and Aphramor, L., 2011. Weight science: evaluating the evidence for a paradigm shift. *Nutrition journal*, 10(1), p.9.

British Psychological Society (2014). *BPS Code of Human Research Ethics*, 2nd edition. Leicester.

British Psychological Society (2018) *BPS Code of Ethics and Conduct*. Leicester.

Burke, M.A. and Heiland, F.W., 2018. Evolving societal norms of obesity: what is the appropriate response?. *Jama*, 319(3), pp.221-222.

Budd, G.M., Mariotti, M., Graff, D. and Falkenstein, K., 2011. Health care professionals' attitudes about obesity: an integrative review. *Applied Nursing Research*, 24(3), pp.127-137.

Burke, M.A. and Heiland, F.W., 2018. Evolving societal norms of obesity: what is the appropriate response?. *Jama*, 319(3), pp.221-222.

Bushe, G.R., 2013. Generative process, generative outcome: The transformational potential of appreciative inquiry. In *Organizational generativity: The appreciative inquiry summit and a scholarship of transformation* (pp. 89-113). Emerald Group Publishing Limited.

Carr, D., Friedman, M. A., & Jaffe, K. (2007). Understanding the relationship between obesity and positive and negative affect: the role of psychosocial mechanisms. *Body image*, 4(2), 165-177.

Catalano, A., 2013. Patterns of graduate students' information seeking behavior: A meta-synthesis of the literature. *Journal of documentation*, 69(2), pp.243-274.

Christakis, N.A. and Fowler, J.H., 2007. The spread of obesity in a large social network over 32 years. *New England journal of medicine*, 357(4), pp.370-379.

Conn, V. S., Valentine, J. C., Cooper, H. M., & Rantz, M. J. (2003). Grey literature in meta analyses. *Nursing Research*, 52(4), 256-261.

Crandall, C.S., 2000. Ideology and lay theories of stigma: The justification of stigmatization. *The social psychology of stigma*, pp.126-150.



- Crandall, C.S., D'Anello, S., Sakalli, N., Lazarus, E., Nejtardt, G.W. and Feather, N.T., 2001. An attribution-value model of prejudice: Anti-fat attitudes in six nations. *Personality and Social Psychology Bulletin*, 27(1), pp.30-37.
- Felitti, V.J., 2009. Adverse childhood experiences and adult health. *Academic Pediatrics*, 9(3), p.131.
- Francis, R. 2013. *Report of the Mid Staffordshire NHS Foundation Trust Public Inquiry*. The Mid Staffordshire NHS Foundation Trust.
- Glynn, L., 2006. EBL Critical Appraisal Checklist. *Library Hi Tech*, 24(3), pp.387-99.
- Gustafson, T.B. and Sarwer, D.B., 2004. Childhood sexual abuse and obesity. *Obesity reviews*, 5(3), pp.129-135.
- Gunstad, J., Paul, R.H., Spitznagel, M.B., Cohen, R.A., Williams, L.M., Kohn, M. and Gordon, E., 2006. Exposure to early life trauma is associated with adult obesity. *Psychiatry research*, 142(1), pp.31-37.
- Hanson, E. J. (1994) 'Issues Concerning the Familiarity of Researchers with the Research Setting', *Journal of Advanced Nursing* 20: 940–2.
- Hebl, M.R. and Xu, J., 2001. Weighing the care: physicians' reactions to the size of a patient. *International journal of obesity*, 25(8), p.1246.
- Hopewell, S., McDonald, S., Clarke, M., & Egger, M. (2007). Grey literature in meta-analyses of randomized trials of health care interventions. *Cochrane Database Systematic Reviews*, 18(2).
- Jackson, S. E. (2016). Obesity, weight stigma and discrimination. *Journal of Obesity & Eating Disorders*, 2(1).
- Jesson, J. K., Matheson, L. & Lacey, F. M. (2011). *Doing your literature review: Traditional and systematic techniques*. Sage: Los Angeles.
- Kaur, G., English, C. and Hillier, S., 2012. How physically active are people with stroke in physiotherapy sessions aimed at improving motor function? A systematic review. *Stroke research and treatment*, 2012.
- Lang, T.A., 2004. The value of systematic reviews as research activities in medical education. *Academic Medicine*, 79(11), pp.1067-1072.
- Latner, J. D., O'Brien, K. S., Durso, L. E., Brinkman, L. A., & MacDonald, T. (2008). Weighing obesity stigma: the relative strength of different forms of bias. *International Journal of Obesity*, 32(7), 1145.
- Liberati, A., Altman, D.G., Tetzlaff, J., Mulrow, C., Gøtzsche, P.C., Ioannidis, J.P., Clarke, M., Devereaux, P.J., Kleijnen, J. and Moher, D., 2009. The PRISMA statement for reporting systematic reviews and meta-analyses of studies that evaluate health care interventions: explanation and elaboration. *PLoS medicine*, 6(7), p.e1000100.

- Lieberman, D.L., Tybur, J.M. and Latner, J.D., 2012. Disgust sensitivity, obesity stigma, and gender: Contamination psychology predicts weight bias for women, not men. *Obesity*, 20(9), pp.1803-1814.
- Lown, B.A. and Manning, C.F., 2010. The Schwartz Center Rounds: evaluation of an interdisciplinary approach to enhancing patient-centered communication, teamwork, and provider support. *Academic Medicine*, 85(6), pp.1073-1081.
- Major, B., Eliezer, D., & Rieck, H. (2012). The psychological weight of weight stigma. *Social Psychological and Personality Science*, 3(6), 651-658.
- Misra, A. and Ganda, O.P., 2007. Migration and its impact on adiposity and type 2 diabetes. *Nutrition*, 23(9), pp.696-708.
- Michie, S., Hyder, N., Walia, A. and West, R., 2011. Development of a taxonomy of behaviour change techniques used in individual behavioural support for smoking cessation. *Addictive behaviors*, 36(4), pp.315-319.
- Moher, D., Tetzlaff, J., Tricco, A.C., Sampson, M., & Altman, D.G. (2007). Epidemiology and Reporting Characteristics of Systematic Reviews. *PLoS Med* 4(3), e78.
- O'Brien, K. S., Latner, J. D., Halberstadt, J., Hunter, J. A., Anderson, J., & Caputi, P. (2008). Do antifat attitudes predict antifat behaviors? *Obesity*, 16(S2).
- Ogden, J., 2016a. Do no harm: Balancing the costs and benefits of patient outcomes in health psychology research and practice. *Journal of health psychology*, p.1359105316648760.
- Ogden, J., 2016b. Expert Testimony for The National Institute for Health and Care Excellence (NICE) Programme Development Group; 'weight bias and stigma and the effectiveness and impact of weight management programmes.'
- Pascal, B. and Kurpius, S.E.R., 2012. Perceptions of clients: Influences of client weight and job status. *Professional Psychology: Research and Practice*, 43(4), p.349.
- Paterson, B. and Groening, M. (1996) 'Teacher-induced Countertransference in Clinical Teaching', *Journal of Advanced Nursing* 23: 1121–6.
- Pepper, J.R., Jaggar, S.I., Mason, M.J., Finney, S.J. and Dusmet, M., 2012. Schwartz Rounds: reviving compassion in modern healthcare.
- Popovich, I., Windsor, B., Jordan, V., Showell, M., Shea, B. and Farquhar, C.M., 2012. Methodological quality of systematic reviews in subfertility: a comparison of two different approaches. *PLoS One*, 7(12), p.e50403.
- Public Health Wales (2015) Adverse Childhood Experiences and their impact on health-harming behaviours in the Welsh adult population. Cardiff: Public Health Wales NHS Trust.
- Puhl, R., & Brownell, K. D. (2001). Bias, discrimination, and obesity. *Obesity*, 9(12), 788-805.
- Puhl, R. M., & Heuer, C. A. (2009). The stigma of obesity: a review and update. *Obesity*, 17(5), 941-964.

- Puhl, R., Wharton, C. and Heuer, C., 2009. Weight bias among dietetics students: implications for treatment practices. *Journal of the American Dietetic Association*, 109(3), pp.438-444.
- Rolls, L. and Relf, M. (2006) 'Bracketing Interviews: Addressing Methodological Challenges in Qualitative Interviewing in Bereavement and Palliative Care', *Mortality* 11(3): 286–305.
- Rössner, S., 2002. Obesity: the disease of the twenty-first century. *International Journal of Obesity*, 26(S4), p.S2.
- Sacks, H. S., Reitman, D., Pagano, D., & Kupelnick, B. (1996). Meta-analysis: An update. *Mount Sinai Journal of Medicine*, 63, 216-224.
- Sutin, A. R., Stephan, Y., Luchetti, M., & Terracciano, A. (2014). Perceived weight discrimination and C-reactive protein. *Obesity*, 22(9), 1959-1961.
- Sutin, A. R., Stephan, Y., & Terracciano, A. (2015). Weight discrimination and risk of mortality. *Psychological science*, 26(11), 1803-1811.
- The Rudd Center for Food Policy and Obesity. (2014). Preventing weight bias: Helping without harming in clinical practice. Toolkits for Health Care Providers, Retrieved April 16<sup>th</sup>, 2018, from [http://www.yaleruddcenter.org/resources/bias\\_toolkit/index.html](http://www.yaleruddcenter.org/resources/bias_toolkit/index.html).
- Tufford, L. and Newman, P., 2012. Bracketing in qualitative research. *Qualitative social work*, 11(1), pp.80-96.

## **Appendix A**

### **Health Psychology Open author guidelines**

## Health Psychology Open author guidelines.

### 6. Preparing your manuscript

#### 6.1 Word processing formats

The preferred format for your manuscript is Word. LaTeX files are also accepted. Word and (La)Tex templates are available on the [Manuscript Submission Guidelines](#) page of our Author Gateway.

#### 6.2 Artwork, figures and other graphics

For guidance on the preparation of illustrations, pictures and graphs in electronic format, please visit SAGE's [Manuscript Submission Guidelines](#)

Figures supplied in color will appear in color online.

#### 6.3 Title, keywords and abstracts: helping readers find your article online

The title, keywords and abstract are key to ensuring readers find your article online through online search engines such as Google. Please refer to the information and guidance on how best to title your article, write your abstract and select your keywords by visiting SAGE's Journal Author Gateway Guidelines on [How to Help Readers Find Your Article Online](#).

**Keywords:** 5-10 to accompany the abstract. They should, if possible, be drawn from the MeSH list of Index Medicus and be chosen with a view to useful cross-indexing of the article.

**Abstract:** The abstract should accurately and concisely reflect the content of the article, and should be limited to 100 words. Please avoid reference citations and undefined abbreviations in the abstract.

#### 6.4 Word length of manuscripts

Articles of any word length will be considered. Tables and Figures count nominally as 500 words each in lieu of text. Supplemental files will be published online together with the paper, subject to peer review.

#### 6.5 Units of measurement

Units of measurement should be expressed in SI and metric units; older conventional units may be added in parentheses.

#### 6.6 Nomenclature

Use the generic or chemical name of any drug, in lower case; the specific trade name (capitalized) may be given in parentheses after the first text reference.

#### 6.7 Standard abbreviations and symbols

Standard Abbreviations and symbols should be used, then defined in full in the first instance unless they are standard units of measurement. Avoid any use of abbreviations in the article title and abstract.

#### 6.8 Supplementary material

This journal is able to host additional materials online (e.g. datasets, podcasts, videos, images etc) alongside the full-text of the article. For more information please refer to our [guidelines on submitting supplementary files](#)

## 6.9 Reference style

Health Psychology Open adheres to the SAGE Harvard reference style. Please review the [guidelines on SAGE Harvard](#) to ensure your manuscript conforms to this reference style.

If you use [EndNote](#) to manage references, you can download the [SAGE Harvard output file here](#).

## 6.10 Statistical analyses

Where statistical analyses have been carried out please ensure that the methodology has been accurately described. In comparative studies power calculations are required. In research papers requiring complex statistics the advice of an expert statistician should be sought at the design/implementation stage of the study.

## 6.11 English language editing services

Authors seeking assistance with English language editing, translation, or figure and manuscript formatting to fit the journal's specifications should consider using SAGE Language Services. Visit [SAGE Language Services](#) on our Journal Author Gateway for further information.

## Preparing your manuscript (SAGE)

### Formatting your article

When formatting your references, please ensure you check the reference style followed by your chosen journal. Here are quick links to the [SAGE Harvard](#) reference style, the [SAGE Vancouver](#) reference style and the [APA](#) reference style.

Other styles available for certain journals are: [ACS Style Guide](#), [AMA Manual of Style](#), [ASA Style Guide](#), [Chicago Manual of Style](#) and [CSE Manual for Authors, Editors, and Societies](#).

Please refer to [your journals' manuscript submission guidelines](#) to confirm which reference style it conforms to and for other specific requirements.

Equations should to be submitted using Office Math ML and Math type.

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### Artwork guidelines

Illustrations, pictures and graphs, should be supplied with the highest quality and in an electronic format that helps us to publish your article in the best way possible. Please follow the guidelines below to enable us to prepare your artwork for the printed issue as well as the online version.

- **Format:** TIFF, JPEG: Common format for pictures (containing no text or graphs).  
EPS: Preferred format for graphs and line art (retains quality when enlarging/zooming in).
- **Placement:** Figures/charts and tables created in MS Word should be included in the main text rather than at the end of the document.  
Figures and other files created outside Word (i.e. Excel, PowerPoint, JPG, TIFF, EPS, and PDF) should be submitted separately. Please add a placeholder note in the running text (i.e. "[insert Figure 1.]")
- **Resolution:** Rasterized based files (i.e. with .tiff or .jpeg extension) require a resolution of at least **300 dpi** (dots per inch). Line art should be supplied with a minimum resolution of **800 dpi**.
- **Colour:** Please note that images supplied in colour will be published in colour online and black and white in print (unless otherwise arranged). Therefore, it is important that you supply images that are comprehensible in black and white as well (i.e. by using colour with a distinctive pattern or dotted lines). The captions should reflect this by **not** using words indicating colour.
- **Dimension:** Check that the artworks supplied match or exceed the dimensions of the journal. Images **cannot** be scaled up after origination
- **Fonts:** The lettering used in the artwork should not vary too much in size and type (usually sans serif font as a default).

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## **Appendix B**

### **Exclusions List**



### **Exclusions List**

<b>Paper</b>	<b>Reason for exclusion</b>
Greenwald, McGhee & Schwartz (1998)	Students with no clinical experience
Crandall (1994)	Students with no clinical experience
De Caroli & Sagone (2013)	Students with no clinical experience
Waller, Lapman & Lupfer-Johnson (2012)	Students with no clinical experience
Kaplan (1984)	Not MHP.
Adams, 2008	Dissertation
Fiester, 2012	Dissertation
Gray, 2015	Thesis
Kasardo, 2015	Dissertation
Puhl, Latner, King & Luedicke, 2014	Data for MHP not separated from other HP
Puhl, Luedicke & Grilo, 2014	Data for MHP not separated from other HP
Schafer, 2005	Thesis
Tate, 2010	Dissertation
Williams-Hailey, 2015	Dissertation
Pratt, 2014	Not related to weight stigma

## **Appendix C**

### **EBL Checklist Summary table**

		Agell (1991)	Bleich (2015)	Davis-Coelho (2000)	Hassel (2001)	Pascal (2012)	Pratt (2015)	Stapleton (2015)	Young (1985)
<b>Population</b>	Representative of all users?	Y	U	Y	U	Y	Y	N	Y
	Inclusion & exclusion criteria clearly defined?	Y	Y	Y	Y	Y	Y	U	Y
	Adequate sample size?	U	Y	Y	N	N	Y	Y	U
	Adequate response rate?	U	Y	Y	U	U	Y	Y	U
	Population bias free?	Y	U	Y	Y	Y	Y	N	Y
	If comparative: Randomised groups? Comparable at baseline? If not, addressed in analysis?	U	N/A	Y	Y	Y	N/A	N/A	U
		Y	N/A	Y	Y	Y	N/A	N/A	Y
		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Informed consent?	Y	Y	Y	Y	Y	Y	Y	Y	
<b>Data Collection</b>	Clearly described?	Y	Y	Y	Y	Y	Y	Y	Y
	Inter/intra-observer bias reduced?	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Instrument validated?	N	N	N	N	N	Y	Y	N
	Are the statistics free from subjectivity?	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Timing appropriate?	Y	Y	Y	Y	Y	Y	Y	Y
	Instrument included?	N	Y	N	N	N	N	N	N
	Clear questions?	U	Y	U	U	U	U	U	U
Blinding of assessors?	Y	Y	Y	Y	Y	Y	Y	Y	
<b>Study Design</b>	Appropriate method?	Y	Y	Y	Y	Y	Y	Y	Y
	Is there face validity?	Y	Y	Y	Y	Y	Y	Y	Y
	Detailed for replication?	Y	Y	U	Y	Y	Y	Y	Y
	Ethics approved?	U	Y	U	U	Y	Y	Y	U
	Outcomes clear?	Y	Y	U	Y	Y	Y	Y	Y
<b>Results</b>	All the results outlined?	Y	Y	Y	Y	Y	Y	Y	Y
	Confounding variables accounted for?	U	Y	U	U	U	U	Y	U
	Conclusions accurately reflect the analysis?	Y	Y	Y	Y	Y	Y	Y	Y
	Is subset analysis a minor focus of the article?	Y	N	Y	Y	Y	Y	Y	Y
	Suggestions further research?	U	Y	N	N	Y	Y	N	Y
	Is there external validity?	Y	U	Y	U	U	Y	U	Y

Key: Y= Yes (item adequately addressed), N= No (item not adequately addressed), U= Unclear, N/a (not applicable) (EBL, Glynn, 2006).

## **Appendix D**

### **EBL critical appraisal scoring**

**Calculation for section validity:** ( $Y+N+U=T$ ) If  $Y/T < 75\%$  or if  $N+U/T > 25\%$  then you can safely conclude that the section identifies significant omissions and that the study's validity is questionable. It is important to look at the overall validity as well as section validity.

**Calculation for overall validity:** ( $Y+N+U=T$ )

If  $Y/T \geq 75\%$  or if  $N+U/T \leq 25\%$  then you can safely conclude that the study is valid.

## **Appendix E**

### **Referral Letter**

## Referral letter

To CMHT

R.e. Sarah Lewis. DOB. 12.09.1989

Dear Sir/ Madam,

I would be grateful if you could see this 28 year old woman with chronic low mood and anxiety. Miss Lewis has been seen in surgery for the last 10 years and has tried various medications, currently she is prescribed Fluoxetine 40mg OD, which she states helps somewhat. Her physical health is fine.

Miss Lewis describes difficulties in her childhood which she feels have had a negative impact on how she feels about herself. She is self-critical and doesn't manage stress well and can be tearful at times. Her mood fluctuates and she can be irritable. She had a breakdown when she was 22 years old, which resulted in hospitalisation at the time, and she has been on medication since which has helped stabilise her mood. However, in recent months, her mood and anxiety have worsened, she has not been able to return to work and she only leaves the house for appointments and to take and collect her child from school. She is very worried about things getting as bad as they were in her early twenties and is looking for anything that may help.

Miss Lewis currently lives with her partner and 7 year old child, and has support from her sister who lives nearby, but has withdrawn from her small circle of friends in recent months.

At our recent review, we discussed options and Miss Lewis is keen to explore psychological therapy as a way to help her manage/ alleviate her difficulties.

I would be grateful if you could see her at your earliest convenience.

Yours sincerely

Dr Chapman  
New Park Surgery



## **Appendix F**

### **Photos**



**Client appearing 'obese'**



**Client appearing 'slim'.**

## **Appendix G**

**Permission to use photo.**

email correspondence:

## Re: photos

Danielle Brown <\*\*\*\*\*@gmail.com>

Fri 12/01/2018 09:53

To: Clare Carter <\*\*\*\*\*@cardiff.ac.uk>;

Hi Claire,

That sounds like a great study! Use the photos, and if you need any others for future studies just ask!

Good luck!

Danielle



Virus-free. [www.avg.com](http://www.avg.com)

On Fri, Jan 12, 2018 at 9:47 AM, Clare Carter <\*\*\*\*\*@cardiff.ac.uk> wrote:

Hi Danielle,

Thank you so much for getting in contact and allowing me to use your photos that is great. If possible, we would like to use the ones as attached?

It is for a project to trainee Clinical Psychologists, to study weight stigma. Previous research has shown some health professionals hold negative attitudes toward people who are overweight, and we want to see to what degree this occurs for trainee Clinical Psychologists.

Your photo will accompany a little description of a made up person along with some questions, and will be put on online questionnaire for participants to complete. Only trainee Clinical Psychologists in the UK will be sent the link to complete the questionnaire. It will be open for them to complete for about a month and then closed.

I hope this sounds OK. If you would me to show you the questionnaire, or would like to know more about the project or results please let me know and I can send you more information.

Thank you again for letting us use your photos it is greatly appreciated.

If you wouldn't mind replying to this email, just to confirm you know what the use of your photos will be, that would be great.

Kind regards

Clare Carter  
Trainee Clinical Psychologist

---

**From:** Danielle Brown <\*\*\*\*\*@gmail.com>

**Sent:** 12 January 2018 09:38:16

**To:** Clare Carter

**Subject:** photos

Hi Claire!

Julie said you would like to use my photos for your study in the UK. Which ones do you need, I have lots!

Danielle

## **Appendix H**

### **Clinical decision-making questions**

**1. How would you rate the client's overall wellbeing? (please circle a number)**

Very low

Very high

1            2            3            4            5            6            7

**2. Would you accept the referral or refer the person elsewhere? (please tick one)**

Accept into the Community Mental Health Service .....

Refer to a Primary Mental Health Service .....

Refer to an Inpatient Service .....

Refer back to the GP .....

Other (please state) .....

**3. If you were to work with this person, which category of diagnoses might you explore? (you can tick more than one).**

Adjustment Disorders ..... Anxiety Disorders .....

Dissociative Disorders ..... Eating Disorders .....

Impulse Control Disorders ..... Mood Disorders .....

Personality Disorders ..... Psychotic Disorders .....

Sexual Disorders ..... Sleep Disorders .....

Somataform Disorders ..... Other (please state) .....

.....

None .....

**4. What would you suggest to be the likely areas of intervention for this person? (you can tick more than one).**

Improving self-esteem .....

Improving mood and wellbeing .....

Processing of early trauma .....

Exploring relationships and improving interpersonal skills .....

Facilitation in weight loss and improving body image .....

Improving anxiety management .....

Exploring sexual relationships and satisfaction .....

Improving emotional regulation .....

Improving vocational or meaningful activity .....

Exploring cultural expectations .....

Facilitating self-acceptance .....

Other (please state) .....

**5. Which of the following types of therapy, if any, would you recommend for this person? (please tick one)**

- Cognitive Behavioural Therapy .....
- Psychodynamic Therapy .....
- Family/ Systemic Therapy .....
- Couples Therapy .....
- Group Therapy .....
- None .....
- Other (please state) .....

**6. What would you estimate to be this person's level of motivation to change? (please circle)**

Very low Very high

1      2      3      4      5      6      7

**7. How likely do you think this person will follow suggestions/ complete home practice tasks? (please circle)**

Very unlikely Very likely

1      2      3      4      5      6      7

**8. How collaborative would you envisage the intervention decisions to be if you worked with this person? (please circle)**

Very collaborative Very directive

1      2      3      4      5      6      7

**9. What would you estimate to be the number of sessions necessary for a successful intervention outcome for this person? (please circle)**

<10      11-20      21-30      31-40      41+

**10. What would you predict the outcome of intervention to be for this person?**

Very poor Very good

1      2      3      4      5      6      7



**11. How much you would like to work with this person?**

Very much Not at all

1      2      3      4      5      6      7

**12. How much do you feel able to help this person?**

Very much Not at all

1      2      3      4      5      6      7

**13. How similar do you think you are to this person?**

Very much Not at all

1      2      3      4      5      6      7

**Do you have any other thoughts or comments regarding this client and their possible intervention?**

.....

.....

## **Appendix I**

### **Antifat Attitudes Scale**

## Antifat Attitudes Scale (Crandall, 1994)

For the following questions, circle a number between 0 and 9 to indicate how much you agree or disagree with each of the following statements.

**1. I really don't like fat people much.**

Strongly disagree

Strongly Agree

0 1 2 3 4 5 6 7 8 9

**2. I don't have many friends that are fat.**

Strongly disagree

Strongly Agree

0 1 2 3 4 5 6 7 8 9

**3. I tend to think that people who are overweight are a little untrustworthy.**

Strongly disagree

Strongly Agree

0 1 2 3 4 5 6 7 8 9

**4. Although some fat people are surely smart, in general, I think they tend not to be quite as bright as normal weight people.**

Strongly disagree

Strongly Agree

0 1 2 3 4 5 6 7 8 9

**5. I have a hard time taking fat people too seriously.**

Strongly disagree

Strongly Agree

0 1 2 3 4 5 6 7 8 9

**6. Fat people make me feel somewhat uncomfortable.**

Strongly disagree

Strongly Agree

0 1 2 3 4 5 6 7 8 9

**7. If I were an employer looking to hire, I might avoid hiring a fat person.**

Strongly disagree

Strongly Agree

0 1 2 3 4 5 6 7 8 9

**8. I feel disgusted with myself when I gain weight.**

Strongly disagree

Strongly Agree

0 1 2 3 4 5 6 7 8 9

**9. One of the worst things that could happen to me would be if I gained 25 pounds.**

Strongly disagree

Strongly Agree

0 1 2 3 4 5 6 7 8 9

**10. I worry about becoming fat.**

Strongly disagree

Strongly Agree

0 1 2 3 4 5 6 7 8 9

**11. People who weigh too much could lose at least some part of their weight through a little exercise.**

Strongly disagree

Strongly Agree

0 1 2 3 4 5 6 7 8 9

**12. Some people are fat because they have no willpower.**

Strongly disagree

Strongly Agree

0 1 2 3 4 5 6 7 8 9

**13. Fat people tend to be fat pretty much through their own fault.**

Strongly disagree

Strongly Agree

0 1 2 3 4 5 6 7 8 9

## **Appendix J**

### **Fat Phobia Scale**

Listed below are 14 pairs of adjectives sometimes used to describe obese or fat people. For each adjective pair, please circle a number closest to the adjective that you feel best describes your feelings and beliefs.

lazy	5	4	3	2	1	industrious
no will power	5	4	3	2	1	has will power
attractive	5	4	3	2	1	unattractive
good self-control	5	4	3	2	1	poor self-control
fast	5	4	3	2	1	slow
having endurance	5	4	3	2	1	no endurance
active	5	4	3	2	1	inactive
weak	5	4	3	2	1	strong
self-indulgent	5	4	3	2	1	self-sacrificing
dislikes food	5	4	3	2	1	likes food
shapeless	5	4	3	2	1	shapely
under eats	5	4	3	2	1	overeats
insecure	5	4	3	2	1	secure
low self-esteem	5	4	3	2	1	high self-esteem

## **Appendix K**

### **Demographics questions**

Please provide the following information about yourself.

**Your sex/ gender:**

Male Female Transgender

**Your age** .....

**Year in training** on the DClinPsy:

Year 1 Year 2 Year 3

**Years of direct mental health service provision**

0-2 3-4 4-6 6+

**Theoretical/ clinical orientation** .....

**Number of clients you have worked with in training or previous to training that you might suggest are 'obese' (BMI 30+)?**

0 1-5 6-10 11+

**The amount of training you have received regarding 'weight stigma' (prejudicial attitudes/ beliefs/ stereotypes or discriminatory behaviours targeted at individuals because of their weight).**

None

A Little

A moderate amount

A lot

Comments .....

**Satisfaction with your own body weight**

Very satisfied

Very unsatisfied

1 2 3 4 5 6 7



## **Appendix L**

### **Participant Information**

## **Participant Information.**

**Please read the following participant information and use the link below to access the online survey.**

You are invited to take part in a research study exploring cognitive styles of trainee clinical psychologists. This study is being undertaken by Clare Carter as part of a doctorate in clinical psychology. Please consider the following information before deciding whether to participate.

### **Aims of and rationale for the research**

Previous research has identified that clinical psychologists use a range of information in treatment planning. The aim of this study is to explore the differential effects of utilising various types of information in clinical work, such as referral information, case material and photographs.

Whilst there is no direct benefit to taking part in this study, it is hoped that the findings will provide evidence to aid Clinical Psychologists in their treatment planning.

### **What will happen if I take part?**

You will be asked to complete a secure online survey. All responses to the survey will be anonymous and no identifying data will be collected. The survey should take approximately 15 minutes to complete.

### **Do I have to take part?**

Your participation in this study is entirely voluntary and a decision to not take part will not disadvantage you in any way. You are free to withdraw at any time. As data is anonymous, it will not be possible to identify and withdraw your data after it has been entered in Qualtrics.

### **What are the risks of taking part?**

The research has been reviewed and approved by the School of Psychology Research Ethics Committee (reference EC.17.07.11.4916R).

There are no known risks associated with this study. In the event that certain questions trigger distress, you are encouraged to seek support from your personal tutor, university counselling service, or your GP.

### **How will information about me be used?**

The results of the study will be written up as part of a clinical psychology doctoral thesis and may be published in professional journals and/or shared at relevant conferences. You will not be identified by name in any dissemination of the results. If you would like to receive a copy of the final report of the study when it is completed, please contact the researcher by email.

**Who will have access to information about me?**

Survey responses are anonymous as the Qualtrics system automatically generates numerical code for each participant. All research data will be stored in accordance with national policy and legislation (The Data Protection Act, 1998) and BPS ethics guidelines for Internet-mediated research (BPS, 2013). Any email addresses provided by participants will be stored in a separate password protected file that is not attached to their survey data. The researcher and research supervisor will have access to the electronic research data. Research data will be stored for 5 years after completion of the study for academic purposes in accordance with Cardiff University policy and destroyed thereafter.

**What if there is a problem or you have further questions?**

If you have a concern or require additional information about any aspect of this study, you may wish to speak to the researcher who will do their best to answer your questions. You should contact the researcher, Clare Carter at [carterc7@cardiff.ac.uk](mailto:carterc7@cardiff.ac.uk) or call 02920 874007. Alternatively, you can contact the research supervisor:

Dr Jenny Moses  
Consultant Clinical Psychologist  
South Wales Doctoral Programme in Clinical Psychology  
School of Psychology  
Tower Building  
70 Park Place  
Cardiff, CF10 3AT  
Email: [jenny.moses2@wales.nhs.uk](mailto:jenny.moses2@wales.nhs.uk)  
Tel: 02920 874007

If you have any concerns or complaints about the research you can contact the School of Psychology Research Ethics Committee in writing at:  
Secretary to the Research Ethics Committee  
School of Psychology, Tower Building, 70 Park Place, Cardiff, CF10 3AT  
[psychethics@cardiff.ac.uk](mailto:psychethics@cardiff.ac.uk)

## **Appendix M**

### **Participant debrief information**

Thank you for your participation in our research study.

I would like to discuss with you in more detail the study you just participated in and to explain the aims of the study further.

It is sometimes necessary in research to withhold information to participants as to the intended purpose of the study, and not inform about all of the tasks that participants will be asked to complete. Information can be withheld so not to influence responses, and help promote validity of the study.

The intended purpose of this study is to obtain information about attitudes toward people who are obese and how this might influence clinical judgments and treatment planning. This information was withheld so not to influence your responses on the task, and to gain unbiased data about attitudes and behaviour in order to promote validity of the study.

Research has shown that many health professionals hold negative attitudes toward people who are overweight and obese, including psychologists (for reviews see Puhl *et al*, 2009), and these can have a negative impact on clients in receipt of services. Research has yet to look at whether trainee clinical psychologists hold these views and how these may influence clinical judgements and treatment planning. Information from the study may help to increase our knowledge and understanding in this area. With hope to increase awareness and reduce potential stigma and discrimination in our work.

As explained on the information sheet, all of the responses are anonymised and kept confidential. All results will be published anonymously as a group data.

**It is important that the aims of the study are not shared with other people, so to not affect other participants' potential responses, so we would appreciate that you do not share this information.**

If you have experienced any distress from participating in the study, please contact us so that we can explore how you can gain extra support. You may also be able to access student counselling services at your university.

If you have any further questions about this or anything else about the study please do not hesitate to contact myself or my supervisor.

If you would like any information about the results of the study once it is completed, then please feel free to contact us.

In addition, if you would like to learn more about weight bias, prevention and education you may wish to access the following website: <http://uconnruddcenter.org/weight-bias-stigma> If you would like to be added to our prize draw to win £50 of Watersones vouchers, please email Clare at: [carterc7@cardiff.ac.uk](mailto:carterc7@cardiff.ac.uk) Thank you again for your participation.

Contact details:

**Project Lead:**

Clare Carter

Trainee Clinical Psychologist  
email: carterc7@cardiff.ac.uk  
telephone: 02920 874007

**Academic Supervisor:**

Dr Jenny Moses

Consultant Clinical Psychologist

email: jenny.moses@wales.nhs.uk telephone: 029220 874007 address: South Wales Doctoral Programme in Clinical Psychology, School of Psychology, Tower Building, 70 Park Place, Cardiff, CF10 3AT. If you have any concerns or complaints about the research you can contact the School of Psychology Research Ethics Committee at:

Secretary to the Research Ethics Committee, School of Psychology, Tower Building, 70 Park Place, Cardiff, CF10 3AT. Email: psychethics@cardiff.ac.uk

## **Appendix N**

### **Ethics approval**

**Email correspondence:**

## Ethics Feedback - EC.17.07.11.4916R

psychethics

Thu 14/09/2017 10:33

To: Clare Carter <C\*\*\*\*\*@cardiff.ac.uk>; Jennifer Moses <\*\*\*\*\*@cardiff.ac.uk>;

Dear Clare,

The Ethics Committee has considered your revised project proposal: Weight bias among Trainee Clinical Psychologists (EC.17.07.11.4916R).

The project has now been approved.

Please note that if any changes are made to the above project then you must notify the Ethics Committee.

Best wishes,  
Mark Jones



## **Appendix O**

### **Statistical effect sizes**

<b>Statistic (source)</b>	<b>Value</b>	<b>Effect size</b>
Cohen's $f$ (Cohen, 1988)	.1	Small
	.25	Medium
	.4	Large
Cohen's $r$ (Fritz et al., 2011)	.1	Small
	.3	Medium
	.5	large
Cramer's $V$ (Rea & Parker, 1992)	.00 and under .01	Negligible association
	.01 and under .20	Weak association
	.20 and under .40	Moderate association
	.40 and under .60	Relatively strong association
	.60 and under .80	Strong association
	.80 and under 1.00	Very strong association

## **Appendix P**

### **Demographic Sample characteristics**

		<b>Condition 1 (Obese)</b>	<b>Condition 2 (Slim)</b>	<b>Condition 3 (No photo)</b>
<b>Variable:</b>				
Gender	Male	9 (17%)	5 (11%)	10 (21%)
	Female	44 (83%)	41 (89%)	37 (79%)
Age, Mean (SD)		29.06 (3.06)	28.89 (3.67)	30.06 (3.01)
Training year, N(%)	Year 1	19 (36%)	8 (18%)	15 (32%)
	Year 2	17 (32%)	25 (56%)	14 (30%)
	Year 3	17 (32%)	12 (26%)	18 (38%)
Level of experience N(%)	0-2y	6 (11%)	5 (11%)	7 (15%)
	3-6y	34 (64%)	32 (70%)	27 (59%)
	6+y	13 (25%)	9 (19%)	12 (26%)
No. of obese clients, N(%)	0	4 (7%)	5 (11%)	3 (6%)
	1-5	23 (43%)	17 (37%)	19 (40%)
	6-10	12 (24%)	12 (26%)	15 (33%)
	11+	14 (26%)	12 (26%)	10 (21%)
Stigma training, N(%)	None	38 (72%)	28 (61%)	25 (53%)
	A little	14 (26%)	16 (35%)	16 (34%)
	A moderate amount/ A lot	1 (2%)	2 (4%)	6 (12%)
Satisfaction with own body weight (Mean, SD)		4.08 (1.65)	4.02 (1.68)	3.60 (1.58)
Fat Phobia A (Mean, SD)		3.45 (0.38)	3.41 (0.43)	3.48 (0.58)
AFA score <b>B</b> (Mean, SD)		35.28 (17.43)	34.38 (18.84)	47, 39.45

*A = Scores range from 0-5 (0=no fat phobia, 5=high levels of fat phobia).*

*B= Scores range from 0-117, higher the score higher the level of anti-fat attitudes.*

## **Appendix Q**

### **Clinical orientation per condition**

	<b>Condition 1</b>	<b>Condition 2</b>	<b>Condition 3</b>	<b>Chi Square result</b>
CBT (inc. 3rd wave)	25	20	16	$\chi^2(2, n=124)=3.49, p=.174$
Integrative/eclectic	5	9	11	$\chi^2(2, n=124)=2.99, p=.224$
Psychodynamic/ Psychoanalytic	6	1	6	$\chi^2(2, n=124)=4.23, p=1.21$
Systemic/ social constructionist	7	13	9	$\chi^2(2, n=124)=2.69, p=.261$
Child/developmental	2	6	2	$\chi^2(2, n=124)=3.56, p=.168$
CAT/ relational	5	3	4	$\chi^2(2, n=124)=.50, p=.779$
Other (neuro, forensic, critical, schema, person- centred)	3	3	5	$\chi^2(2, n=124)=.838, p=.658$
Unsure	1	0	2	$\chi^2(2, n=124)=2.07, p=.356$

*Note. Free text answer. Data grouped for ease of comparison.*

## **Appendix R**

### **Summary Table Fat Phobia & AFA scores.**

Variable:		Fat Phobia, Mean, (SD), N	Anti-Fat Attitudes, Mean (SD), N
Gender	Female	3.47 (0.45)	36.69 (18.9)
	Male	3.33 (0.54)	34.13 (18.1)
Year in training	1	3.41 (.49)n=42	34.41 (15.45) n=41
	2	3.47 (.45) n= 56	34.42 (18.40) n= 55
	3	3.44 (.46) n=47	39.40(19.59) n=47
Experience	0-2 y	3.51 (.37) n=18	34.61 (15.79) n=18
	3-4 y	3.43 (.50) n= 47	34.34 (15.19) n=47
	4-6y	3.55 (.38) n=45	38.98 (18.79) n=45
	6y+	3.24 (.45) n=33	35.3 (21.86) n=33
No. of obese clients	0	3.30 (.46) n=11	30.55 (13.49) n=11
	1-5	3.54 (.43) n=58	38.71 (16.68) n=58
	6-10	3.42 (.49) n=38	34.08 (15.14) n=38
	11+	3.33 (.42) n=36	35.56 (23.43) n=36
Stigma training	None	3.45 (.42) n=91	34.60 (17.04) n=91
	A little	3.47 (.49) n=44	38.75 (17.53) n=44
	A moderate amount	3.25 (.44) n= 5	35.00 (16.68) n=5
	A lot	2.88 (.29) n=3	42.33 (50.84) range= 11-101 n=3
Age		rs(143)=-.03, p=.733	rs(143)=-.06, p=.451
Satisfaction with own weight		r(144)=-.03, p=.700	r(145)= .07, p=.386