

UNIVERSITY OF SOUTHERN QUEENSLAND

BEYOND HOSTILE PREJUDICE AND BLAME:
THE WEIGHT OF PATERNALISTIC ANTI-FAT ATTITUDES AND
RELATED BELIEFS IN UNDERSTANDING SOCIAL REACTIONS TO
FAT PERSONS

A Dissertation submitted by
Michelle V. Parry, B.Sc. (Hons.)

For the award of
Doctor of Philosophy

2011

ABSTRACT

The “war on obesity” is a very salient topic in contemporary Westernised cultures, with increasing rates of obesity and associated health consequences receiving regular public attention and condemnation. As such it seems timely to re-examine social attitudes and beliefs about fat persons and fatness – the consequences of which may contribute to, and be as severe as, the health risks associated with fatness.

Previous anti-fat attitude and attribution research has focused on controllability beliefs as determinants of hostility towards fat persons (i.e., anger and hostile attitudes). The primary focus of the current investigation was to extend research on reactions to fat persons, by conceptualising and exploring paternalistic attitudes and related beliefs. Paternalistic anti-fat attitudes were defined as the degree to which an individual espouses that fat persons should be helped to lose weight in the interests of benefiting fat persons (e.g., in terms of happiness and health), regardless of the beliefs and wishes of fat persons. The conceptualisation of paternalistic anti-fat attitudes was based on Fiske et al.’s (1999; 2002) stereotype content model of prejudice toward social out-groups and bioethical definitions of paternalism. Paternalistic attitudes are described as subjectively positive as they are viewed as helpful and caring by the individual espousing the attitude, but are based on undesirable stereotypic beliefs, such as the assumption that the target is incompetent, inferior, needy, and weak.

Two samples of Australian adults were surveyed. For Study 1, the final sample consisted of 210 psychology students, who completed a web survey. The final sample for Study 2 consisted of 344 community participants, predominantly recruited from a regional centre. Study 2 participants completed a self-administered paper survey. Study 1 may be considered a pilot study, which enabled preliminary examination of original attitude and belief variables developed for this research, prior to re-examining the research aims in a more diverse community sample in Study 2. Study 2 replicated Study 1 with methodological improvements.

The current research has provided preliminary evidence that reactions to fat persons are both hostile and paternalistic; that is, fat persons are both disliked and disrespected. In both studies, approximately 40% of respondents agreed with statements designed to capture paternalistic attitudes, and unattractiveness (hostile)

attitudes. In contrast, low levels of negative evaluation and social distance (hostile) attitudes were reported. Participants reported greater paternalistic attitudes than negative evaluation or social distance (hostile) attitudes, but not unattractiveness (hostile) attitudes. Similarly, participants expressed significantly greater pity and sympathy than anger toward fat persons. Hostile and paternalistic reactions were positively correlated.

The current research differentiated between controllability beliefs (i.e., control over onset) and changeability beliefs (i.e., control over offset), as determinants of reactions to fat persons. Many participants endorsed beliefs that fat people are responsible for becoming fat (i.e., controllability beliefs), or fat persons can change their weight status (i.e., changeability beliefs), or both. These beliefs were positively correlated. The importance of examining both changeability and controllability beliefs was evident when these variables were used to predict anti-fat attitudes. For both studies, changeability beliefs predicted unique variance in unattractiveness (hostile) attitudes and paternalistic attitudes, in addition to the variance already explained by controllability beliefs.

In addition to paternalistic anti-fat attitudes and changeability beliefs, benefits beliefs (i.e., weight loss benefits fat persons) and desire to change beliefs (i.e., fat persons do not want to be fat and want to become non-fat) were also examined. The new beliefs measures (i.e., changeability, benefits, and desire to change beliefs) and controllability beliefs predicted substantial (mostly shared) variance in paternalistic attitudes. Changeability and benefits beliefs consistently predicted unique variance in paternalistic attitudes.

Although people might view paternalistic anti-fat attitudes as helpful in assisting fat persons to become healthier and happier, expression of such attitudes and related beliefs, and associated social pressure to lose weight, may actually contribute to fat persons being less healthy and less happy. Potential ways that paternalistic anti-fat attitudes and related beliefs may influence the physical and psychological health of fat persons, and people in general were proposed (e.g., unrealistic weight loss and unsustainable exercise goals; resorting to unhealthy weight control methods; feelings of inadequacy and inferiority as a result of unsolicited help and sympathy; negative physical and psychological consequences of weight reduction behaviour).

CERTIFICATION OF DISSERTATION

I certify that the ideas, experimental work, results, analyses, software, and conclusions reported in this dissertation are entirely my own effort, except where otherwise acknowledged. I also certify that the work is original and has not been previously submitted for any other award, except where otherwise acknowledged.

Michelle V. Parry

Date

ENDORSEMENT

Dr Nola Passmore (Supervisor)

Date

DEDICATION

I dedicate this work to my little sister,

Vivien Anne Dederer

(1977 – 2001)

*whose death led me to pursue this topic with a passion –
a topic that was already close to our hearts.*

*Although I cannot change what happened to you
or stop it happening to anyone else,
I hope that my contribution will be one small step toward
making the world more fat-friendly.*

*Toward the end, when I'd lost interest
and was ready to give up, you reminded me why I had to finish,
and gave me the incentive to do so.*

I love you and I miss you.

Thank you for all that you have given me.

ACKNOWLEDGEMENTS

I believe I will always look back at completing my PhD as one of the greatest challenges and achievements of my life - not only academically, but also personally. I have faced so much and grown so much during the past ten years. So, first and foremost, I want to thank and congratulate myself for getting up every time I fell – for persevering even when things seemed hopeless. I will always appreciate the privilege it has been to experience this journey and to stand on top of this mountain that often seemed insurmountable. I did it, and I am proud!

I have worked with a series of supervisors; in temporal order: Dr Ken Mavor, Dr Joe Boden, Dr Murray Thompson, Dr Nola Passmore. I wish to sincerely thank each of you for your assistance, advice & support. I would especially like to thank my longest-serving supervisor, Dr Nola Passmore, for sticking it out to the end – even when she wondered it would ever come! I greatly appreciate your patience, encouragement, support, feedback, and quirky sense of humour. I appreciate that it must have been difficult to inherit a doctoral student with a topic outside your research interests, who regularly went into hiding, and whose health and life issues often impeded progress. I am honoured to be your first completing PhD candidate. Thank you so much.

I am grateful to have received an APA scholarship to assist me in my endeavours. I acknowledge assistance from the Department of Psychology in Toowoomba throughout my candidature, including from technical services staff. I wish to thank staff at the Fraser Coast campus for providing me with resources since moving to Fraser Coast in 2008. I am grateful to USQ for allowing me to finish my PhD following a lengthy leave of absence due to illness and family caring responsibilities. I wish to particularly thank the Faculty of Sciences Deputy Dean (Research), Prof Grant Daggard for advocating for me. I am very grateful to have received an USQ Equity Support Project “Scholarship for women staff and students to complete doctorates and higher degrees” in 2010, which enabled me to pay tuition fees to complete my thesis revisions.

I wish to thank all of the students and community members who participated in my research. I greatly appreciate the time you took to share your fat-related attitudes and beliefs.

I would also like to thank my personal support team. I feel blessed that I have shared this journey with some very beautiful souls. Firstly and most importantly, I wish to thank Andre and Toby: You are my children; you are the reason I get out of bed in the morning; you are the sunshine in my life when everything seems grey; your unconditional love feeds my

soul. I have gone through some really tough times since you came into my life, and am grateful that you were there in the wee hours of the morning when everything seemed so black. I love you both so much and feel privileged to be your Mother.

Paz (1940 – 2008), I wish you were here to share my triumph. I know you believed I could do it, but worried that I didn't believe in myself enough to let myself. Thank you so much for being my rock. I have so missed talking to you on the last leg of my journey, but you are always present in my heart. Thank you for believing in me, loving me, inspiring my enquiring mind and passionate heart – thank you for being my Dad.

I whole-heartedly thank my travelling companion, Dr Lisa Raith, for your support, understanding, camaraderie; for everything ... there aren't words to express the importance of the journey we have shared whilst completing our doctorates. Through this journey, we have become family.

I would like to thank wonderful Toowoomba friends for their support and encouragement, especially Kellie McDonald, Lynne Baker, Marian and Lawson Lowe and Cathy Woods.

Coming back to finish my thesis after a lengthy break was very difficult, especially as I was recovering from a difficult caring role & delayed grief, and had relocated to Hervey Bay where I didn't know anyone. I was very fortunate in the people I met. I wish to thank Lynley Horton (CRS), Virginia Roesner (Wide Bay Women's Health), and Michelle McLeay & Penny Richards (Community Solutions) for their professional support & encouragement. I also wish to thank Lifeline staff & telephone counselling peers for their support, encouragement, and understanding – being a TC has been a lifeline for me. I wish to acknowledge the support I received from staff and carers I have met through Carers Qld, initially as a carer but more recently as a volunteer. I would particularly like to thank Dani Runnalls, John Anderson, Lisa Moustakis & Tanya Zollinger – you are my colleagues & friends, and for that I'm very grateful.

Since moving to Hervey Bay I have been blessed with the support and friendship of my neighbour Kylie Goodwin, and have become "Aunty Shell" to her enchanting daughters, Summah & Brandy. Thank you "Goodwin Girls" – you are very special to me & my boys.

More recently, I have become part of another special family – the Zollingers of Zollywood. I feel so blessed for the friendships I have with Tanya & Daniel, and how they have so generously included me into their tribe (i.e., Jacob, Benny, Zoe, Holly, Sammy, Ruby & baby Stevie). Thank you all so much for welcoming me into your family & supporting me in the final leg of my PhD journey.

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CHAPTER 1 - INTRODUCTION

1.1 Context and Background

Fat people carry an enormous burden. It is not the burden of massive bodies, or insatiable appetites, but the burden of oppression the culture forces upon them. They are weighed down not by their weight, but by the force of hatred, contempt and pity, amusement and revulsion. Fat bodies are invaded by comments, measured by hatred, pathologized by fear and diagnosed by ignorance ... (Bull, 1987, as cited in Tenzer, 1989, p. 47)

Negative evaluations and dislike of fatness, and behaviours believed to lead to fatness, are insidious in Western society. It is common for people to equate eating certain foods with being “bad” or “naughty”; or for someone who has put on weight to comment that they have been bad. Conversely, individuals deciding not to eat certain foods deemed bad, comment that they are being “good”, and weight loss and control are evaluated positively (Bovey, 1994). In contemporary Western culture, much emphasis is placed on striving to achieve improved health and physical appearance. As fatness is perceived as unhealthy and unattractive, preventing and curing fatness has become a valued pursuit for individuals and for society as a whole (Conrad, 1997; M. A. Schwartz, 1984; Sobal, 1984, 1995). Fat persons are generally viewed as being to blame for their fatness and responsible for becoming non-fat. Such beliefs are part of a general tendency in Western societies to hold persons responsible for sickness in spite of the complex nature of health (Brownell, 1991b; Finerman & Bennett, 1995).

In addition to preventing and curing fatness, non-fat persons, particularly women (Crawford & Campbell, 1998; Nowak, Buttner, & Crawford, 2001), also attempt to lose weight to strive to attain unrealistic ideals of thinness (Germov & Williams, 1996; Melcher & Bostwick, 1998; Polivy & Herman, 2004). Indeed, it is estimated that \$500 million is spent on weight loss products and services in Australia each year (Tasmanian Department of Health and Human Services, n.d.), and \$30 billion is spent in the United States (Melcher & Bostwick, 1998). While fatness has many negative connotations, thinness, leanness and physical fitness are associated

with positive attributes such as attractiveness, self-control, willpower, and good health (Ahern & Hetherington, 2006; Brownell, 1991a, 1991b; Germov & Williams, 1996). Both the desire to be thin and the fear of being fat are powerful motivators that have led to a dieting epidemic (Brownell, 1991a, 1991b). Thinness ideals for women have become progressively thinner since the 1960s, with underweight rather than healthy weight being the ideal (Brownell, 1991b; D. M. Garner, Garfinkel, Schwartz, & Thompson, 1980; Wiseman, Gray, Mosimann, & Ahrens, 1992).

The negative perception of fatness as an unacceptable state of unhealthiness, ugliness, and badness, has negative consequences for a substantial portion of Australian society. According to the 2007-2008 National Health Survey (Australian Bureau of Statistics, 2009), over half of the adults surveyed were classified as overweight (37%) or obese (25%), with more males (42% overweight; 26% obese) than females (31% overweight; 24% obese) falling into these weight categories (see section 1.3 for definitions of overweight and obesity). The percentage of participants classified as either overweight or obese has progressively increased since previous national health surveys (see Australian Bureau of Statistics, 1997, 2002, 2006). While increasing rates of obesity and associated health consequences receive regular public attention and condemnation, little attention is directed toward social attitudes, discrimination, and stigmatisation of fat persons – the consequences of which may contribute to, and be as severe as, the health risks associated with obesity (Brownell & Wadden, 1992).

1.2 Aims and Rationale of Current Research

The current research will explore societal attitudes toward fat persons and beliefs about fatness and fat persons in the Australian context. This research will begin by exploring the degree of convergence between two social psychological approaches to understanding reactions to fat persons: Attitude and attribution research. Previous research on attitudes toward fat persons has mainly focused on socially undesirable stereotypic perceptions of fat persons, and hostility or antipathy toward fat persons (see chapter 3). Anti-fat attitude researchers have also examined beliefs that people hold about fatness, particularly the perceived causes of fatness. Anti-fat attitudes have been found to be related to beliefs that fatness was caused by factors which were under the personal control of fat persons (e.g., Allison, Basile, & Yucker, 1991; Crandall, 1994; see chapter 4).

Reactions to fat persons and fatness have also been investigated by attribution researchers. Although anti-fat attitude researchers describe the perceived causes of fatness as *beliefs*, attribution researchers call such explanations *attributions*. In terms of attitudinal reactions to fat persons, attribution researchers have measured *affective reactions* to fat persons (i.e., anger and pity) while attitude researchers have measured anti-fat *attitudes* (which include affect). Affective reactions to fat persons have been examined in research exploring the role of attributions in predicting affective and behavioural reactions to people with stigmatised conditions, including obesity. Analogous to the relationship between anti-fat attitudes and controllability beliefs found by attitude researchers, attributional analyses have shown that feelings of anger and pity toward fat persons are influenced by attributions of control over onset of fatness, or controllability attributions (e.g., Weiner, Perry, & Magnusson, 1988; see chapter 4). In order to explore the degree to which the attitude and attribution approaches converge, the relationships between anti-fat attitudes and affective reactions of anger toward fat persons will be explored in the current research (Aim 1). Additionally, the relationships between controllability beliefs and reactions to fat persons (in the form of both anti-fat attitudes and affective reactions) will be re-examined in this research (Aim 2).

The third aim of this research focuses on an area of divergence between attitude and attribution research into reactions to fat persons. Although attribution research examining reactions to stigmas has explored both control over onset, and changeability of stigma (i.e., control over offset), as determinants of affective reactions, attitude research has not specifically explored the role of changeability beliefs in predicting anti-fat attitudes. Attitude research has not differentiated between beliefs about controllability and changeability of fatness, and some measures seem to capture both types of belief. A review of attribution research examining reactions to stigmas suggests that attributions or beliefs about stability or changeability of fatness may be especially important to understanding reactions to fat persons. The role of controllability and changeability beliefs in predicting anti-fat attitudes and affective reactions will be explored in the current research. This research will extend on previous anti-fat attitude research by differentiating between controllability and changeability beliefs, and further exploring the relationships of changeability beliefs with anti-fat attitudes, affective reactions, and beliefs (Aim 3).

While attitude research has focused on hostility toward fat persons, attribution researchers have examined both subjectively positive (i.e., pity) and negative (i.e., anger) affective reactions to fat persons. A review of research evidence and academic and popular discourse on reactions to fat persons and fatness suggests that attitudes to fat persons are paternalistic as well as hostile (see chapter 5). A major objective of this research project is to extend the current research on anti-fat attitudes, by conceptualising and measuring a further dimension of attitudes to fat persons; namely, paternalistic anti-fat attitudes (Aim 4a). The conceptualisation of paternalistic anti-fat attitudes will be based on Fiske and colleagues' stereotype content model of attitudes to social out-groups (1999; 2002), and bioethical definitions of paternalism. Paternalistic anti-fat attitudes are defined as the degree to which an individual espouses that fat persons should be helped to lose weight in the interests of benefiting the fat person (e.g., in terms of happiness and health), regardless of the beliefs and wishes of the fat person. It will be proposed that paternalistic anti-fat attitudes can be predicted from changeability beliefs, and beliefs about fat persons' desire to change their fatness and the perceived benefits of weight loss. The relationships between paternalistic anti-fat attitudes and related beliefs, and hostile anti-fat attitudes, affective reactions to fat persons, and controllability beliefs will also be explored (Aim 4b).

The relationships of respondent characteristics (i.e., age, gender, weight) with anti-fat attitudes, affective reactions, and beliefs will also be explored in this research project (Aim 5). The final aim of this research will involve ascertaining the body sizes that respondents consider to be indicative of the social category of *fat persons* (Aim 6).

1.3 Terminology

Prior to reviewing relevant empirical and theoretical literature, it is important to clarify the terminology used to describe fat individuals in the psychological and medical fields. In the current research, the term *fat* will be used to describe people in higher weight ranges, except when reviewing research that has employed other terms. Although using *fat* is not ideal, due to this word having been used as an insult toward fat persons (Bovey, 1994; Wadden & Didie, 2003), it aptly describes “the construct of interest ... the stigmatized social category of fatness” (Harrison, 2000, p. 638). *Fat* is used instead of *overweight*, which implies that fat individuals deviate

from an arbitrarily defined “normal”, “right”, or “ideal” weight; and *obesity*, which is a medical term used to describe fatness as a disease which requires treatment (Cassidy, 1991; Crandall, 1994). Additionally, the term fat has been preferred by various researchers (Crandall, 1994; Harrison, 2000; Miller & Downey, 1999; M. A. Schwartz, 1984), and is the term adopted by advocacy groups such as The National Association to Advance Fat Acceptance (NAAFA) and the Fat Liberation Front (Bovey, 1994; Breseman, Lennon, & Schulz, 1999; M. A. Schwartz, 1984). Interestingly, 80% of obese participants in Thomas, Hyde, Karunaratne, Herbert, et al.’s (2008) research disliked the term obesity as they believed it was associated with greater social disapproval, and preferred to be described as fat or overweight. Furthermore, *non-fat* will be used to describe those who are not fat; however, terms such as normal, average, and ideal weight will be used when reviewing research that has employed these terms.

Medical definitions of fatness typically determine overweight and obesity by comparing an individual’s measured weight to an ideal weight for their height. Persons whose body mass is more than 20% or 30% over an ideal standard are generally considered *obese*, whereas those who are 10% over the standard, but not obese, are categorised as overweight (Allison, et al., 1991; Hanna, Loro, & Power, 1981; Kristeller & Hoerr, 1997). Alternatively, height and weight are used to calculate body mass index (BMI). A BMI of greater than 30 kg/m² indicates obesity, whereas a BMI greater than 25 kg/m² but less than 30 kg/m² indicates overweight (Australian Bureau of Statistics, 2006, 2009; World Health Organization, 2003). Therefore, overweight and obese are used to distinguish degrees of fatness. It is important to differentiate the social category of fatness from medical definitions of degree of fatness. Harrison (2000) note that “[t]he tendency to stereotype a target as fat is a type of social categorization related to, but not necessarily equivalent to, the target’s proportion of adipose tissue” (p. 638), where adipose tissue refers to fatty tissue. Additionally, the social perception of fatness may differ from the medical perception of overweight and obese. For example, in the 2004-05 National Health Survey (Australian Bureau of Statistics, 2006), fewer males (32%) and females (37%) considered themselves to be overweight or obese, compared to actual numbers of males (62%) and females (45%) classified as obese by medical definitions.

For the present research, no distinction will be made between degrees of fatness, nor will a specific operational definition of fatness be provided to

participants. Unlike other social categories where membership is dichotomous (e.g., gender), the category of fat implies a continuum from overweight to morbidly obese (Kristeller & Hoerr, 1997). While it is likely that individuals will vary in what they define as fat, it is assumed that the social category of fatness is culturally and socially constructed and that there is a shared social perception of what is unacceptably fat (Bovey, 1994). This premise will be explored in the current research by ascertaining the range of body sizes considered to be included in the social category of fat persons, and the homogeneity of this definition (Aim 6).

1.4 Overview of Literature Review

A review of literature relevant to the proposed research will be provided in chapters 2 through 5. This review will include literature from various fields, including social, organisational, clinical, health, and developmental psychology, and medicine, nursing, nutrition, education, anthropology, and sociology. Initially, chapter 2 will present an overview of the ways in which fatness can affect a person's social experiences and psychological well-being (e.g., discrimination). This overview of the consequences of social reactions to fat persons and fatness is included to highlight the importance of understanding anti-fat attitudes and beliefs. Previous research examining stereotypes of fat persons and prejudice and attitudes toward fat persons will be discussed in chapter 3. The degree to which anti-fat attitudes are viewed as socially acceptable on the basis of the association between fatness and health risks is also discussed. Chapter 4 will provide a review of research examining beliefs about fat persons, attributions that people make regarding fatness and the relationships of such beliefs and attributions to anti-fat attitudes and affective reactions. Chapter 5 will present literature relevant to the conceptualisation of paternalistic anti-fat attitudes and related beliefs. Fiske and colleagues' (1999; 2002) stereotype content model of attitudes to social out-groups and bioethical definitions of paternalism will be discussed as the theoretical frameworks supporting the conceptualisation of paternalistic anti-fat attitudes.

CHAPTER 2 - THE PSYCHOSOCIAL EXPERIENCE OF FAT PERSONS

2.1 Introduction

It is important to understand attitudes and beliefs about fatness and fat persons in Western society, as such social reactions and representations have very real consequences for fat persons. This chapter will provide an overview of the ways in which fatness can affect a person's social experiences and psychological well-being. The psychosocial experience of fat persons can include discrimination in many aspects of life (e.g., health care, education, employment), lower socioeconomic status, difficulties in interpersonal relationships and social interactions, and poorer psychological well-being.

2.2 Discrimination

Discrimination occurs when members of a social group are treated unfairly, either directly or indirectly, because of their group membership. Such unequal treatment is often founded on generalisations about members of a social category that ignore individual differences in members' abilities and behaviours (Allport, 1954; Reber, 1995). Reviews of fat discrimination research suggest that fat people receive unequal treatment in a number of areas (Breseman, et al., 1999; Crandall, Nierman, & Hebl, 2009; Wang, 2008). Differential treatment has been found in diverse contexts, including applying for rental accommodation, customer service, and availability of clothing (Chowdhary & Beale, 1988; Karris, 1977; Pauley, 1989; Shim & Kotsiopulos, 1990; Thomas, Hyde, Karunaratne, Herbert, et al., 2008). Fat people may be regarded unsuitable as adoptive parents solely because of their weight (Passmore, 2003). Fat people often find it difficult to access and use public facilities such as lecture theatres, transport, and restaurants (Myers & Rosen, 1999; Thomas, Hyde, Karunaratne, Herbert, et al., 2008). Indeed, fat people may be required to pay for two tickets when travelling (Breseman, et al., 1999; Thomas, Hyde, Karunaratne, Herbert, et al., 2008). Unlike people with physical disabilities, whose mobility difficulties are often accommodated in Western society, few adaptations to the physical environment are made to help fat people function in society. Rather, fat people are thought of as being "socially intrusive (taking up more than [their] share

of space)” (Bovey, 1994, p. 105). Although discrimination laws in Australia prohibit discrimination on the basis of a wide range of characteristics such as sex, age, race and religion, Victoria is the only state or territory which has enacted laws banning discrimination on the basis of physical appearance (Passmore, 2003). The following sections will discuss discrimination in the areas of health care, education, and employment.

2.2.1 Health Care

Fat people are also discriminated against in terms of health care as a result of the attitudes and behaviour of health professionals (Breseman, et al., 1999; Crandall, et al., 2009; Wang, 2008; see chapter 3). Breseman and colleagues note that fat people “are often admonished for being fat or overweight during doctor’s visits for medical concerns that have little or nothing to do with their size” (p. 179; see also Cossrow, Jeffery, & McGuire, 2001). These reviewers suggest that such behaviours are justified by health care providers as “being in the best interests of the patient” (Breseman, et al., 1999, p. 179). Approximately half of the obese participants in Thomas, Hyde, Karunaratne, Herbert, et al.’s (2008) research reported experiences of being humiliated by, or receiving derogatory comments about their weight from, health professionals. Burgard and Lyons (1994) provide an example of a woman who was scolded about her weight when collecting her glasses. Additionally, several authors note that health professionals tend to blame unrelated illnesses or injuries on client fatness (e.g., Hebl, Xu, & Mason, 2003). Merrill, Lauz, Lorimor, Thornby, and Vallbona (1996) suggest that stereotypic perceptions of fat persons lead health professionals to ignore patient-specific information, instead relying on stereotypic perceptions of fat persons in making health care decisions. Bruere and O’Connor (1999) also note that fat clients’ views about their difficulty in achieving long-term weight loss are discredited and discounted as the fat person trying to deny his or her personal shortcomings, such as lack of self-control. Furthermore, overweight and obese individuals may experience difficulty obtaining health insurance, or be expected to pay more for health insurance (Wann, 2000).

Research evidence also supports the existence of differential treatment of fat persons by physicians. Hebl and colleagues (2003) found that overweight men reported their physicians spent less time consulting with them than did non-overweight men. Hebl and Xu (2001) reported that physicians indicated that the

fatter a patient was, the less time they would spend consulting with them. These physicians also reported more annoyance at, and less desire to help fatter persons, and indicated that treating fatter patients was a waste of time and resulted in them liking their job less. Wadden and colleagues (2000) found that more than one-third of respondents reported that doctors, at least sometimes, had tried to scare them into losing weight (31%), did not believe them about what they eat (35.2%), and did not treat them as nicely as average weight persons (39%). Additionally, more than half of respondents indicated that doctors, at least sometimes, provided unsolicited weight loss advice (58.4%), and did not understand how difficult it was to be overweight (63.9%).

2.2.2 Education

Research suggests that fat persons experience discrimination in tertiary education selection processes and parental willingness to pay for tertiary education. Crandall (1995) found that both male and female fat persons were underrepresented in North American colleges relative to the number of fat persons in the general population, and that aptitude, motivation, and performance did not account for these findings (see also Canning & Mayer, 1966). Crandall (1991, 1995) has examined parental willingness to pay for tertiary education for fat females. Crandall found that fatter female college students were more likely to be financially supporting themselves, rather than being financially supported by their families. This effect remained when the effects of parental income or education, race, size of family or number of other children attending college were statistically controlled. Crandall suggests that parents' fat stereotypes and attitudes lead to lower motivation to provide financial support for their fat daughters' tertiary education.

2.2.3 Employment

In a review of studies of employment discrimination towards fat persons, Roehling (1999) found evidence of weight discrimination at most stages of employment, including selection, assignment, and promotion. Roehling notes that such discrimination is not restricted to morbidly obese persons, but is also experienced by mildly obese and overweight persons. However, self-reports suggest that very obese persons experience more types of weight-related employment discrimination than do obese or average weight persons (Rothblum, Brand, Miller, &

Oetjen, 1990). Overweight or obese persons have been evaluated as less suitable for recruitment (Brink, 1988; Larwood, 1995; Pingitore, Dugoni, Tindale, & Spring, 1994); promotion (Brink, 1988); assignment to more desirable/challenging positions (Bellizzi & Hasty, 1998; Bellizzi, Klassen, & Belonax, 1989; Keas & Beer, 1992; Rothblum, Miller, & Garbutt, 1988); employment in physically active occupations (Polinko & Popovich, 2001; Popovich et al., 1997), positions with more face-to-face contact with the public (Bellizzi, et al., 1989; Venturini, Castelli, & Tomelleri, 2006) and managerial positions (Ding & Stillman, 2005), compared to average weight persons with identical qualifications. Although some researchers have found that fat females were rated less favourably than fat males in employment situations (Bellizzi, et al., 1989; Jasper & Klassen, 1990b; Pingitore, et al., 1994), other studies have found no gender differences (Bellizzi & Hasty, 1998; Bellizzi & Norvell, 1991; Brink, 1988).

Some research has shown that two major factors underlie employment discrimination towards fat persons: perceived lack of personal attributes that are necessary to perform tasks involved in a position and unattractiveness (Bellizzi & Hasty, 1998; Bellizzi, et al., 1989; Klassen, Clayson, & Jasper, 1996; Pingitore, et al., 1994; Polinko & Popovich, 2001; Rothblum, et al., 1988). Other studies highlight the importance of perceived responsibility for fatness in employment discrimination. Obese persons were found to be perceived less favourably than ex-offenders or mental health patients and persons with a range of physical disabilities or health conditions, despite being portrayed as equally qualified (Bordieri, Drehmer, & Taylor, 1997; Homant & Kennedy, 1982). Research has shown that obese persons were rated less favourably as they are perceived to be most responsible for their condition (Larwood, 1995; M. Rodin, Price, Sanchez, & McElligot, 1989).

Additionally, businesses and other persons associated with a fat person are evaluated negatively. Klassen, Clayson, and Jasper (1996) found that stores with an obese employee had a more negative image and were considered less successful than stores employing a non-obese person. Hebl and Mannix (2003) found that simply sitting next to a fat woman prior to a simulated interview resulted in negative consequences for a male applicant. Males sitting next to a heavy woman were less likely to be hired, and were rated lower on professional and interpersonal skills, compared to males sitting next to an average weight woman, regardless of whether

they had a relationship with the woman. It seems that mere proximity to a fat person can have detrimental effects for others. Not surprisingly, obese persons have been found to be viewed as less desirable work mates (Jasper & Klassen, 1990a, 1990b).

2.3 Socioeconomic Status

The above review of fat discrimination suggests that fat persons are discriminated against in various aspects of life, including employment, education, and health care. Such instances of unequal treatment may contribute to lower socioeconomic status (SES) for fat persons. In a review of 144 studies examining the relationship between obesity and socioeconomic status (e.g., income or education), Sobal and Stunkard (1989) found a strong inverse relationship between weight and SES for women in developed societies. The relationship between weight and SES for males and children in developed societies was variable, most often either inverse or direct. Sobal and Stunkard also found that SES was directly related to weight in developing nations, for males, females, and children. They note that “[i]n many cultures in all parts of the world, fatness is a cultural symbol of social prestige as well as of sexual attractiveness” (p. 267); however, this is not the case in developed societies, especially for women for whom thinness has become the ideal (see also Cassidy, 1991).

It has been suggested that low SES causes fatness, through factors such as education (e.g., knowledge and beliefs), income (e.g., lower cost of high calorie foods, inability to pay for exercise and weight management resources), occupation, and inheritance (e.g., genetics, finances, values); mostly factors which affect weight-related behaviours (i.e., diet and exercise). There is also evidence that weight influences SES. Cahnman (1968) suggested that “obesity ... is not so much a mark of low socioeconomic status as a condemnation to it” (p. 290). People who are fat may become poorer as a result of prejudicial attitudes and stereotypes and resulting discrimination (Rothblum, 1992; Sobal, 1991; Sobal & Stunkard, 1989), including education and employment discrimination.

A number of studies have explored the relationship between obesity and income. Register and Williams (1990) found that on average, obese females earned approximately 12% less than non-obese females, regardless of race, education, age, health and various other demographic variables, whereas no significant difference was found between the earnings of obese and non-obese males. Pagan and Davila

(1997) found that obesity was negatively related to earnings for females, but unrelated for males. Pagan and Davila also found that obese females were over-represented in administrative/clerical and service positions, and under-represented in higher paying managerial/professional and technical occupations. More recently, Maranto and Stenoien (2000) found wage deficits for women who were mildly and morbidly obese. Morbidly obese women experienced greater wage penalties than mildly obese women. The wage penalties for white obese women ranged from 20% (mildly obese) to 24% (morbidly obese). In contrast, only males who were 100% over standard weight showed salary deficits. Mildly and morbidly obese men less than 100% overweight had higher salaries than standard weight men. Other research suggests that weight also affects the salaries of males. In a study of salaries of MBA graduates, Frieze, Olson, and Good (1990) found that overweight males had lower starting and current salaries than non-overweight males. There was no evidence that weight influenced females' salaries. Loh (1993) found that weight did not affect wage levels, but was related to lower wage growth for males.

Researchers have found that both social and economic outcomes are related to weight. Gortmaker, Must, Perrin, Sobol, and Dietz (1993) found that overweight persons who were 16 to 24 years old in 1981 were less likely to be married and had lower incomes than non-overweight persons, regardless of SES of family of origin or aptitude test scores. Seven years later, females who were overweight in 1981 had completed fewer years of education, had lower incomes and higher rates of poverty, and were less likely to have married, than other female participants. Similar but weaker trends were found for overweight males. These prospective results were independent of SES of family of origin or aptitude scores. It has been suggested that fat persons are less likely to be married as fatness is deemed to be unattractive in modern Western societies (Gortmaker, et al., 1993; Rothblum, 1992; Sobal, 1991; Sobal & Stunkard, 1989). In contrast, Gortmaker et al. did not find that chronic physical conditions (e.g., muscular dystrophy) led to lower SES.

Another mechanism through which obesity may lead to lower SES is social mobility. Social mobility refers to the difference between the SES of a person's family of origin and their adult SES. Compared to their family of origin, downwardly mobile people have lower SES and upwardly mobile people have higher. Sobal and Stunkard (1989) reviewed research suggesting that the prevalence

of obesity is higher amongst downwardly mobile women than for women who were socially stable or upwardly mobile. No relationship between social mobility and weight was found for men. The downward social mobility of fat women is thought to be due to perceptions of fat women as unattractive (Rothblum, 1992). In a review of more recent studies, Wardle et al. (2004) found that obesity increases the likelihood of downward social mobility in adolescents.

The research reviewed in this section suggests that fat persons are discriminated against in a variety of aspects of living, and that such discrimination leads to negative social and economic consequences. Interpersonal relationships and perceived attractiveness of fat persons will be discussed further in the next section.

2.4 Interpersonal Relationships and Attractiveness

Fat people report feeling discriminated against in social interactions. In Western society, fat people are rejected, teased, ridiculed, insulted, and stared at (Breseman, et al., 1999; Cossrow, et al., 2001; Crandall, et al., 2009; Grilo, Wilfley, Brownell, & Rodin, 1994; Myers & Rosen, 1999; Neumark-Sztainer & Eisenberg, 2005; Neumark-Sztainer, Story, & Faibisch, 1998; Thomas, Hyde, Karunaratne, Herbert, et al., 2008). From focus groups examining obese persons' experience and feelings, Murphee (1994) reported that all participants felt they were discriminated against due to their weight, and all had experienced disparaging comments about their weight. NAAFA members reported experiencing victimisation at school, including name-calling and exclusion by peers, and public humiliation and unequal treatment by teachers (Rothblum, et al., 1990). Rothblum et al. and Myers and Rosen (1999) found that very obese persons reported more victimising experiences than less heavy persons. Similarly Neumark-Sztainer and colleagues (2002) found that very overweight adolescents were most likely to be teased about their weight by peers and family members.

Some researchers have specifically asked respondents to indicate how likeable fat persons are compared to others. Obese children are chosen significantly less often than normal weight or thin children as preferred playmates or friends, and are rated less likeable, irrespective of the rater's weight (Cramer & Steinwert, 1998; Goldfield & Chrisler, 1995; Iwawaki, Lerner, & Chihara, 1977; Lerner, 1973; Lerner, Iwawaki, & Chihara, 1976; Lerner, Karabenick, & Meisels, 1975; Tiggemann & Anesbury, 2000; R. D. Young & Avdzej, 1979). Secondary and

university students also rate fat persons as less likeable than average weight persons (DeJong, 1980; Galper & Weiss, 1975).

Researchers have found that fat persons are rated as significantly less attractive than non-fat persons (Clayson & Klassen, 1989; Davis-Pyles, Conger, & Conger, 1990; DeJong, 1980; Galper & Weiss, 1975; Hebl & Mannix, 2003; Lundberg & Sheehan, 1994; Polinko & Popovich, 2001; Regan, 1996; Rothblum, et al., 1988). Several studies have found that most males and females would least prefer to look like a fat person, compared to thin or average weight body shapes (Butler, Ryckman, Thornton, & Bouchard, 1993; Collins & Plahn, 1988; Lerner & Korn, 1972). Indeed, studies examining the body shape preferences of children indicate that children as young as five years old indicate that they do not want to look like fat persons (Cramer & Steinwert, 1998; Lerner & Gellert, 1969; Lerner & Pool, 1972; Lerner & Schroeder, 1971; Staffieri, 1972). At the other end of the age spectrum, Portnoy (1993) found that elderly persons rated heavier figures as least attractive.

Perceptions of fat persons' value as romantic and sexual partners have also been researched. When fat persons were compared to members of other negatively evaluated social groups (e.g., persons with a criminal record), fat persons were considered less desirable as potential romantic partners (Sitton & Blanchard, 1995; Tiggemann & Rothblum, 1988). Moreover, Smith, Pruitt, McLaughlin, and Thelen (1986) found that male participants were much more likely to reject an obese female as a dating partner (43%) than as a friend (14%). Regan (1996) found that obese persons, particularly females, were perceived as less sexually desirable and less likely to have a current sexual partner than non-obese persons (see also Harris, 1990). These results are consistent with fat persons' self-reports that their fatness made them less sexually desirable and affected their intimate relationships (Harris, Waschull, & Walters, 1990; Stake & Lauer, 1987; Tiggemann & Rothblum, 1988). Not surprisingly, greater weight has been found to be related to greater loneliness (Lauder, Mummery, Jones, & Caperchione, 2006; Schumaker, Krejci, Small, & Sargent, 1985).

Television portrayals of fat persons also reflect societal perceptions of fat persons as romantic partners. Greenberg, Eastin, Hofschire, Lachtan, and Brownell (2003) found that overweight females (14%) and overweight males (24%) were grossly underrepresented in comparison to the number of obese persons in the

general population. When overweight characters were depicted, overweight male and female characters were less likely than non-overweight persons to have romantic interactions, be considered attractive, or have positive interactions. Puhl and Brownell (2003) note that “fat jokes are common on television, overweight characters can be cast in very negative ways in movies, and children’s cartoons can ridicule characters who are overweight” (p. 214). The impact of exposure to such representations have on anti-fat attitudes has been explored. For example, Latner, Rosewall, and Simmonds (2007) found that greater exposure to media (i.e., television, video games, magazines) was related to more negative reactions to obese peers.

2.5 Psychological Correlates of Fatness

Research on the relationship between fatness and psychological functioning has produced inconsistent results (Crandall, et al., 2009; Friedman & Brownell, 1995). Although some researchers found no relationship between psychological well-being and fatness in adults (e.g., Gortmaker, et al., 1993; Hayes & Ross, 1986), and children (e.g., Wadden, Foster, Brownell, & Finley, 1984), others reported lower self-esteem in overweight adolescent girls (Martin et al., 1988) and university students (Davis, Wheeler, & Willy, 1987). Overall, although most studies found no relationship between self-esteem and weight in children, obesity was related to lower self-esteem in adolescents and adults (Friedman & Brownell, 1995). The most consistent finding from research on the psychological correlates of fatness is that body image disturbance is related to fatness (Matz, Foster, Faith, & Wadden, 2002). Friedman and Brownell note that a relationship between body image dissatisfaction and obesity has been found in children, female adolescents, and women. Greater body image dissatisfaction has been reported by obese female college students (M. Young & Reeve, 1980), and obese women in treatment (Sarwer, Wadden, & Foster, 1998). Poorer physical self-concept was also found in obese adults (Jacobs & Wagner, 1984). While fatness may lead to deficits in psychological functioning, it is also possible that greater psychological dysfunction leads to fatness. For example, by conducting a meta-analysis of depression and weight status, Blaine (2008) found that people with depression were more likely to become fat than those without depression.

The inconsistent results of early studies led researchers to suggest that fatness was not related to increased psychological dysfunction (Brownell & Wadden, 1992). However, Friedman and Brownell (1995) suggested that some obese persons may experience negative psychological consequences while others do not; that “obese persons are heterogeneous with respect to psychological functioning” (p. 9; see also Thomas, Hyde, Karunaratne, Herbert, et al., 2008). Friedman and Brownell proposed that research should focus on determining risk factors for reduced psychological functioning in fat persons. Increased risk of poor psychological health (e.g., psychopathology, negative body image, lower self-esteem) in fat persons has been associated with being female (Carpenter, Hasin, Allison, & Faith, 2000), perceived weight-related teasing and stigmatisation (Matz, et al., 2002; Myers & Rosen, 1999; Neumark-Sztainer, et al., 2002; Thompson, Herbozo, Himes, & Yamamiya, 2005), internalisation of socio-cultural appearance standards (Matz, et al., 2002), and perception of oneself as a weight cyler (Foreyt et al., 1995; Friedman, Schwartz, & Brownell, 1998). Additionally, the review by Friedman and Brownell found that treatment-seeking obese persons displayed more psychopathology than obese persons in the general population (see also Sarwer & Wadden, 1999; Wadden, Brownell, & Foster, 2002).

Another risk factor which may differentiate among fat persons is binge eating. While approximately 15 to 20% of treatment-seeking obese persons report binge eating (Sarwer & Wadden, 1999), the prevalence of binge eating in obese persons in the general population is unknown. Obese persons who binge eat have reported greater levels of psychopathology, particularly affective disorders, than non-bingeing obese persons (Brownell & Wadden, 1992; Friedman & Brownell, 1995; Venditti, Wing, Jakicic, Butler, & Marcus, 1996). Binge eating has been found to mediate the relationship between weight cycling and psychological functioning (Venditti, et al., 1996).

Subjective perceptions of appearance may better predict psychological well-being in women than actual weight. In a study of Australian young adults, Tiggemann, Winefield, Winefield, and Goldney (1994) found that females’ subjective ratings of perceived weight were related to measures of psychological well-being, but their objective weight was not. Greater negative mood, depressed affect, lower self-esteem, and higher levels of minor psychiatric symptomatology were reported by women who perceived themselves as overweight. Similarly in a

study of Australian university students, Tiggemann (1994) found that females' actual weight was unrelated to self-esteem, but greater perceived overweight was related to lower self-esteem. Interestingly, self-esteem was related to greater actual weight and perceived overweight for males, suggesting that males who are, or perceive themselves to be, underweight experience poorer self-esteem. Stake and Lauer (1987) found that overweight persons did not report lower levels of performance self-esteem than average weight persons. However, these researchers did find that self-ratings of overall appearance were related to performance self-esteem for females, but not males.

2.6 Chapter Summary

In this chapter, evidence of differential treatment of fat persons in health care, education, and employment has been discussed. Additionally, it has been shown that the psychosocial experience of fat persons may include being belittled and considered by others as unattractive and undesirable in terms of interpersonal relationships. It has been suggested that such factors may contribute to the SES of fat persons by “potentially limiting their social and economic success” (Cossrow, et al., 2001, p. 208). Evidence also suggests that many fat people experience poorer psychological well-being. It is important to consider the psychosocial implications of fatness as “[h]ealth is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity” (World Health Organization, 1948). The following chapter will examine cognitive perceptions of, and reactions to, fat persons, in the form of stereotypical perceptions and attitudes.

CHAPTER 3 - FAT STEREOTYPES AND ATTITUDES

3.1 Stereotypes of Fat Persons

As social beings, humans form impressions of the people to whom they are exposed. Attitudes and behaviour toward other people are based on impressions and evaluations of them. The impressions we make of others are greatly influenced by stereotypes. Stereotypes are “widely shared assumptions about the personalities, attitudes and behaviours of people based on group membership” (Vaughan & Hogg, 1995, p. 34). Degree of fatness, like other aspects of physical appearance, is a visible characteristic that is easily accessible to perceivers forming impressions of others (Bovey, 1994; Butler, et al., 1993). Research on stereotyping suggests that participants from Western cultures share assumptions about the personality and behaviour of fat people, and the degree to which such qualities are socially desirable.

Four decades of research has examined stereotypic perceptions of fat persons held by children and adults. Overall, these studies indicate that fat persons are perceived as possessing many characteristics that are evaluated by others as negative or undesirable. Fat people are viewed as lacking self-control (e.g., gluttonous, self-indulgent, lack self-discipline, weak); lazy (e.g., inactive, unathletic, not goal-oriented); physically and psychologically unhealthy (e.g., sick, eating disordered, dependent, insecure, anxious); ineffectual (e.g., unsuccessful, inefficient, lack leadership qualities); stupid/unintelligent; ugly (e.g., unattractive, not appearance conscious, unfeminine/unmasculine); unpleasant (e.g., mean, dishonest, selfish, sloppy, dirty); socially inept (e.g., lack social skills and self-confidence, have few friends); and unhappy (e.g., sad, depressed) (Bellizzi & Norvell, 1991; Bessenoff & Sherman, 2000; Brodsky, 1954; Brylinsky & Moore, 1994; Butler, 1997; Butler, et al., 1993; Clayson & Klassen, 1989; Cogan, Bhalla, Sefa Dedeh, & Rothblum, 1996; Counts, Jones, Frame, & Jarvie, 1986; Davis-Pyles, et al., 1990; DeJong, 1980; Dibiase & Hjelle, 1968; Felker, 1972; Gacsaly & Borges, 1979; Galper & Weiss, 1975; Harris, Harris, & Bochner, 1982; Hepburn & Locksley, 1983; Jasper & Klassen, 1990b; Johnson & Staffieri, 1971; Keas & Beer, 1992; Kirkpatrick & Sanders, 1978; Klassen, Jasper, & Harris, 1993; Lerner, 1969a, 1969b; Lerner, Knapp, & Pool, 1974; Lerner & Pool, 1972; Powell, Tutton, & Stewart, 1974; Ryckman, Butler, Thornton, & Lindner, 1997; Ryckman, Robbins, Kaczor, & Gold,

1989; Staffieri, 1967, 1968, 1972; Stager & Burke, 1982; Tiggemann & Anesbury, 2000; Tiggemann & Rothblum, 1988, 1997).

To a lesser extent, the fat stereotype also includes some socially desirable characteristics. Research indicates that fat people are perceived to be kind, warm, caring, friendly, happy and humorous (e.g., Bessenoff & Sherman, 2000; Butler, et al., 1993; Cogan, et al., 1996; Davis-Pyles, et al., 1990; Lerner, et al., 1974; Ryckman, et al., 1997). Interestingly, there seems to be some ambivalence in perceptions of fat persons. For example, fat people are stereotyped as sad and happy, agreeable and disagreeable, and introverted and extroverted (Butler, et al., 1993). Based on the presence of ambivalent fat stereotypes, Butler and colleagues suggested that fat subtype stereotypes might be used to categorise fat persons. These stereotypes can be either desirable or undesirable. In support of this hypothesis, Ryckman and colleagues found that fat persons are commonly subtyped as couch potatoes (i.e., lazy and boring) and slobs (i.e., lazy, dirty, sloppy and ugly), both considered socially undesirable. Specific subtypes for fat males also included the undesirable bully subtype (i.e., mean, aggressive, and selfish), and the favourable clown (i.e., humorous, happy, and extroverted) and Santa Claus (i.e., caring, happy, generous) subtypes. A favourable Mother subtype (i.e., like Santa Claus but also strong-willed and responsible) was also generated for fat females. In support of the Mother subtype, Bessenoff and Sherman found that male and female North American psychology students rated the trait ‘maternal’ as significantly more characteristic of fat women than slim women.

Stereotypic perceptions of fat persons are generally consistent across a wide range of samples. Both adults and children stereotype fat persons, with even kindergarten children reporting negative stereotypes of fat persons (Brylinsky & Moore, 1994). Overall, research on the perceptions of fat people indicates that male and female raters hold similar fat stereotypes (Butler, et al., 1993; Counts, et al., 1986; Lerner, 1969a, 1969b; Lerner & Pool, 1972; Ryckman, et al., 1997; Ryckman, et al., 1989; R. D. Young & Avdzej, 1979), and that male and female fat stimuli are perceived similarly (Brylinsky & Moore, 1994; Butler, et al., 1993; Felker, 1972; Harris, et al., 1982; Ryckman, et al., 1997; Ryckman, et al., 1989; Stager & Burke, 1982; Tiggemann & Anesbury, 2000; Wright & Bradbard, 1980). However, Tiggemann and Rothblum (1988, 1997) found that students from Australia and the United States tended to report more negative stereotypes of obese women than obese

men. Additionally, similar stereotypes were reported by both fat and non-fat persons (e.g., Counts, et al., 1986; Dibiase & Hjelle, 1968; Lerner & Korn, 1972; Staffieri, 1967; Tiggemann & Anesbury, 2000; Tiggemann & Rothblum, 1988). Therefore, unlike other social groups, fat persons do not seem to have an in-group bias; that is, they generally do not view their group more favourably than do non-fat persons (Tiggemann & Anesbury, 2000). However, Bell, Kirkpatrick, and Rinn (1986) did find that an obese figure was rated more favourably by obese female raters than by average weight and anorexic female raters.

Although much of the fat stereotyping research has been conducted in the United States, Australian university students (Harris, et al., 1982) and Australian children (Tiggemann & Anesbury, 2000) report similar stereotypes to those of North American samples. Tiggemann and Rothblum (1988, 1997) conducted two studies comparing the fat stereotypes of North American and Australian psychology students. Although students from both nations reported similar evaluations of fat persons, there were some differences between the samples. For example, students from the United States tended to report that fat persons and thin persons differed more in ratings of laziness and attractiveness than Australian students (Tiggemann & Rothblum, 1988).

3.2 Hostile Anti-Fat Attitudes

Generally, an attitude can be defined as a “general feeling or evaluation - positive or negative - about some person, object or issue” (Vaughan & Hogg, 1995, p. 72). Psychological definitions of attitudes vary in terms of the importance given to beliefs, feelings, evaluations, and behavioural intentions. The term prejudice has been used to describe negative attitudes toward persons who are members of a social group (Reber, 1995; Vaughan & Hogg, 2008). Allport (1954) describes prejudice as “an avertive or hostile attitude toward a person who belongs to a group, simply because he belongs to that group, and is therefore presumed to have the objectionable qualities ascribed to the group” (p. 7). Therefore, negative attitudes are based on the assumption that individual members of the social group in question possess the stereotypic characteristics ascribed to their social group (Reber, 1995; Vaughan & Hogg, 2008).

Explicit prejudice toward fat persons has been conceptualised in two ways. A number of researchers have suggested that anti-fat attitudes are reflected in the

degree to which an individual holds socially undesirable stereotypic beliefs about fat people (e.g., Allison, et al., 1991; Harris, et al., 1990; Robinson, Bacon, & O' Reilly, 1993). For example, Robinson and associates developed the Fat Phobia Scale (FPS) to measure “a pathological fear of fatness often manifested as negative attitude and stereotypes about fat people” (p. 468). In order to measure fat phobia, participants are presented with 50 adjectives and their antonyms and are asked to rate fat people on a 5-point scale between these adjectives. In a large student and community sample in the United States, Robinson and colleagues found that, on average, participants rated fat persons as undisciplined, inactive, and unappealing; and as having emotional and psychological problems. In three samples of United States participants, Harris and colleagues (Harris, Walters, & Washull, 1991a, 1991b; Harris, et al., 1990) found that substantially overweight men and women were rated as significantly more negative than the neutral mid-point of the stereotype-attitude measure employed. Using measures of positive and negative attributes, Brochu and Morrison (2007) found that overweight persons were assigned more negative traits and fewer positive traits, compared to average weight persons.

Alternatively, other researchers have measured negative affective reactions to fat persons as an indication of negative attitudes toward fat persons. Such measures of anti-fat attitudes have been developed by Crandall and Biernat (1990), Crandall (1994), and Morrison and O'Connor (1999). Morrison and O'Connor report that 43% of Canadian secondary student participants agreed that, “[i]t is disgusting when a fat person wears a bathing suit at the beach”. Using a novel approach to measuring affective reactions to fat persons, Hiller (1981, 1982) found that more stories written in response to overweight pictures were negative than positive, with more of these stories containing unpleasant characters than pleasant characters.

Conflicting results have been found in research examining the relationships of participant gender, weight, and age, with anti-fat attitudes. Research employing stereotype-based attitude scales shows that males' and females' anti-fat attitudes are either not significantly different (Harris, et al., 1982; Harris, et al., 1991a, 1991b; Harris, et al., 1990; Teachman, Gapinski, Brownell, Rawlins, & Jeyaram, 2003), or that females report more negative attitudes toward fat persons (Allison, et al., 1991; Robinson, et al., 1993). Generally, researchers employing measures of negative affective reactions report that males dislike fat persons more than females do (Brochu & Morrison, 2007; Crandall, 1994; Glenn & Chow, 2002; Morrison & O'

Connor, 1999; Perez-Lopez, Lewis, & Cash, 2001). However, Crandall and Biernat (1990) found significantly more negative attitudes reported by female than male students on their measure of negative affective reactions to fat persons. Using the same attitude measure as Crandall (1994), Crandall and Martinez (1996) did not find a relationship between gender and dislike of fat persons. With regard to target gender, Brochu and Morrison (2007) generally found that attitudes toward male and female targets did not differ significantly.

Conflicting results have also been reported regarding the relationship between participant weight status and anti-fat attitudes. Most researchers have found no or minimal relationship between respondent weight and anti-fat attitudes (Allison, et al., 1991; Brochu & Morrison, 2007; Crandall, 1994; Crandall & Biernat, 1990; Crandall et al., 2001; Glenn & Chow, 2002; Harris, et al., 1991a, 1991b; Perez-Lopez, et al., 2001). Crandall suggests that the lack of in-group bias found with regard to anti-fat attitudes suggests that prejudice toward fat persons is not influenced by self-interest. Although Crandall's assertions have generally been supported, two studies have found that fatter participants reported less anti-fat attitudes. Morrison and O'Connor (1999) reported that the fattest 25% of their respondents had significantly lower anti-fat attitudes than the remaining 75% of respondents. Similarly, Robinson and colleagues (1993) found that underweight and average weight participants reported greater anti-fat attitudes than overweight participants.

Fewer studies have explored the relationship between participant age and anti-fat attitudes. These studies have all employed stereotype-based attitude scales. Although two studies (Allison, et al., 1991; Teachman, et al., 2003) did not find a relationship between age and anti-fat attitudes, Robinson and colleagues (1993) found that younger participants reported greater fat phobia attitudes than older participants (i.e., 55 years and older). The current research will explore the relationships between respondent gender, weight, and age, and anti-fat attitudes.

Implicit anti-fat attitudes of adults have also been explored. While explicit anti-fat attitudes are gauged via conscious self-report, implicit attitudes are beyond conscious awareness, and are evaluated using computerised tests of automatic associations, such as assessing reaction times for concept classification tasks (e.g., words, images). Implicit anti-fat attitudes also differ from explicit anti-fat attitudes in that they are evaluated relative to attitudes toward thin or average weight persons (M. B. Schwartz, Chambliss, Brownell, Blair, & Billington, 2003; Teachman &

Brownell, 2001; Teachman, et al., 2003). Teachman et al. found that community participants associated fat persons with laziness, stupidity, and badness on implicit measures, but did not endorse explicit anti-fat attitudes. Similarly, female university students reported associations between badness and worthlessness and fat persons. Robertson and Vohora (2008) found both implicit and explicit anti-fat attitudes in exercise professionals and students who regularly exercise. Using implicit anti-fat attitude tasks, other researchers have found that fat people are associated with disease and unpleasantness (Park, Schaller, & Crandall, 2007); negative attributes (Ahern & Hetherington, 2006; Brochu & Morrison, 2007); bad, stupid, worthless, blameworthy, incompetent, and lazy (Gapinski, Schwartz, & Brownell, 2006); and bad, lazy, and stupid (O'Brien, Hunter, & Banks, 2007); and are considered unsuited to employment that involves interpersonal contact (Venturini, et al., 2006).

3.2.1 Social Acceptability of Hostile Anti-Fat Attitudes

Unlike other social attitudes (e.g., racism and sexism), fat prejudice does not seem to be restrained by social norms of political correctness (Bessenoff & Sherman, 2000; Crandall, 1994; Crandall & Biernat, 1990; Morrison & O' Connor, 1999; Robinson, et al., 1993). In order to compare the degree to which attitudes toward African Americans and fat people are influenced by social desirability norms in the United States, Crandall determined the percentage of participants who responded in the least negative way to all items measuring racism and anti-fat attitudes. Although nearly 10% of participants responded in a politically correct manner to all racism items, only 2.94% of participants responded in the least prejudiced manner to all anti-fat attitude items. Other research has shown that anti-fat attitudes are influenced by social norms. Perez-Lopez and associates (2001) found an inverse association between anti-fat attitudes and a measure of social desirability, such that participants who responded in a more socially desirable manner tended to report lower anti-fat attitudes. Crandall et al. (2009) suggests that there are social norms that suppress expression of anti-fat attitudes, but that these are significantly weaker than the social norms that influence other social attitudes, such as sexism or racism.

The association between fatness and various health risks seems to give legitimacy to social disapproval of fat persons (Conrad, 1997). Obesity is related to increased mortality (Allison, Fontaine, Manson, Stevens, & Van Itallie, 1999; Zerbe, 1995), reduced longevity (Fontaine, Redden, Wang, Westfall, & Allison, 2003), and

higher risk of hypertension, stroke, Type 2 diabetes, cardiovascular disease, gallbladder disease, certain cancers (e.g., breast, endometrial, colon, thyroid, and kidney), sleep apnoea, and exacerbation of osteoarthritis (Faith, Fontaine, Cheskin, & Allison, 2000; Kawachi, 1999; Murphree, 1994; Renehan, Tyson, Egger, Heller, & Zwahlen, 2008; Wadden, et al., 2002; World Health Organization, 2003). Therefore, anti-fat attitudes may seem justified as they are consistent with the emphasis placed on health and physical fitness in Western culture. Thus, if fatness is a risk to long-term health, then people may believe that fat people should do something to become healthier (Batson, Shaw, & Slingsby, 1991; Brownell, 1991b; Finerman & Bennett, 1995; Tiggemann & Anesbury, 2000).

3.2.2 The Complex Relationship between Fatness and Health

At this juncture, it is important to emphasise that the relationship between fatness and health is complex. Health risks associated with weight vary as a function of the degree of fatness, with some research suggesting that mild to moderate degrees of being overweight and obese are less likely to result in health risks than being underweight (Rothblum, 1990; Zerbe, 1995). A J- or U-shaped association between BMI and mortality is generally found (Yang, Fontaine, & Allison, 2003). It is important to note that relationships between fatness and health risks are correlational and do not indicate that increased body weight causes health consequences (J. Rodin, Silberstein, & Striegel Moore, 1984; Wooley & Wooley, 1979). The health consequences of fatness are also plagued by methodological difficulties, such as the use of indirect measures such as BMI to ascertain amount of body fat (Prentice & Jebb, 2001), and difficulties in isolating the effects of obesity from conditions that led to the initial development of obesity (World Health Organization, 2003).

Social factors may also contribute to the relationship between weight and health risks. It has also been suggested that the relationship between weight and some medical outcomes could be mediated by social factors, such as income (Rothblum, 1992), stress responses to stigmatisation and discrimination (Bovey, 1994; Brown, 1989; Lyons, 1989; Teachman, et al., 2003; Wooley & Wooley, 1979; Wooley, Wooley, & Dyrenforth, 1979), and tendency to exercise less (and therefore be less healthy) due to the reactions of others (e.g., verbal harassment) leading to embarrassment and self-consciousness (Alm et al., 2008; Cossrow, et al., 2001; Packer, 1989; Thomas, Hyde, Karunaratne, Kausman, & Komesaroff, 2008).

Furthermore, attempts by fat persons to lose weight may increase health risks (Aphramor, 2009; Ikeda et al., 1999). Indeed, medical researchers have found a relationship between weight fluctuation (i.e., loss and/or gain) and health risks, such as diabetes, coronary heart disease, and all-cause mortality (Andres, Muller, & Sorkin, 1993; I. M. Lee & Paffenbarger, 1992; Mann et al., 2007; Newman et al., 2001). In a sample of persons aged 40 and over, weight loss was correlated with all-cause mortality, even when smoking, sedentary lifestyle, and age were statistically controlled (Wedick, Barrett-Connor, Knoke, & Wingard, 2002). In a review of epidemiological studies, Sorensen (2003) concludes that “weight loss may cause increased mortality among healthy overweight and obese subjects. In particular, intentional weight loss may lead to increased mortality” (p. 6). Fat persons frequently attempt to lose weight by dieting (Thomas, Hyde, Karunaratne, Kausman, et al., 2008). Overweight and obese persons report more frequent dieting than average weight persons (Crawford & Campbell, 1998), and obese males and females were more likely to describe themselves as weight fluctuators than non-obese males and females, respectively (Foreyt, et al., 1995). Therefore, weight loss behaviour undertaken to reduce the health risks associated with fatness may contribute to increased health risk and mortality.

Furthermore, obese women have been found to be less likely to undergo preventive health screening (e.g., Papanicolaou smear, clinical breast examination, gynaecologic examination) than non-obese women (S. S. Cohen et al., 2008; Fontaine, Faith, Allison, & Cheskin, 1998; Fontaine, Heo, & Allison, 2001; Østbye, Taylor, Yancy, & Krause, 2005). Such screening procedures are vital for early detection of cancer, and reluctance to engage in such measures may contribute to higher rates of cancer and cancer-related mortality among fat persons. It has been suggested that the reluctance of women to engage in preventive cancer screening may result from a combination of factors, including the body image of fat women and health professionals’ fat stereotypes and attitudes (Fontaine, et al., 1998; Yanovski, 1998). The relationship between fatness and health outcomes is complex and many environmental, social, and behavioural factors may mediate the relationship between fatness and health outcomes. The preceding discussion suggests that the relationship between fatness and health is more complex than simplistic notions that being fat is unhealthy.

3.2.3 Health Professionals' Fat Stereotypes and Anti-Fat Attitudes

Considerable research has focused on the anti-fat attitudes and stereotypes of fat persons held by health professionals. Research suggests that health and mental health professionals believe that fat is controllable and hold negative attitudes towards fat people (Breseman, et al., 1999; Bruere & O'Connor, 1999; Robinson, et al., 1993). Physicians, medical students, and nurses have reported stereotypic perceptions and beliefs about fat persons, such as fat people lack self-control, and are over-indulgent, lazy, sad, ugly, psychologically disturbed, and low in self-confidence (Bagley, Conklin, Isherwood, Pechiulis, & Watson, 1989; Breytspraak, McGee, Cohen Conger, Whatley, & Moore, 1977; Hebl & Xu, 2001; Kristeller & Hoerr, 1997; Maddox & Liederman, 1969; Maroney & Golub, 1992). Physicians, psychologists, nurses, dieticians, and school sports coaches have been found to report anti-fat attitudes on attitude scales (Bagley, et al., 1989; C. M. Garner & Nicol, 1998; Griffin & Harris, 1996; Harvey & Hill, 2001; Oberrieder, Walker, Monroe, & Adeyanju, 1995; Peternej-Taylor, 1989). In contrast, as in general samples, health care professionals have been found to rate fat persons as warm and kind (Agell & Rothblum, 1991; Breytspraak, et al., 1977). Harvey, Summerbell, Kirk, and Hill (2002) found that British dieticians reported generally neutral to positive attitudes toward overweight and obese persons, with obese persons rated significantly more negatively than overweight persons. Fat persons' self-esteem, sexual attractiveness, and health were rated least positively. Harvey and Hill also report that extremely overweight persons were rated more negatively than moderately overweight persons by physicians and psychologists (see also Hebl & Xu, 2001).

Psychologists and mental health workers have also been found to report unfavourable perceptions of fat persons and attribute more symptomatology to obese persons than non-obese persons. Several studies have examined mental health professionals' attitudes toward the same client case study and/or photograph altered to represent fat or non-fat persons. Agell and Rothblum (1991) examined practicing American Psychological Association (APA) members' attitudes toward obese clients. The results suggest that participants view obese clients as having poorer appearance (e.g., more sexually repulsive, fatter, clumsier), and being more embarrassed (e.g., more self-conscious) than non-obese clients. A study conducted by Davis-Coelho, Waltz, and Davis-Coelho (2000) examined APA members' beliefs about treating a

fat client compared to treating a non-fat client. Psychologists were more likely to diagnose the fat client as eating disordered, and suggested that improving body image and increasing sexual satisfaction were more likely treatment goals for the fat client, compared to the non-fat client. Young and Powell (1985) asked North American mental health workers to make judgments about a case study paired with a photograph. The obese client was judged to have significantly more psychological dysfunction than the overweight or average weight client. Specifically, the obese client was rated as significantly more emotional, agitated, unhygienic, obsessive-compulsive, self-injurious, inappropriate (behaviour), stereotyped (behaviour) and impaired (judgment), than both overweight and average weight clients. Hassel and colleagues (2001) found that mental health professionals assigned more psychopathology, significantly lower Global Assessment of Functioning scores, and more negative stereotypes to hypothetical overweight clients than average weight clients.

The implicit anti-fat attitudes of health professionals have been explored. Teachman and Brownell (2001) found that obesity specialists associated fat people with badness and laziness, and thin people with goodness and motivation. Similarly, Schwartz et al. (2003) found that obesity specialists associated laziness, stupidity, and worthlessness with obese persons, on both implicit and explicit measures. Additionally, obese persons were associated with badness on implicit measures.

3.3 Chapter Summary

Previous research examining perceptions of, and reactions to, fat persons has focused on socially undesirable stereotypic perceptions of fat persons (e.g., lazy), and hostility or antipathy toward fat persons. Although generally undesirable, stereotypes of fat persons also include some positive attributes (e.g., warmth). A range of measures has been employed to capture anti-fat attitudes, focusing on either stereotypic perceptions or antipathy toward fat persons. Research employing these measures has produced inconsistent results regarding the relationships between anti-fat attitudes and participant characteristics, such as gender, weight, and age. The current research will explore the relationships between respondent gender, weight, and age, and anti-fat attitudes. In this chapter, it was suggested that anti-fat attitudes seem to be more socially acceptable than other social attitudes (e.g., racism), and that the association between fatness and various health risks seems to give legitimacy to

social disapproval of fat persons. The complex nature of the relationship between fatness and health risks was discussed. The following chapter will explore research examining beliefs about fat persons and the attributions that people make regarding fatness, and the relationships of such beliefs and attributions to anti-fat attitudes and affective reactions to fat persons.

CHAPTER 4 - BELIEFS AND ATTRIBUTIONS ABOUT FATNESS AND FAT PEOPLE

4.1 Beliefs about Fatness and Fat Persons

Although research shows that fatness is a complex condition influenced by genetic, physiological, environmental, and socio-cultural factors (Faith, et al., 2000; Gard & Wright, 2005), fatness is often solely attributed to the behaviour and character of fat individuals; in particular, laziness and overeating, the sins of sloth and gluttony respectively. Fat people are viewed as responsible for becoming fat (i.e., self-induced), and fatness is believed to be curable. Perceptions that fatness is readily preventable and curable result in attributions that fat people lack qualities which are considered necessary for achieving and maintaining normal weight, such as willpower and self-control, or that fat persons have not tried very hard to lose weight, or both (DeJong, 1980; Furnham & McDermott, 1994; Harris, et al., 1990; Rothblum, 1990; Tiggemann & Anesbury, 2000).

Teachman and colleagues (2003) found that 59% of respondents recruited from a North American beach indicated that an internal cause, such as overeating, was the primary reason for obesity. Similar beliefs have been reported by Australian samples. A study of Victorian rural adults (Crawford & Campbell, 1998) found beliefs that weight is under personal control, weight gain is the fault of the individual, fat people lack willpower, and that failure to lose weight is due to lack of effort. Similarly, Melbourne residents believed that weight was under personal control (Paxton & Sculthorpe, 1999). Therefore, it seems that fat persons are often believed to be personally responsible for the onset of their fatness and personally responsible for staying fat (Maddox, Back, & Liederman, 1968).

A range of professionals have reported that lifestyle factors are the principal causes of fatness. While poor eating habits have been identified by school staff (i.e., principals, nurses, and food-service directors) as major determinants of fatness in children, genetic factors were only endorsed by approximately half of those surveyed (Price, Desmond, Ruppert, & Stelzer, 1987; Price, Desmond, & Stelzer, 1987; Price & Telljohann, 1994). Similarly, Hare, Price, Flynn, and King (2000) reported that less than half of a sample of fitness professionals indicated that genetics influenced fatness. English physicians and psychologists indicated that physical inactivity was

the most important cause of overweight, while genetic factors and environmental factors (e.g., socioeconomic status) were rated less important (Harvey & Hill, 2001). Lifestyle factors were also rated as more important contributors to obesity than biological factors by female British nurses who believed that obesity was both preventable and treatable (Hoppé & Ogden, 1997).

4.1.1 What Causes Fatness?

As stated earlier, research shows that fatness is a complex condition influenced by genetic, physiological, environmental, and socio-cultural factors (e.g., Faith, et al., 2000). While it is generally assumed that the etiology of fatness is well understood by scientists, this is not the case (Austin, 1999; Gard & Wright, 2005; Wang, 2008). Each individual's weight results from an idiosyncratic combination of complex factors (Komesaroff & Thomas, 2007). As such, Brownell and Wadden (1992) note that “[o]besity is a heterogeneous disorder with multiple etiologies ...” (p. 505).

It has been suggested that the currently high rates of obesity are due to aspects of Western cultures (e.g., built and food environments) which promote obesity through “toxic” (Wadden, et al., 2002) or “obesogenic” environments (Lake & Townshend, 2006). People in modern society tend to be less active than in previous centuries. Western society is highly mechanised, with the advent of and wider access to cars, energy saving devices, and audiovisual entertainment. Additionally, people consume a greater percentage of calories as fat, and have ready access to foods with high calorie density such as takeaways (Brownell & Wadden, 1991; Komesaroff & Thomas, 2007; Serdula et al., 1999).

Although self-report and field studies indicate that obese people do not eat more than non-obese persons (for reviews see Austin, 1999; Sobal & Stunkard, 1989), and may in fact eat less, many researchers suggest that these results are due to underreporting by obese persons (McLennan & Podger, 1998). This proposition is supported by more recent research employing biochemical measurement techniques, which suggested that fat persons on average do consume more than non-fat persons (Brownell & Wadden, 1992; Faith, et al., 2000). Additionally, research suggests that on average, obese persons are less physically active than non-obese persons (Brownell & Wadden, 1992; Sobal & Stunkard, 1989). However, it is not clear whether lower physical activity contributes to fatness or is a consequence of fatness

(Brownell & Wadden, 1992; Rice, 2007). Although lifestyle factors, particularly eating and exercise, do contribute to fatness, it would be erroneous to assume that all fat persons lack exercise and/or overeat (Brownell & Wadden, 1991), just as it would be erroneous to assume that all non-fat weight persons eat healthy, appropriate portions of food and regularly engage in exercise.

It seems that people do become fat when energy intake is greater than energy expenditure; however, the amount of volitional physical activity engaged in by an individual is not the only source of energy expenditure. Energy is also expended through processes over which individuals do not have control and which vary between individuals. It is estimated that genes account for 25% to 70% of the variance in body mass (Wadden, et al., 2002; Wang, 2008). Genetic predispositions to obesity influence weight through differences in energy expenditure via processes such as metabolism, fat cell number, and physiological response to excess caloric intake (Brownell & Wadden, 1992; Sobal & Stunkard, 1989; Wadden, et al., 2002). Stunkard et al. (1986) found that the weight of adult adoptees was highly correlated with the weight of their biological parents, but unrelated to weight of adoptive parents. Interestingly, Brownell and Wadden (1991) note that early onset of fatness is considered more indicative of biological predisposition to be heavier than adult onset, and timing of onset has been found to differentially relate to biological and psychological variables (Allison & Heshka, 1993). Therefore, despite strong beliefs that fat people are responsible for their fatness, fatness seems to be caused by both factors that individuals have control over, and others they cannot control.

4.1.2 Is Fatness Curable?

Beliefs that weight loss is easily achievable by simply eating less, exercising more and using self-control and willpower and that fatness is medically correctable are widespread (Aphramor, 2009; Austin, 1999; Blaine, Diblasi, & Connor, 2002; Brown, 1989; Bruere & O'Connor, 1999; Kristeller & Hoerr, 1997). Such beliefs are common despite much research showing limited long-term maintenance of weight loss for various types of weight reduction programmes (Cogan & Rothblum, 1992; Ikeda, et al., 1999; Kristeller & Hoerr, 1997; Murphree, 1994; M. A. Schwartz, 1984; Snow & Harris, 1995). Diets can result in short-term weight reduction (Mann, et al., 2007). Research shows that people in pharmacological and behaviour therapy weight loss treatment programs lose an average of 10% to 15% of initial weight

(Wadden, et al., 2002; Wadden et al., 2003). However, on average, one third of this weight has been regained one year after treatment is terminated, and most patients have returned to their pre-treatment weight (or a higher weight) within 3 to 5 years of treatment ending (Faith, et al., 2000; Jeffery et al., 2000). A review by Ayyad and Andersen (2000) suggests that only 15% of weight-loss is successfully maintained at long-term follow-up. In a review of weight loss intervention studies, Mann et al. (2007) found that an average weight loss of only 1.1kg was maintained by diet participants at follow-up. Furthermore, Mann et al. reported that, on average, 41% of participants weighed more at follow-up than before intervention in longitudinal observation studies. These authors suggest that all research exploring diet interventions overestimates follow-up success rates for various reasons including selective attrition, self-reports of weight, and confounds with effects of exercise. Both biological and behavioural determinants have been proposed to explain lack of long-term weight-loss maintenance (Jeffery, et al., 2000). Although little research has explored the efficacy of commercial weight loss programs, Fatis, Weiner, Hawkins, and Van Dorsten (1989) reported that only 28% of clients whose before and after photographs and testimonials had been used to promote a commercial program, had successfully maintained their weight loss after 20 months. Brownell (1991b) notes that “[d]ieting is an example of how the expected degree of personal control and responsibility exceeds biological realities” (p. 308).

4.2 The Relationship between Controllability Beliefs and Anti-Fat Attitudes

Research conducted in the attitude field has shown that beliefs about the controllability of fatness are related to anti-fat attitudes. Crandall and colleagues (Crandall, 1994; Crandall & Biernat, 1990; Crandall & Martinez, 1996) proposed that prejudice towards fat persons, akin to symbolic racism, results from a “social ideology or worldview that is marked by a characteristic tendency to hold an individual responsible for all of the outcomes in his or her life” (Crandall & Martinez, 1996, p. 1165), or “an ideology of blame” (Crandall, 1994, p. 882). These researchers suggested that such an ideology underlies the tendency to believe that fatness is under personal control, and in turn, controllable beliefs (or attributions; see section 4.3) lead to anti-fat sentiment. In support of this ideological basis for anti-fat attitudes, Crandall and colleagues have demonstrated that anti-fat attitudes are related to other prejudices (e.g., racism and homonegativity) and a range of conservative

ideological variables (e.g., political conservatism, authoritarianism, beliefs in a just world, and Protestant ethic values), as well as beliefs that fatness is controllable. Crandall developed a Willpower subscale measuring the degree to which respondents view weight and fat as controllable. Crandall found that this subscale was positively correlated ($r_s = .37$ to $.60$, $p < .001$) with their Dislike subscale (see chapter 3) such that individuals who believe that fat individuals can control their weight tend to hold negative attitudes toward fat persons.

Crandall and Martinez (1996) and Crandall et al. (2001) found that Willpower and Dislike were positively correlated in American, Mexican, Australian, Indian, Polish, Turkish, and Venezuelan samples. Crandall et al. (2001) evaluated an attribution-value model of prejudice “which hypothesizes that people are prejudiced against groups that they feel have some negative attribute for which they are held responsible” (p. 30). These researchers examined anti-fat attitudes, beliefs, and values within cultures categorised as individualistic (i.e., United States, Australia, and Poland) and collectivist (i.e., India, Turkey, and Venezuela). Crandall and colleagues found that both controllability beliefs and negative cultural value of fatness predicted hostile anti-fat attitudes, and that the presence of both of these factors predicted greater fat prejudice than either alone.

Bessenoff and Sherman (2000) also found a positive relationship between Crandall’s (1994) Dislike and Willpower scales with North American university students. Similar relationships had previously been found by Allison et al. (1991) using their Attitudes Toward Obese Persons Scale (ATOP) and the Beliefs About Obese Persons Scale (BAOP; $r_s = .40$ to $.45$, $p < .001$). The scores of males and females on Crandall’s Willpower scale (see also Crandall & Martinez, 1996) and Allison et al.’s BAOP did not differ significantly, and scores on the BAOP were unrelated to relative weight of respondents. Although Allison et al. found that age was not related to BAOP scores in graduate and undergraduate student samples, older NAAFA members tended to report greater belief in the controllability of fatness.

A limitation of such attitude research is the lack of differentiation between beliefs about controllability and changeability of fatness. Controllability measures used by some researchers combine personal responsibility for becoming fat (controllability), and degree to which a fat person can reduce fatness (changeability) into a single scale. For example, Crandall’s Willpower scale is comprised of one

item measuring responsibility (“Fat people tend to be fat pretty much through their own fault”), one item measuring ability of fat person to reduce weight (“People who weigh too much could lose at least some part of their weight through a little exercise”), and another item reflecting both of these issues (“Some people are fat because they have no willpower”). In contrast, Allison et al.’s BAOP scale only includes items reflecting fat individuals’ control over becoming fat. This conceptual difference may account for the poorer internal consistency of the Willpower scale compared to the BAOP scale. Despite the advantages of the BAOP for measuring controllability attributions, Allison et al. did not examine the role of changeability beliefs in predicting anti-fat attitudes. An aim of the present research is to extend on prior attitude research by examining the role of changeability beliefs in predicting anti-fat attitudes.

Fat people are viewed as responsible for becoming fat and these controllability beliefs are related to anti-fat attitudes. Regardless of the factors contributing to fatness, such beliefs do not justify the prejudice and discrimination that is directed toward fat persons. Faith and colleagues (2000) note that “whatever the causes of overweight are, be they internal or external, obese persons deserve to be treated with respect and not discriminated against” (p. 483). The relationships between beliefs about fatness and affective responses toward fat persons have also been explored in the attribution field.

4.3 Attribution

People seek to understand why people, both themselves and others, behave in certain ways, and why certain outcomes occur (Vaughan & Hogg, 2008). Attributions, like stereotypes, are aspects of social perception that enable individuals to make meaningful sense of the copious amount of social information that they observe (Weiner, 1985). An attribution can be defined as “an inference about why an event occurred or about a person’s dispositions or other psychological states” (Weary, Stanley, & Harvey, 1989, p. 3). Attributions are made about oneself (i.e., self-perception) or other people (i.e., person perception). It is important to emphasise that attributions are the “perceived reason[s] why a particular outcome has occurred” (Weiner, 1991, p. 167), and as such do not imply objective reality, but social reality (Davies, 1997). Heider, a pioneer of attribution theory, emphasised that attributions are social constructions, whereby perceived stimuli are “actively

interpreted against a background of subjective forces such as past experiences, wishes, needs, and future expectancies. [Attributions] will arise that best fit the stimulus conditions and internal systems of evaluations or meanings” (Weary, et al., 1989, p. 7). Deliberate searching for causes of a behaviour or outcome may be unnecessary in many instances as social information, such as stereotypes and beliefs, may be used to explain perceived behaviours and outcomes. Therefore, if an observer already possesses a social stereotype for fat persons, he or she may use information contained in that stereotype to explain why the person is fat, rather than engaging in more deliberate causal inference processes (Weiner, 1991, 1993). Attribution theories describe the processes by which people explain behaviour, or more specifically, how people infer the causes of human behaviour (Vaughan & Hogg, 2008). Attribution theory is a collection of related models rather than a single integrated theory (for a review of attribution theories see Fiske & Taylor, 1991), which focus on both the processes of making attributions and the consequences of attributions (Davies, 1997; Eiser, 1983; Weary, et al., 1989).

4.3.1 Weiner’s Attributional Theory

The basic tenets of Weiner’s theory are that the perceived causes of an outcome can be classified as internal or external (locus), stable or unstable (stability), and controllable or uncontrollable (controllability), and that attributional consequences (e.g., affective reactions and future outcome expectancies) can be predicted from the locus, stability, and controllability of perceived causes. Attributions are considered to have internal locus if outcomes are causally attributed to some aspect of a person. For example, a person’s fatness may be attributed to his or her lack of self-control. Attributions with an external locus explain an outcome as due to factors external to a person, such as situational and environmental factors. Weiner’s stability dimension reflects the degree to which a cause is invariable over time and across contexts. That is, if a cause is stable, it will be unchangeable. For example, genetic inheritance would be considered a stable cause, whereas effort would be considered unstable. The controllability dimension refers to the degree to which a cause is believed to be within the control of an individual. For example, one’s food intake is something that is considered controllable, whereas glandular dysfunction may be considered uncontrollable (Weiner, 1991).

Weiner's theory was originally developed to explain the consequences of self-attributions for outcomes of achievement success or failure. However, this theory has also been applied to understanding the consequences of causal attributions that observers make about other persons' outcomes (i.e., person perception), such as observers' affective reactions to an observed person and behaviour toward an observed person (Weiner, et al., 1988). For example, research on the factors influencing prosocial behaviour suggests that individuals are less likely to help persons who are perceived to be responsible for causing the outcome with which they require help, than persons who are not deemed responsible (Montada & Bierhoff, 1991). Furthermore, people are likely to feel anger toward a person in need when negative outcomes are perceived to be self-inflicted, whereas uncontrollable outcomes elicit sympathy and pity (Weiner, 1993; Weiner, Graham, & Chandler, 1982; Weiner, et al., 1988; Yirmiya & Weiner, 1986).

Weiner (1993) has proposed a general theory of social motivation, which suggests that "causal beliefs and the assignment of responsibility generate feelings of anger and sympathy that, in turn, direct social conduct toward others" (p. 957). Therefore, the relationship between attribution and social behaviour is mediated by emotion. Schmidt and Weiner (1988) describe this sequence as "thinking → feeling → action". Weiner (1985) emphasises that the links between causal attributions and emotions "are not invariant, but are quite prevalent in our culture" (p. 564).

Considerable research has explored the validity of Weiner's theory for predicting helping behaviour in a variety of contexts. Weiner proposed that in deciding whether or not to help, a person may consider why the help is needed. If an uncontrollable attribution is made, pity is experienced, and help is provided. In contrast if a controllable cause is perceived to be responsible for the outcome, anger is felt, and assistance is withheld (G. Schmidt & Weiner, 1988; Weiner, 1991). Evidence of the mediating role of emotions in the relationship between responsibility attributions and helping behaviour has been found in numerous studies (e.g., Corrigan, 2000; Dooley, 1995; Lester, 1996; Meyer & Mulherin, 1980; Reizenzein, 1986; Steins & Weiner, 1999; Weiner, 1980; Zucker & Weiner, 1993). Graham and Weiner (1991) reported that attribution-affect-helping relationships were found in persons aged 5 to 95 years old.

Although Weiner's attribution-emotion-helping judgement model has been confirmed using structural equation modelling (Reizenzein, 1986; G. Schmidt &

Weiner, 1988), several studies showed that anger and help judgements were unrelated (Dooley, 1995; Schwarzer & Weiner, 1991; Steins & Weiner, 1999). In addition to the situation-attribution-emotion-helping paths proposed by Weiner's theory, Reisenzein (1986) and Schmidt and Weiner (1988) found a direct path from the eliciting situation to willingness to help. Reizenzein notes that this relationship suggests that some unmeasured cause(s) influenced helping judgements in addition to controllability attributions, and that "a more complete understanding of helping behavio[u]r will have to take into account mediating variables in addition to the attribution-affect link proposed by Weiner" (p. 1131).

4.3.2 Attributional Analysis of Reactions to Stigmas

Of particular interest to the present study are the causal attributions that observers' make for the outcome of fatness, and the social consequences of such attributions. Affective and behavioural reactions to fatness and fat people have been explored in the context of attributional models of reactions to stigmas. Weiner and colleagues (1988) suggested that an attributional analysis of reactions to stigmas was appropriate as stigmas represent negative outcomes about which observers and stigmatised persons are likely to make causal attributions. A stigma is some aspect of a person that signifies undesirable deviation from a norm. Stigmatised individuals are viewed as defective, treated as different, and often experience social rejection. Stigmas include undesirable physical characteristics (e.g., blindness, paraplegia), group memberships (e.g., religious affiliation), and behavioural deviance (e.g., psychological disorders, substance abuse). The behavioural category subsumes stigmas that are believed to be result of the individual's personality or behaviour, or both (Goffman, 1963; Menec & Perry, 1998; Rush, 1998; Weiner, et al., 1988).

4.3.2.1 Fatness as Stigma

In Western society, fatness is perceived as an undesirable violation of several cultural norms. Cultural norms are the "rules or standards of conduct of a society that specify certain behaviours as appropriate and others as inappropriate. Generally included in a set of cultural norms are rewards and punishments typically meted out for conforming to or violating them" (Reber, Allen, & Reber, 2009, p. 169). Fatness is perceived as morally deviant (i.e., fatness is perceived as bad and sinful because it violates behavioural norms of self-control), medically deviant (i.e., fatness is

perceived as unhealthy and a disease because it violates health norms), and aesthetically deviant (i.e., fatness is perceived as ugly because it deviates from attractiveness norms) (Austin, 1999; Cahnman, 1968; Conrad, 1997; M. A. Schwartz, 1984; Sobal, 1984, 1995). It seems from the earlier review on discrimination of fat persons, that fat people are ‘punished’ for the offence of being fat, whereas “thinness has become a valued condition that people actively strive to achieve” (Sobal, 1995, p. 67), with rewards such as attractiveness, acceptability, and socioeconomic and psychological benefits (Higgins & Gray, 1999). Therefore, fatness is a physical characteristic that is stigmatised in contemporary Western society. Although fatness is a stigmatised physical characteristic, it is generally classified as a behavioural stigma, because unlike many other physical stigmas (e.g., skin colour, extreme shortness, baldness, and blindness) it is perceived to be caused by the fat person’s behaviour (DeJong, 1980; Maddox, et al., 1968; Tiggemann & Anesbury, 2000).

4.3.2.2 Reactions to Fatness versus Other Physical Stigmas

Early research compared reactions toward fat people with reactions toward other physical stigmas. In a series of studies, North American children and adults were instructed to rank pictures of children with various physical disabilities (e.g., in wheelchair, facial disfigurement), a fat child and a non-disabled-non-fat child, in terms of likeability. It was generally found that the fat child was ranked low and often least liked, whereas the “normal child” was ranked most liked, irrespective of raters’ gender, disability presence, ethnicity, socioeconomic status, and weight (e.g., Giancoli & Neimeyer, 1983; Goodman, Dornbusch, Richardson, & Hastorf, 1963; Maddox, et al., 1968; Richardson, 1970; Richardson, Goodman, Hastorf, & Dornbusch, 1961; Sigelman, Miller, & Whitworth, 1986). Richardson (1970, 1971) found that females liked the obese child less than males did. Israeli (Chigier & Chigier, 1968), Nepalese (Harper, 1997), and American Jewish (Goodman, et al., 1963) children also preferred the normal child, but rated obese children more positively. These results suggest that dislike of fatness is not universal among cultures.

Weiss (1980) proposed that fatness was evaluated more negatively than physical disabilities in the North American studies because fatness is believed to be self-inflicted. Weiss found that fatness elicited significantly more socially undesirable evaluations than other physical disabilities, and perceived self-infliction

of condition resulted in more socially undesirable evaluations than perceived non-self-infliction. Weiss's findings are consistent with the results of research conducted by Crandall and Moriarty (1995) examining the characteristics of physical illness stigmas, including obesity, that lead to social rejection. Crandall and Moriarty found that perceived degree of behavioural control over onset of disease and perceived severity of disease predicted participants' preferred social distance from a person with a stigma.

4.3.2.3 Attributional Analysis of Reactions to Physical and Behavioural Stigmas

Weiner et al. (1988) examined the influence of causal explanations for stigmatised conditions, including fatness, on observers' affective reactions and behavioural intentions toward people who have the stigmatised conditions. The 10 stigmas examined by Weiner and colleagues included physical stigmas (e.g., blindness, paraplegia, cancer) and behavioural stigmas (e.g., obesity, drug abuser, child abuser). Weiner et al. examined the degree to which behavioural and physical stigmas differed in terms of attributions of control and stability. Weiner et al. found that persons with behavioural stigmas were generally perceived to have had significantly more personal control over the onset of their stigma (i.e., perceived to be more responsible and blameworthy), than persons with physical stigmas. Weiner and colleagues note that participants' ratings of controllability (i.e., responsibility and blame) reflect the degree to which the stigmatised person had personal control over the causes of the onset of their stigmatised condition, irrespective of whether they foresaw, or intended, the outcome of their actions. As a measure of causal stability, Weiner et al. asked participants to rate the degree to which various stigmas were changeable. Weiner et al. found that behavioural stigmas were generally perceived to be more changeable than physical stigmas. Therefore, behavioural stigmas were perceived to be due to less stable causes than physical stigmas.

Weiner et al. (1988) also proposed that affective reactions toward persons with stigmatised conditions were related to the types of attributions used to explain the stigma. Weiner et al. found that physical stigmas (which were rated as more uncontrollable and stable) elicited more positive evaluations, whereas behavioural stigmas (which were rated as more controllable and changeable) elicited more negative evaluations. In particular, persons with behavioural stigmas were reacted to with less liking, less pity, and more anger, than persons with physical stigmas. In

addition to examining affective reactions to persons with stigmatised conditions, Weiner et al. also asked participants to indicate the degree to which they were willing to help persons with various stigmas. Overall, participants were significantly less willing to provide personal assistance and charitable donations to persons with behavioural stigmas, including obese persons, than to persons with physical stigmas.

4.3.2.4 Causal Role of Controllability Attributions in Predicting Reactions to Fatness

In addition to the correlational relationship between attributions of control and reactions to stigmas, Weiner et al. (1988) have explored the causal role of attributions in reactions to stigmas by manipulating the information provided to participants about the cause of onset of the stigmas. For example, Weiner et al. provided information that obesity was caused by either excessive eating without exercise (i.e., controllable onset) or glandular dysfunction (i.e., uncontrollable onset). Overall, when participants were informed that a person with a stigmatised condition had control over the onset of their condition, they attributed more responsibility and blame to the person, and reported more anger, less pity and less liking towards the person, than when a person with a stigmatised condition was described as being unable to control onset. They also indicated less willingness to provide personal assistance or charity to an onset-controllable stigmatised person, than to an onset-uncontrollable stigmatised person.

Other researchers have specifically examined the causal relationship between beliefs of personal responsibility for fatness and evaluations of fat persons. DeJong (1980) found that obese persons with a thyroid condition (i.e., uncontrollable cause) were judged significantly more self-disciplined, less self-indulgent, and more likable than obese persons without a physical condition explaining their weight. Rush (1998) reported that female university students rated fat persons as more responsible, blameworthy, and less likable when fatness was described as a controllable stigma, than when fatness was described as uncontrollable. Puhl and Brownell (2003) also report research showing that university students' anti-fat attitudes were improved by depicting obesity as uncontrollable. These results suggest that affective reactions to fat persons are caused by perceivers' beliefs regarding whether the target had control over the onset of his or her stigmatised condition.

In contrast, other research has shown that providing uncontrollable explanations for fatness does not reduce negative reactions toward fat persons.

Teachman and colleagues (2003) found that telling participants that obesity was due primarily to behaviour of fat persons (i.e., overeating and lack of exercise) resulted in greater implicit anti-fat attitudes. However, informing participants that obesity was primarily due to genetics did not reduce anti-fat bias. Teachman et al. suggest that it may be difficult to convince people that weight is uncontrollable due to pervasive controllability beliefs. Bell and Morgan (2000) also found that providing uncontrollable, medical explanations for obesity did not improve children's negative attitudes toward an obese child.

4.3.2.5 *Weiner's Attribution-Affect-Help Judgement Model of Reaction to Stigmas*

Weiner et al. (1988) reported that obtained measures of onset controllability of stigma, positive affect toward stigmatised targets, and willingness to help, were all significantly correlated. Weiner et al.'s results suggest that persons with behavioural stigmas will tend to be perceived as having control over the onset of their stigma, and observers will have negative affective reactions toward persons with such stigmas, and be unwilling to help such persons. Furthermore, multiple regression results reported by Weiner and colleagues suggest that affective reactions to persons with stigmas are more predictive of helping behaviour, than are stigma type or perceived controllability. Weiner et al.'s (1988) results are consistent with Weiner's attribution-affect-help judgement model, which proposes that attributions predict affective reactions, and affective reactions predict helping behaviour. Although Weiner et al. (1988) provided support for the attribution-affect-help judgement model for reactions to stigmas, they did not adequately examine the sequential nature of the model.

Menec and Perry (1998) employed structural equation modelling to assess the adequacy of Weiner's model for explaining the relationships between attributions, affective reactions, and willingness to help for a variety of physical and behavioural stigmas, including obesity. This statistical technique enabled Menec and Perry to evaluate the mediating role of affect in the model. Like Weiner et al. (1988), Menec and Perry manipulated the information provided to participants regarding the controllability of the onset of the stigmas, and measured perceptions of control over onset of stigma, ratings of pity and anger, and willingness to assist with a non-specific problem. These researchers tested an onset information-attribution-affect-help model. In this model, stigma onset information predicted controllability

attributions, controllability attributions predicted affect (i.e., pity and anger), and both affect variables predicted willingness to help. Menec and Perry found that this model provided an adequate fit for the combined data for all stigmas. The relationships between all variables in the model were significant and in the expected direction, except the relationship between anger and help judgements. Despite theoretical predictions that anger would significantly predict unwillingness to help, anger and help judgements were unrelated. This lack of relationship between anger and reduced helping has also been reported by Steins and Weiner (1999), Dooley (1995), and Schwarzer and Weiner (1991) in models of helping persons with stigmas, including AIDS and obesity.

Menec and Perry (1998) also tested the adequacy of the onset information-attribution-affect-help judgement model for each of the stigmas. Although the model provided an adequate fit for most of the individual stigmas, the model did not provide an adequate representation of the relationships among the measured variables for obesity (Experiment 1) and unemployment (Experiments 1 and 2). For Experiment 1, Menec and Perry found that adding a direct relationship between perceived cause of onset and anger in the models for obesity and unemployment provided a model with improved fit. Menec and Perry did not provide information regarding the valence or magnitude of the relationships between perceived cause of onset and anger for the modified models. However, it would be reasonable to suppose that controllable and changeable onset causes of ‘excessive eating and lack of exercise’ (obesity) and ‘target’s unreliability and unfriendliness’ (unemployment) would be related to greater anger, than uncontrollable and perhaps stable onset causes of ‘glandular dysfunction’ (obesity) and ‘company closing’ (unemployment). Interestingly, the stigmas that the model did not adequately explain were both behavioural stigmas, and therefore, stigmas that were likely to be viewed as both onset controllable and changeable. It is possible that the inclusion of a direct relationship between perceived cause of onset and anger in the modified models for obesity and unemployment may be mediated by perceptions of changeability. When the perceived cause of obesity or unemployment is believed to be amenable to change, such that a stigmatised individual can overcome his or her stigma, observers may feel anger towards such stigmatised persons because they can do something about their condition, but apparently have not done so. That AIDS, one of the two behavioural stigmas adequately represented by the model, has previously been found

to be perceived as controllable, but not changeable (Weiner, et al., 1988), is consistent with this hypothesis.

The other behavioural stigma adequately represented by the original model was drug addiction. Although Weiner et al.'s results suggest that drug abuse is perceived as controllable and changeable, the use of the label 'drug addiction' in Menec and Perry's (1998) study may suggest a stigma which is beyond individual control, and therefore unchangeable. Davies (1997) suggests that representations of drug abuse in terms of addiction, imply that the addicted individual *has* to use drugs as the "pharmacology of drug action is assumed to compel the behaviour irrespective of, or against, the person's 'will'" (p. 30). Therefore, reactions to drug addiction may have been adequately represented by the original model, because drug addiction may be perceived as unchangeable.

4.3.2.6 Role of Stability Attributions in Predicting Reactions to Fatness

In further support of the importance of attributions of stability in understanding reactions to fat persons, Weiner et al. (1988) report that their manipulation of responsibility for onset of stigmatised condition only influenced perceptions of stability/changeability or intervention efficacy for obesity. For example, when participants were provided with information that an obese person's condition was caused by overeating and inactivity, the obese person's condition was rated less stable than when participants were provided with information that an obese person's condition was caused by glandular dysfunction. Furthermore, medical treatment was perceived as a more appropriate intervention for obesity resulting from glandular dysfunction, than for obesity resulting from excessive eating and lack of exercise. Although Weiner et al. originally examined the role of both controllability and stability in determining reactions to stigmas, the results of their research led them to focus on the role of controllability, and to conclude that it is "evident that the linkages between causal controllability, affects, and helping judgements are of greater consistency and theoretical clarity than associations regarding causal stability" (p. 742). However, it seems that attributions of stability are likely to be of more importance in understanding reactions to some stigmas, such as fatness.

Schwarzer and Weiner (1991) have also explored the affect of stability attributions on reactions to fat persons. These researchers examined the relationship between a person's current coping with a stigmatised condition, including obesity,

and the reactions of others (i.e., affect and social support). Schwarzer and Weiner differentiated perceived control over onset and current coping efforts, or the “origin of a problem and its solution” (p. 134). They suggested that “responsibility for causing a blemish should be separated from the responsibility for maintaining it” (p. 134). Brickman and colleagues (1982) also emphasised the importance of differentiating between attributions of responsibility for creating a problem, and attributions of responsibility for solving or overcoming a problem. Obesity was one of the stigmas examined in Schwarzer and Weiner’s research, although only the vignettes manipulating onset responsibility and coping for AIDS were provided. To manipulate coping, these vignettes differed in the degree to which a person with AIDS engaged in health care (e.g., medication) and lifestyle behaviours to enhance their immune system. It is unclear whether coping refers to managing a condition or overcoming it, or both. Overall, Schwarzer and Weiner found that coping influenced emotional reactions and behaviours of observers. In particular, obese persons perceived as not coping with their stigma evoked greater anger than those who were coping ($r = .37$). Furthermore, anger was negatively correlated with willingness to provide social support ($r = -.57$). This research suggests that when a fat person is perceived to be coping, less anger is evoked, and when less anger is experienced, people tend to report greater willingness to provide social support.

4.4 Chapter Summary

Research reviewed in this chapter suggests that fat persons are viewed as being personally responsible for becoming fat, and that fat persons can change their weight status. Despite these beliefs, fatness seems to be caused by both controllable and uncontrollable factors, and attempts to achieve long-term maintenance of weight loss seem problematic. Attitude researchers have found that beliefs about the controllability of fatness relate to hostile anti-fat attitudes. This research does not differentiate between beliefs about controllability and changeability of fatness, and some measures seem to capture both types of belief. Attribution researchers have explored affective (e.g., anger) and behavioural reactions (e.g., helping giving) to fat persons in the context of attributional models of reactions to stigmas (e.g., obesity). Similar to attitude research findings, attribution researchers have found that attributions of control over cause of fatness are related to anger toward fat persons. Both attitude and attribution research has shown causal relationships between

perceptions of control and reactions to fat persons. Although attribution research has focused on the role of controllability attributions in understanding reactions to stigmas, the role of stability attributions has also been explored to a lesser extent. It was suggested in this chapter that beliefs about the stability or changeability of fatness may be important to understanding attitudes toward fat persons. The role of controllability and changeability beliefs in predicting anti-fat attitudes and affective reactions will be explored in the current research.

In addition to examining hostile anti-fat attitudes, paternalistic anti-fat attitudes will be conceptualised and explored in the current research. The following chapter will present theory and research relevant to the conceptualisation of paternalistic anti-fat attitudes.

CHAPTER 5 - PATERNALISTIC ANTI-FAT ATTITUDES

5.1 Introduction

A major objective of this research is to extend research on anti-fat attitudes, by conceptualising and measuring paternalistic anti-fat attitudes and related beliefs (Aim 4a). The purpose of this chapter is to conceptualise and define paternalistic anti-fat attitudes and related belief variables. Fiske and colleagues' (1999; 2002) stereotype content model of attitudes to social out-groups and bioethical definitions of paternalism will be discussed as the theoretical frameworks supporting the conceptualisation of paternalistic anti-fat attitudes.

5.2 Stereotype Content Model of Attitudes to Social Out-groups

Prejudice toward social out-groups, including fat persons, has traditionally been conceptualised as socially undesirable stereotypic perceptions of out-groups, and antipathy or hostility toward out-group members. For example, Allport (1954) describes prejudice as “an avertive or hostile attitude toward a person who belongs to a group” (p. 7). Fiske and colleagues (1999; 2002) have proposed that prejudice toward many social out-groups includes both hostile stereotypes and attitudes, and subjectively positive stereotypes and attitudes. Glick and Fiske (e.g., 1996, 1997) originally focused on the nature of sexist attitudes toward women, and subsequently proposed their ambivalent sexism theory. These researchers reconceptualised traditional perspectives on sexism that concentrate on antipathy and hostility toward women, suggesting that prejudice toward women is ambivalent, both subjectively positive (i.e., benevolent) and negative (i.e., hostile). Glick and colleagues (2000) define benevolent sexism as “a subjectively positive orientation of protection, idealization, and affection directed toward women” (p. 763). Benevolent attitudes, including paternalistic attitudes, are patronising attitudes that are viewed as subjectively positive and helpful by the individual espousing the attitude, even though such attitudes are based on stereotypic beliefs, such as the assumption that the target is incompetent, inferior, needy, and weak. Hostile and benevolent sexism are independent but positively correlated aspects of attitudes toward women (Glick & Fiske, 2001a, 2001b). Support for hostile and benevolent sexism has been found across a range of cultures, including Australia (Glick, et al., 2000).

Fiske et al. (1999; 2002) also explored the degree to which the stereotypes of, and attitudes toward, other social out-groups are ambivalent. By examining a range of social out-groups in the United States, Fiske et al. (1999) found that it is common for out-group stereotypes to contain both positively and negatively evaluated characteristics, and that many out-groups can be described in terms of how warm and how competent they are perceived to be. Competence captures intelligence and task orientation characteristics, whereas warmth refers to sociable and agreeableness traits. Fiske and colleagues (1999; 2002) were particularly interested in social out-groups with mixed stereotypes; that is, out-groups stereotyped as warm but not competent, or competent but not warm. In support of their mixed stereotypes hypothesis, Fiske et al. found that many of the out-groups examined were low on one dimension, but high on the other, and many of the out-groups examined were rated as significantly more warm than competent (e.g., elderly, housewives, disabled people), or significantly more competent than warm (e.g., rich people, feminists, Asians, Jews). In addition, Fiske and colleagues also found that some out-groups were perceived to be low on warmth and low on competence (e.g., welfare recipients, poor people, homeless people), or high on both dimensions (e.g., in-group).

Fiske et al. (1999; 2002) formulated a stereotype content model of prejudice. This theory proposes that the degree to which out-group stereotype content is characterised as warm and competent is predictive of affective reactions and attitudes toward out-group members. In examining the evaluative concomitants of mixed stereotypes, Fiske et al. (2002) found that groups considered to be low on warmth but high on competence (e.g., rich people, Jews, Asians) were disliked due to their perceived coldness, but envied for their perceived competence (i.e., envious stereotypes/prejudice); whereas groups stereotyped as high on warmth but low on competence (e.g., traditional women, elderly, disabled persons) were disrespected and patronised due to their perceived incompetence, but liked because they were considered warm (i.e., paternalistic stereotypes/prejudice).

Fiske et al. (2002) cite Weiner and colleagues' (1988) findings in making predictions about affective reactions to out-groups with particular patterns of stereotypes. For example, Fiske et al. proposed that out-groups stereotyped as low on warmth and competence (e.g., poor persons) are likely to receive contemptuous prejudice, as they are believed responsible for, and blamed for, their out-group status. As hypothesised, Fiske et al. found that out-groups with stereotypes characterised by

low warmth and low competence received more contempt than other out-groups. Although Fiske et al. hypothesised that members of such groups would receive only contemptuous prejudice, characterised by anger, hostility, dislike, and blame, they found that these out-groups also elicited paternalistic prejudice. Therefore, low-warmth-low-competence out-groups were both disliked and disrespected (Fiske, et al., 1999). Fiske et al. (2002) define paternalistic prejudice as “patronizing forms of affection and pity” (p. 899), which “combines superiority with potential care taking” (p. 896), and measured paternalistic prejudice as pity and sympathy toward an out-group.

Fiske et al. (2002) had proposed that paternalistic prejudice would only be elicited by groups with paternalistic stereotypes (i.e., high-warmth-low-competence; e.g., disabled persons, elderly). However out-groups with paternalistic stereotypes as well as out-groups with stereotypes characterised by low-warmth-low-competence (e.g., welfare recipients, poor people, and homeless people) elicited similar levels of affective reactions of pity and sympathy. The similarities between the stereotypic perceptions of the out-groups that were pitied may account for this unexpected outcome. Fiske et al. found that these types of out-groups were both rated as significantly more warm than competent. Furthermore, these categories of out-groups were generally rated as equally (in)competent.

5.3 Applying the Stereotype Content Model to Fat Persons

Fiske and colleagues (1999; 2002) did not include fat persons as an out-group in their research. The current research aims to apply Fiske et al.’s stereotype content model of prejudice to understanding attitudes to fat persons. It will be proposed that attitudes to fat persons are both hostile and paternalistic; that fat persons are both disliked and disrespected/patronised.

As discussed in chapter 3, stereotypic perceptions of fat persons contain both positively and negatively evaluated characteristics. Many of the characteristics attributed to fat persons reflect perceptions of fat persons as incompetent. Fat people are viewed as lazy, weak, sick, dependent, ineffectual, unsuccessful, inefficient, stupid/unintelligent, not goal-oriented, and lacking self-control/discipline (e.g., Breseman, et al., 1999; Butler, et al., 1993; Tiggemann & Rothblum, 1988). Fiske et al. (2002) found that out-groups perceived as low on competence elicited paternalistic reactions, regardless of perceptions of warmth. As such, it is proposed

that fat persons (who are perceived as incompetent) will elicit paternalistic reactions, in the form of affective reactions of pity and sympathy and paternalistic attitudes (defined in section 5.6).

The degree to which fat persons are viewed as warm is more ambiguous. Stereotyping research suggests that fat persons are perceived as lacking warmth. For example, fat persons are viewed as mean, dishonest, selfish, sloppy, and dirty (e.g., Breseman, et al., 1999; Butler, et al., 1993; Tiggemann & Rothblum, 1988). However, stereotyping research has also found that fat people are perceived as kind, warm, caring, friendly, happy and humorous (e.g., Bessenoff & Sherman, 2000; Butler, et al., 1993; Cogan, et al., 1996; Davis-Pyles, et al., 1990; Lerner, et al., 1974; Ryckman, et al., 1997). Therefore, the degree to which fat persons are viewed as warm is unclear from past stereotyping research.

Another component of Fiske et al.'s (1999; 2002) stereotype content model of prejudice may be useful in determining the degree to which fat persons are stereotyped as warm. The model proposes that out-group stereotype content can be predicted from the social structural variables of status (i.e., high versus low) and type of interdependence (i.e., cooperative versus competitive). Out-group status predicts stereotypes of competence, such that high status groups are stereotyped as competent and low status groups are stereotyped as incompetent. Type of interdependence predicts stereotypes of warmth, such that groups seen as competitors are perceived as lacking warmth, whereas groups viewed as cooperating are stereotyped as warm (Glick & Fiske, 2001b). Fiske et al. (2002) note that perceptions of competition may relate to various issues, including competition for resources and opportunities, and (in)compatibility of goals (see also Caprariello, Cuddy, & Fiske, 2009).

In discussing out-groups viewed as both low competence and low warmth, Fiske et al. (2002) note that such groups are “viewed as parasites in the system” who “compete with other groups, not for status but for resources” and “are rejected for their apparent negative intent toward the rest of society (i.e., not warm)” (p. 881; see also Caprariello, et al., 2009). Fat persons may be viewed as low on warmth as a result of perceptions of fat persons competing with other groups for resources, for example, medical and economic resources. Gard and Wright (2005) discuss cultural representations of the rising prevalence of obesity as leading to dire health and economic consequences, even “claims that obesity will seriously damage Western economies” (p. 18). Although the content of the stereotype of fat persons includes

some degree of warmth, it is proposed that fat persons, like welfare recipients and poor people, are viewed as relatively low on warmth, as they are viewed as competitors. As such it is expected that fat will be disliked and elicit hostile prejudice and anger. Hostility and anger toward fat persons has been established via attitude, attribution and stigma researchers (see chapters 3 and 4).

5.4 Support for Paternalism toward Fat Persons

Although anti-fat attitudes have traditionally been examined in terms of hostile affective reactions and negative stereotypes, research evidence and academic and popular discourse suggests that attitudes toward fat persons are subjectively positive as well as hostile. For example, Harris et al. (1990) note that fatness “is seen at best pitiable, at worst as representing sloth, self-indulgence, and lack of will power, and always as unattractive and undesirable” (p. 1192).

Weiner et al. (1988) found that obese persons elicited greater pity than anger. These researchers were primarily interested in comparing reactions to categories of stigmas (i.e., physical versus behavioural). They found that physical stigmas as a group elicited less anger and greater pity than behavioural stigmas (e.g., obesity) as a group (see chapter 4). The levels of pity and anger for each of the individual stigmas were also presented. Each of the physical stigmas (e.g., cancer, blindness) elicited more pity than anger. Interestingly, although two of the behavioural stigmas (i.e., child abuser, drug abuser) elicited more anger than pity, the other two behavioural stigmas examined (i.e., AIDS and obesity) elicited more pity than anger. Similarly, Fiske et al. (2002) found that low-competence-low-warmth out-groups elicited more pity than contempt.

Several authors comment on behaviours that may result from paternalistic anti-fat attitudes, such as “kindly meant advice” (Bovey, 1994, p. 45), harping at and persuading fat people to perform behaviours for their own good, or for the sake of their health and/or happiness (Bovey, 1994; Brown, 1989; Cossrow, et al., 2001; Tenzer, 1989), and scolding and chastising fat individuals for behaviours believed to cause fatness (e.g., McBride, 1989). Adolescent girls have reported that they have received “comments made ‘as if to be helpful’ but not done in a supportive manner” (Neumark-Sztainer, et al., 1998, p. 267). People may not realise that such behaviour is patronising and disrespectful, as they may genuinely believe that they are helping the fat person (Breseman, et al., 1999). In an Australian newspaper article titled

“The politics of fat”, a female fat-activist commented that “[p]eople feel justified in talking to plus-size people about what they are eating and suggesting diets” (Passmore, 2003). Australian adults reported that they often received comments from strangers about their weight, especially when shopping for food and clothing (Thomas, Hyde, Karunaratne, Kausman, et al., 2008). Goffman (1963) notes strangers are willing to offer advice, help, and sympathy to individuals with visible stigmas, regardless of whether such help is needed or wanted. Health professionals also offer fat persons unsolicited weight loss advice. Wadden and colleagues (2000) found that more than half of respondents indicated that doctors, at least sometimes, provided unsolicited weight loss advice (58.4%). This discussion suggests that fat persons tend to be disrespected and patronised as well as disliked.

5.5 The Ethics of Paternalism

The current research will endeavour to conceptualise and measure paternalistic attitudes toward fat persons. In addition to Fiske et al.’s stereotype content model, the conceptualisation of paternalistic anti-fat attitudes is also based on bioethical definitions of paternalism. Prior to defining paternalistic anti-fat attitudes, the bioethical principles of benevolence, autonomy, and paternalism will be discussed.

Benevolence and autonomy are principles of central importance to bioethics. “*Benevolence* refers to an action done to benefit others; *benevolence* refers to the *character trait* or *virtue* of being disposed to act for the benefit of others ...” (Beauchamp & Childress, 2001, p. 166). Although benefiting others is an important moral goal, for both professionals and laypersons, respect for another’s autonomy also needs to be considered. Autonomy is respected when a “person’s right to hold views, to make choices, and to take actions based on personal values and beliefs” is acknowledged and upheld through action and attitude, “whereas disrespect for autonomy involves attitudes and actions that ignore, insult, or demean others’ rights of autonomy” (Beauchamp & Childress, 2001, p. 63). A competent person’s ability to act autonomously can be influenced by various means including control, coercion, persuasion, “acts of love, threats, education, lies, manipulative suggestions, and emotional appeals” (Beauchamp & Childress, 2001, p. 94). Autonomous choices can also be impeded by the way in which information is provided, including tone of voice, gesture, and positive framing (e.g., providing success rate rather than failure

rate). Beauchamp and Childress suggest that “beneficence provides the primary goal and rationale of medicine and health care, whereas respect for autonomy ... sets moral limits on the professional’s action in pursuit of this goal” (p. 177).

Although health professionals were traditionally guided primarily by the principle of beneficence, the principle of autonomy has become increasingly valued in bioethics (Beauchamp & Childress, 2001; McLachlan & Mulder, 1999; Roter & Hall, 1998). Paternalism involves disrespecting the autonomy of a person in order to benefit him or her. The original meaning of paternalism refers to the paternal role of a father who makes decisions for his dependent children to maximise their best interests (Beauchamp & Childress, 2001; Turner, 1984). Beauchamp and Childress define paternalism as “the intentional overriding of one person’s known preferences or actions by another person, where the person who overrides justifies the action by the goal of benefiting or avoiding harm to the person whose preferences or actions are overridden” (p. 178). The traditional paternalism of physicians, whereby due to greater knowledge and skills, physicians were seen to have “superior ability to judge the best interests of anyone else, regardless of what the patients, themselves think” (McLachlan & Mulder, 1999, p. 729), epitomises the paternalistic orientation. Cicirelli (1990) notes that “[p]aternalistic intervention occurs when the intervener believes that he or she knows what is best for the other person and is genuinely concerned with the welfare of that person” (p. 458). McLachlan and Mulder (1999) define medical paternalism as “the interference with a person’s liberty of action [as] justified by reasons referring to the welfare, good, happiness, interests or values of the person whose liberty is being restricted” (p. 731). The degree to which paternalism is viewed as justified in bioethics depends on the degree to which paternalistic actions are anticipated to benefit an individual, and the degree to which an individual is competent to make autonomous and voluntary decisions (Beauchamp & Childress, 2001).

The above definitions of paternalism suggest that paternalism consists of beliefs that: (a) the intended recipient of assistance is less competent and needs help, (b) the paternalistic helper has superior ability or knowledge, and therefore, knows what is best for the recipient, (c) the paternalistic helper’s intervention will benefit the recipient, and (d) the benefit provided to the recipient has greater priority than that person’s right to autonomy. Roter and Hall (1998) also note that paternalistic

orientations presume that a recipient will share paternalistic helpers' values, and will agree to their recommended course of action.

Paternalism has previously been considered with regard to the behaviour of health care professionals and researchers. For example, researchers have examined the paternalistic orientations of health and allied health professionals toward persons with learning disabilities (Deeley, 2002) and intellectual disabilities (van Hooren, Widdershoven, van den Borne, & Curfs, 2002), physician-patient interactions (Roter & Hall, 1998), and the paternalistic nature of involuntary hospitalisation for mentally ill persons (McLachlan & Mulder, 1999). The role of paternalistic attitudes and orientations has also been explored in non-professional relationships. Paternalistic attitudes and orientations have been reported by informal caregivers, such as parents caring for intellectually disabled persons (van Hooren, et al., 2002) and adult children caring for their elderly parents (Cicirelli, 1990).

5.6 Defining Paternalistic Anti-Fat Attitudes

A major objective of this research project is to extend the current research on anti-fat attitudes, by conceptualising and measuring a further dimension of attitudes to fat persons, paternalistic anti-fat attitudes. The conceptualisation of paternalistic anti-fat attitudes is based on Fiske et al.'s (1999; 2002) conceptualisation of paternalistic attitudes and bioethical definitions of paternalism. Paternalistic anti-fat attitudes will be defined as the degree to which an individual espouses the belief that fat persons should be helped to lose weight in the interests of benefiting the fat person (e.g., in terms of happiness and health), regardless of the beliefs and wishes of the fat person. Individuals who report paternalistic anti-fat attitudes are likely to believe that helping fat persons to lose weight will protect fat persons from negative life consequences such as medical conditions, discrimination, prejudice, and unhappiness. Paternalistic attitudes assume that fat people are incompetent (particularly at controlling their weight) and weak-willed and need to be treated as a parent treats a child. Paternalistic attitudes disrespect fat people as autonomous and independent individuals, who are able to competently make their own decisions. Hayry (1998) notes that most ethical theories propose that “[a]utonomy as the self-determination of one’s choices and actions is a necessary condition of genuine human happiness ...” (p. 42). Therefore, paternalistic anti-fat attitudes are conceptualised as being “well-meant but restrictive” (Turner, 1984, p. 497). Based

on a review of relevant academic and popular literature and research results, and the definition of paternalistic anti-fat attitudes provided above, six elements of paternalistic anti-fat attitudes are proposed. The measure of paternalistic anti-fat attitudes developed for this research will consist of items reflecting these elements:

1. Fat persons should be helped to lose weight in the interests of benefiting the fat person.
2. Helping someone lose weight is due to caring about him or her.
3. Fat people should be helped to lose weight because they are incompetent at losing weight.
4. It is necessary to disregard fat people's opinions and beliefs about weight when trying to help them.
5. It is acceptable to use coercion to get fat people to lose weight.
6. It is not acceptable for fat people to choose to stay fat.

5.7 Paternalistic Anti-Fat Attitudes and Related Beliefs

5.7.1 Paternalistic Anti-Fat Attitudes and Changeability

It is proposed that beliefs that fat persons can readily become non-fat (i.e., the degree to which fat is believed to be changeable) will be predictive of paternalistic anti-fat attitudes. Weiner et al. (1988) suggested that attributions for the causes of stigmas could also influence an observer's future expectations that a stigmatised individual could "recover". As they note:

Prior research has documented that unstable causes of failure (i.e., causes perceived as changing over time), promote the belief that future success (i.e., recovery) is possible. Conversely, causes thought of as being stable or not amenable to betterment, such as lack of aptitude, give rise to expectations that failure will be followed by further failures" (p. 739).

It seems reasonable to suggest that paternalistic anti-fat attitudes are based on the assumption that fatness is a changeable outcome. Believing that fatness is changeable is likely to be related to the degree to which an individual believes that fat persons should be helped to lose weight in the interests of benefiting the fat person.

5.7.2 Other Beliefs Related to Paternalistic Anti-Fat Attitudes

It is also proposed that paternalistic anti-fat attitudes are based on the assumptions that (a) fat persons do not want to be fat and desire to change and (b) weight loss does benefit a fat person. People who espouse paternalistic anti-fat attitudes consider these attitudes to be subjectively positive, helpful, and prosocial, as such attitudes are based on the desire to help and benefit a fat person who is believed to need help. As paternalistic anti-fat attitudes are conceptualised as subjectively positive, those who espouse paternalistic anti-fat attitudes are likely to believe that they are being helpful and that fat persons want their help, because they want to become non-fat. However, helpful attitudes and help giving may be based on assumptions about what is best for a *needy* person, regardless of whether or not the person is actually in need, and what their needs and wants actually are (Batson, et al., 1991; Goffman, 1963; Montada & Bierhoff, 1991; Vaughan & Hogg, 1995). Therefore, paternalistic anti-fat attitudes are likely to be related to beliefs that (a) fat people do not want to be fat and want to change to become non-fat, and (b) weight loss is beneficial for fat persons. Perceived benefits of weight reduction may include increased health and longevity, attractiveness, success, and happiness (e.g., Brownell, 1991b). Beliefs regarding the benefits of weight-loss may also relate to gender. In an Australian sample, for example, Crawford and Campbell (1998) found that women were more likely to report that weight loss had benefits (e.g., improved appearance, health, psychosocial well-being) than men.

5.8 Chapter Summary

Traditional attitude research has focused on antipathy and hostility toward out-groups. Fiske and colleagues' (1999; 2002) stereotype content model of attitudes to social out-groups, proposes that prejudice toward many social out-groups includes both hostile stereotypes and attitudes, and paternalistic stereotypes and attitudes. Although anti-fat attitudes have traditionally been examined in terms of hostile affective reactions and negative stereotypes, research evidence and academic and popular discourse on reactions to fat persons suggests that attitudes toward fat persons are paternalistic as well as hostile. This chapter focused on conceptualising and defining paternalistic anti-fat attitudes and related belief variables. The conceptualisation of paternalistic anti-fat attitudes was based on Fiske et al.'s

stereotype content model and bioethical definitions of paternalism. Paternalistic anti-fat attitudes were defined as the degree to which an individual espouses that fat persons should be helped to lose weight in the interests of benefiting the fat person, regardless of the beliefs and wishes of the fat person. Beliefs that may be related to paternalistic anti-fat attitudes were also discussed and conceptualised in this chapter (i.e., changeability, desire to change, and benefits of weight loss beliefs). An overview of the objectives of the current research and details of specific hypotheses and exploratory questions are provided in the following chapter.

CHAPTER 6 - THE CURRENT RESEARCH

6.1 Overview

The current research will explore societal attitudes toward fat persons and beliefs about fatness and fat persons in the Australian context. The research aims discussed in chapter 1, will be examined in two studies. The fat-related attitudes, affective reactions, and beliefs of two samples of Australian adults will be explored; specifically, a tertiary student sample (Study 1) and a community sample (Study 2).

Initially this research will re-examine variables and relationships that have previously been explored by attitude and attribution researchers. In order to explore the degree to which the attitude and attribution approaches converge, the relationships between hostile anti-fat attitudes and anger toward fat persons will be explored (Aim 1). Additionally, the relationships between controllability beliefs and reactions to fat persons (in the form of hostile anti-fat attitudes and affective reactions of pity and anger) will be re-examined in this research (Aim 2).

In the preceding chapters the researcher has proposed that changeability beliefs (in addition to controllability beliefs), and paternalistic anti-fat attitudes (in addition to hostile anti-fat attitudes) may be important to further understanding reactions to fat persons. The current research will extend on previous research by conceptualising and measuring changeability beliefs, and paternalistic anti-fat attitudes and related beliefs; and exploring the relationships between these variables and other aspects of reactions to fat persons (Aims 3 and 4).

The relationships of respondent characteristics (i.e., age, gender, weight) with anti-fat attitudes, affective reactions, and beliefs will also be explored in this research (Aim 5). The final aim of this research will involve ascertaining the body sizes that respondents consider to be indicative of the social category of *fat persons* (Aim 6). The aims of the current research are listed in section 6.3, along with specific hypotheses for Study 1.

6.2 Exploring Reactions to Fat Persons in Australia

As research on reactions to fat persons has primarily been conducted using North American samples, an additional aim of the current research will be to explore the relationships between anti-fat attitudes, affective reactions, and beliefs in the

Australian context. A small number of studies have examined the stereotypes, attitudes, and beliefs of Australian samples. Stereotyping research has shown that Australian university students (Harris, et al., 1982) and children (Tiggemann & Anesbury, 2000) report similar stereotypes to those of North American samples. Additionally, in two studies comparing the fat stereotypes of psychology students from the United States and Australia, Tiggemann and Rothblum (1988, 1997) found that students from both nations reported similar evaluations of fat persons (see chapter 3). Although Crandall et al. (2001) included a sample of Australian psychology students when evaluating their attribution-value model of prejudice, these researchers did not report relationships between attitude and belief variables for each national sample. In chapter 4, two studies examining the weight-related beliefs of Australian samples were discussed. Like North American participants, Australian participants are likely to believe that weight is under personal control of fat persons (Crawford & Campbell, 1998; Paxton & Sculthorpe, 1999). The researcher is not aware of any research that has explored attributional analyses of reactions to fat persons in the Australian context. The available research employing Australian samples suggests that Australian participants will report similar attitudes and beliefs to those reported by North American samples; however, there is a dearth of research on anti-fat attitudes and beliefs in the Australian context. The current research project aims to address this shortage.

The researcher anticipates that Australian participants' anti-fat attitudes and beliefs will be similar to those reported by North American samples, due to similarities in contemporary cultural representations of fatness and fat people. Australian academics Gard and Wright (2005) discuss the similar portrayal of fatness in the mass media of Australian, North American, and other Westernised cultures. These authors highlight representations of the rising prevalence of obesity as an "obesity epidemic" which requires a "war on obesity" to prevent the dire consequences of fatter populations (e.g., health and economic). Obesity is portrayed by government and medical authorities as a well-understood disease requiring decisive action to curb the gluttonous and slothful behaviours of fat persons (and people in general) in Western society. Gard and Wright highlight that approaches to fatness are based on science laden with ideology and morality, rather than scientific facts. The war on obesity has become a very salient topic in contemporary Westernised cultures, with few voices challenging the ubiquitous negative

representations of fatness as bad, ugly, and sick, and fat persons as being to blame for their fatness. Such views are reflected in popular fat-fighting television programmes, such as *The Biggest Loser*. The shared cultural representations of fatness and fat people are likely to be reflected in similar anti-fat attitudes and beliefs being espoused by samples from Westernised nations.

6.3 Aims and Hypotheses for Study 1

Study 1 will examine the attitudes, affective reactions, and beliefs of psychology students enrolled at a regional Australian university. A summary of the aims of this research project and the rationales underlying these aims will be provided in this section. Specific Study 1 hypotheses relevant to each aim will also be provided. The same aims will be addressed in Study 2. Although the hypotheses for Study 2 will be similar to those of Study 1, it is anticipated that some predictions will be modified on the basis of Study 1 findings. Hypotheses that are revised for Study 2 will be presented in chapter 10.

6.3.1 Hostile Anti-Fat Attitudes and Affective Reactions

Reactions to fat persons have been examined as both attitudes and affective reactions. Previous anti-fat attitude research has measured hostile anti-fat attitudes (which include affect), and attribution research has measured affective reactions to fat persons, in terms of anger and pity toward fat persons.

Aim 1: To explore hostile anti-fat attitudes (including underlying dimensions) and the relationships between hostile anti-fat attitudes and anger toward fat persons.

- *Hypothesis 1a:* Hostile anti-fat attitude variables based on Crandall's (1994) Dislike scale and Morrison and O'Connor's (1999) Anti-fat Attitudes Scale (AFAS) will capture correlated but independent dimensions of hostile attitudes toward fat persons (based on factor analysis Morrison & O'Connor, 1999; see section 7.2.2.3.2).
- *Hypothesis 1b:* Hostile anti-fat attitudes will be positively correlated with anger toward fat persons. Greater hostility will be related to greater anger toward fat persons.

6.3.2 Controllability Beliefs and Reactions to Fat Persons

Previous research has also focused on the relationship between hostile anti-fat attitudes and beliefs that fatness is a controllable condition. Similarly, attribution researchers have explored the relationships between controllability attributions and affective reactions toward fat persons, as part of research on reactions to stigmas.

Aim 2: To examine the relationships of controllability beliefs with affective reactions to fat persons and anti-fat attitudes, in order to explore the generalisability of relationships found by previous researchers.

- *Hypothesis 2a:* Controllability beliefs will be positively correlated with hostile anti-fat attitudes and expressions of anger toward fat persons, such that greater belief that weight is under personal control will be related to more hostile anti-fat attitudes and anger toward fat persons.
- *Hypothesis 2b:* Controllability beliefs will be negatively correlated with expressions of pity toward fat persons, such that greater belief that weight is under personal control will be related to less pity for fat persons.

6.3.3 Changeability Beliefs and Reactions to Fat Persons

To a lesser extent the role of changeability attributions in understanding affective reactions to fat persons has been examined. Changeability beliefs may be particularly important in understanding attitudes toward fat persons, as fatness is widely considered changeable.

Aim 3: To explore the role of changeability beliefs in predicting anti-fat attitudes. A measure of belief in changeability of fatness will be developed, in order to examine the relationships between changeability and anti-fat attitudes, affective reactions and beliefs. Previous attitude research will be improved by differentiating changeability from controllability beliefs.

- *Hypothesis 3a:* The majority of respondents will report agreement with controllability and changeability beliefs as reflected by scale scores on these beliefs that are greater than the neutral mid-points of the measurement scales.
- *Hypothesis 3b:* Changeability and controllability beliefs will be positively correlated (but not so highly correlated that they are redundant concepts) such

that greater belief that fatness is changeable will be related to greater belief that fatness is controllable.

- *Hypothesis 3c*: Changeability beliefs will be positively correlated with hostile anti-fat attitudes and expressions of anger toward fat persons, such that greater belief that weight is changeable will be related to more hostile anti-fat attitudes and anger toward fat persons.
- *Hypothesis 3d*: Changeability beliefs will explain incremental variance in hostile anti-fat attitudes, over and above the variance accounted for by controllability beliefs.
- *Hypothesis 3e*: Changeability beliefs will be negatively correlated with expressions of pity toward fat persons, such that greater belief that weight is changeable will be related to less pity for fat persons.

6.3.4 Paternalistic Anti-Fat Attitudes and Related Beliefs

While attitude research has focused on hostility toward fat persons, attribution researchers have examined the influence of beliefs on both anger and pity. A review of research evidence and academic and popular discourse on fat attitudes suggests that attitudes toward fat persons are paternalistic as well as hostile. A major objective of this research project is to extend the current research on anti-fat attitudes, by conceptualising and measuring a further dimension of attitudes to fat persons: paternalistic anti-fat attitudes. Paternalistic anti-fat attitudes will be defined as the degree to which an individual espouses that fat persons should be helped to lose weight in the interests of benefiting the fat person, regardless of the beliefs and wishes of the fat person. Additionally belief measures relevant to paternalistic attitudes (i.e., fat persons want to change; weight loss benefits fat persons) will be developed.

Aim 4a: To extend anti-fat attitude research by conceptualising and developing a measure of paternalistic anti-fat attitudes and measures of beliefs related to paternalistic anti-fat attitudes (i.e., fat persons want to change; weight loss benefits fat persons). A significant contribution of this research will be the development of new anti-fat attitude and belief measures. Existing scales will be adapted and original scales will be developed and refined to measure attitudes and beliefs.

Aim 4b: To explore the inter-relationships between paternalistic anti-fat attitudes and related beliefs, and the relationships between these beliefs and attitudes and other fat-related attitude, affective reaction, and belief variables.

- *Hypothesis 4a:* The degree to which paternalistic and hostile anti-fat attitudes are endorsed will be explored. Due to subjectively positive reactions potentially being more socially acceptable than hostile reactions, it is predicted that respondents will report greater paternalistic anti-fat attitudes than hostile anti-fat attitudes. Similarly it is predicted that respondents will report greater pity than anger toward fat persons [also consistent with findings of Weiner et al. (1988)].
- *Hypothesis 4b:* Like hostile and benevolent sexism, it is expected that hostile and paternalistic anti-fat attitudes are complementary ideologies that tend to co-exist. As such, hostile and paternalistic anti-fat attitudes will be positively correlated (but not so highly correlated that they are redundant concepts), such that greater hostile anti-fat attitudes will be related to greater paternalistic anti-fat attitudes.
- *Hypothesis 4c:* Similar to paternalistic attitudes, pity will be positively correlated with anger and hostile anti-fat attitudes, such that greater hostility and anger will be related to greater pity for fat persons.
- *Hypothesis 4d:* The two indices of subjectively positive reactions toward fat persons (i.e., pity and paternalistic attitudes) will be positively correlated, such that more pity will be associated with more paternalistic attitudes. Similar to the relationship between paternalistic and hostile attitudes, paternalistic attitudes will be positively correlated with anger.
- *Hypothesis 4e:* Changeability, desire to change and benefits beliefs will positively predict paternalistic anti-fat attitudes. The role of controllability beliefs in predicting paternalistic anti-fat attitudes will also be explored.
- *Hypothesis 4f:* Changeability beliefs will explain incremental variance in paternalistic anti-fat attitudes, over and above the variance already explained by controllability beliefs.
- *Hypothesis 4g:* Based on Glick and Fiske's (1999; 2002) stereotype content model, it is expected that stereotypic perceptions of fat persons will be more warm than competent. Fiske and colleagues found that this pattern of stereotype content related to paternalistic attitudes.

6.3.5 Respondent Variables

Aim 5: To explore how respondent variables (i.e., age, gender, weight) relate to affective reactions, and anti-fat attitudes and beliefs. Specific predictions based on the literature reviewed previously are included under the relevant respondent variable. In addition, other relationships between the respondent variables and affective reaction, attitude, and belief variables will also be explored.

6.3.5.1 Age and Gender

- *Hypothesis 5a:* Males will report greater hostile anti-fat attitudes than females (Crandall, 1994; Morrison & O' Connor, 1999).
- *Hypothesis 5b:* Controllability beliefs will be unrelated to respondent gender (Allison, et al., 1991).
- *Hypothesis 5c:* Females will report stronger beliefs that weight loss would benefit fat persons than males. This hypothesis is based on Crawford and Campbell's (1998) research.

6.3.5.2 Weight

- *Hypothesis 5d:* Based on the findings of Crandall (1994) and Morrison and O'Connor (1999), it is predicted that: (a) hostile anti-fat attitudes measured using Crandall's Dislike scale will be unrelated to respondent weight; and (b) hostile anti-fat attitudes measured using items from Morrison and O'Connor's AFAS will be negatively related to respondent weight, such that fatter persons will report more positive attitudes toward fat persons.
- *Hypothesis 5e:* Controllability beliefs will be unrelated to respondent weight (Allison, et al., 1991).

6.3.6 Definitions of Fat

The present research will not distinguish between degrees of fatness, and a specific operational definition of fatness will not be provided to participants. It is assumed that the social category of *fatness* is culturally and socially constructed and that there is a shared social perception of what is unacceptably fat (Bovey, 1994).

Aim 6a: To ascertain the body sizes that respondents consider indicative of the social category of fat persons.

Aim 6b: To explore the relationships of definition of fat man and definition of fat woman with affective reaction, attitude, and belief variables.

The objectives of this research project and Study 1 aims and hypotheses were presented in this chapter. Chapter 7 will provide an outline of the methods employed to collect data for Study 1, and details of the sample obtained. The results of analyses undertaken to examine the hypotheses and exploratory questions for Study 1 will be presented in chapter 8.

CHAPTER 7 - STUDY 1 METHOD

7.1 Participants

Two hundred and fifty-seven undergraduate and postgraduate psychology students enrolled at the University of Southern Queensland (USQ) completed a web-administered survey. Both internal and external students were invited to participate in this study via messages on electronic discussion groups and mailing lists. Use of a web-based format enabled recruitment of a wider range of students as off-campus participation was possible. Students enrolled in some introductory courses received course credit for their participation. Other participants were offered entry in a draw for cash prizes.

Although the consent procedure required participants to declare that they were over 18 years of age, five respondents consented but subsequently indicated that they were less than 18 years of age. These respondents were removed from the final sample. Non-Australian residents ($n = 37$) were also removed from the sample to minimise the influence of cultural variation on beliefs and attitudes. Although it was possible to reduce the effects of cultural variation by removing non-Australian residents from the sample, the remaining sample may include participants who have lived most of their lives in countries other than Australia (e.g., overseas students residing in Australia for the duration of their studies). It was not possible to identify these students from survey responses.

The remaining sample consisted of 215 psychology students aged between 18 and 62 years ($M = 28.96$, $SD = 9.34$). One hundred and sixty-nine participants were female (78.6%) and 45 were male (20.9%). One participant did not report his or her gender. Age did not differ significantly for males ($M = 29.78$, $SD = 9.89$) and females [$M = 28.64$, $SD = 9.12$; $t(208) = .73$, $p > .05$]. Respondent weight ranged from 30.5 to 178 kg ($M = 73.72$, $SD = 20.08$). The mean weight for female participants was 70.44 kg ($SD = 19.52$), and the mean weight for male participants was 84.11 kg ($SD = 16.18$). Participant height ranged from 1.35 to 1.98 m ($M = 1.69$, $SD = 0.10$). The mean height for female participants was 1.66 m ($SD = 0.07$), and the mean height for male participants was 1.80 m ($SD = 0.09$).

Most of the sample identified themselves as Caucasian ($n = 198$; 92.1%), and resided in Queensland, Australia ($n = 190$; 88.4%). Detailed information about the

marital status, cultural/ethnic identification, employment status, highest level of educational achievement, and location of residence of participants is provided in Table A in Appendix A.

7.2 Materials

A self-administered web survey, the Weight-Related Beliefs and Attitudes Questionnaire, was completed by all participants. This questionnaire included measures of anti-fat attitudes, fat-related attributions and beliefs, respondent weight-related information, and other respondent information. The survey included measures previously developed by other researchers and scales specifically developed for this study. The questionnaire is provided in web format in Appendix B. In order to minimise order effects, participants were randomly assigned to complete one of four versions of the questionnaire. Due to the number of scales included in the questionnaire, it was not feasible to counterbalance the order of all measures. The questionnaire was divided into five sections (i.e., general information, respondent weight information, weight attitudes, weight beliefs, and definitions of fat). The general information section was always positioned first in the questionnaire. The order of the remaining four sections was randomised to create four versions of the questionnaire. At the end of each version of the questionnaire, participants were invited to provide feedback regarding the survey and further comments about weight and fatness. Data obtained from the respondent weight information section of the questionnaire will not be examined in this thesis; however, an index of respondent weight calculated from weight and height items from the General Information section of the survey will be employed (see section 7.2.2.1.1).

7.2.1 Pilot Testing

Pilot testing was carried out to obtain feedback to refine the draft questionnaire. Nine of the 10 participants recruited to pilot test the questionnaire were female. Half of these reviewers were completing or had completed postgraduate research in psychology or nursing, and had experience developing questionnaire instruments. Participants ranged in age from 18 to 50 years. Based on Body Mass Index (BMI) classifications (World Health Organization, 2003), six reviewers were normal weight, one was overweight, and three were obese (BMI range = 20 to 40).

Pilot test participants were asked to write comments throughout the questionnaire regarding wording of questions and instructions, personal reactions to questions, and adequacy of rating scales provided for items. An unstructured interview was conducted with each pilot test participant to discuss any difficulties he or she encountered, and his or her reactions to the questionnaire.

Based on feedback from pilot test participants, improvements were made to the questionnaire, including correction of grammar, modification of instructions to improve clarity, revision of scale items that were difficult to understand, and modification of rating scales to include a neutral response option. Amendments made to established scales are described in the next section. Revisions to items developed by the researcher included amending double-barrelled items (e.g., “It is hard to either lose or gain a large amount of weight”, was changed to “It is hard to lose a large amount of weight”), and editing items with confusing wording (e.g., “Fat persons who try to lose weight are no more deserving of medical treatment than fat persons who do not try to lose weight” was changed to “Fat persons who try to lose weight are more deserving of medical treatment than fat persons who do not try to lose weight”). Several participants commented that they disliked the term fat and found it offensive. Despite this feedback, fat was used in the final questionnaire based on the rationale provided in chapter 1.

7.2.2 Weight-Related Beliefs and Attitudes Questionnaire

7.2.2.1 General Information

7.2.2.1.1 Respondent Variables

Respondents were asked to provide their age and gender, and to indicate their marital status, cultural or ethnic identification, employment status, and highest level of educational achievement by selecting from various options. Participants also reported their occupation and details of the main tasks involved in their main occupation, and location of residence by providing Australian postcode or country of residence if not an Australian resident.

Participants were asked to provide their height and current weight in either metric or imperial units. If participants were unsure of their exact weight or height, they were instructed to measure these prior to responding, or to provide an estimate

of their weight or height. Although research has shown that self-reported height and weight under- or over-estimates measured height and weight to varying degrees, correlations between self-reported estimates and actual measurements are generally greater than .90 (Cameron & Evers, 1990; Cash, Counts, Hangen, & Huffine, 1989; Cash, Grant, Shovlin, & Lewis, 1992; DelPrete, Caldwell, English, Banspach, & Lefebvre, 1992; Larson, 2000; Stunkard, Sorenson, & Schlusinger, 1983). Despite the deficiencies of obtaining weight and height estimates via self-report, this method was employed due to data being collected via a self-administered survey. It was hoped that assurances of anonymity would increase the accuracy of self-reported weight and height.

From self-reported height and weight, Body Mass Index (BMI) was calculated, as weight (in kilograms) divided by squared height (in metres). Although BMI is an indirect measure of body fatness, it is widely accepted as a weight index which statistically controls for height (Keys, Fidanza, Karvonen, Kimura, & Taylor, 1972; J. Lee & Kolonel, 1984; Prentice & Jebb, 2001).

7.2.2.1.2 Social Desirability

Reynolds' (1982) short-form of the Marlowe-Crowne Social Desirability Scale Form C (M-C Form C) was included in the questionnaire to examine the relationship between socially desirable response tendencies and self-report measures. The M-C Form C consists of 13 statements that describe “culturally acceptable and approved behaviors which are ... relatively unlikely to occur” (Crowne & Marlowe, 1960, p. 354), for example, “I have never deliberately said something that hurt someone’s feelings” (see Table C1 in Appendix C). Participants were asked to indicate whether each statement was true or false with regard to their behaviour. Scores can range from 0 to 13, with higher scores representing a greater tendency to describe the self in a socially desirable manner. Eight items are reverse scored (see Table C1).

Reynolds' (1982) short form correlates highly with Crowne and Marlowe's (1960) original Social Desirability Scale (M-C SDS), with correlations ranging from .91 to .97 (Fischer & Fick, 1993; Loo & Thorpe, 2000; Reynolds, 1982). Reliability coefficients for the M-C Form C scores range from .62 to .89 (Ballard, 1992; Barger, 2002; Fischer & Fick, 1993; Loo & Thorpe, 2000; Reynolds, 1982).

7.2.2.2 Weight Attitudes

7.2.2.2.1 Affective Reactions to Fat Persons Scale

Participants were asked to indicate the degree of pity and anger they felt towards fat persons. The Affective Reactions to Fat Persons Scale consists of two subscales, Pity consisting of two items regarding pity and sympathy toward fat persons (e.g., “I feel pity for fat persons”), and Anger, consisting of three items regarding anger, disgust, and resentment toward fat persons (e.g., “I feel disgust toward fat persons”) (see Table C2.1 in Appendix C). These measures were adapted from the measures of emotional reaction to social groups used by Fiske et al. (2002), Menec and Perry (1998), and Weiner et al. (1988). Participants indicated the degree to which they agreed or disagreed with each item on a 7-point scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*). One Pity subscale item and one Anger subscale item were reverse scored (see Table C2.1). Higher scores on the Pity and Anger subscales indicated greater expression of pity and anger toward fat persons, respectively.

7.2.2.2.2 Hostile Anti-Fat Attitudes

Crandall’s (1994) Dislike subscale and Morrison and O’Connor’s (1999) Anti-fat Attitudes Scale (AFAS) were employed as measures of hostile prejudice toward fat persons. Both measures were included in the questionnaire as they seemed to be correlated but independent measures of negative attitudes toward fat persons. Morrison and O’Connor’s principal components analysis of combined Dislike and AFAS items suggests a three-factor solution with all AFAS items loading on one factor and Dislike items loading on two factors. Morrison and O’Connor also found that the AFAS was significantly correlated with the Dislike scale ($r = .54, p < .0001$).

7.2.2.2.2.1 Dislike Scale

Crandall’s (1994) Dislike scale measures degree of dislike of fat persons (see Table C3 in Appendix C). Respondents were asked to indicate how much they agree or disagree with seven statements (e.g., “I really don’t like fat people much”). Crandall and colleagues (Crandall, 1994; Crandall, et al., 2001; Crandall & Martinez, 1996) employed a 10-point Likert-type scale ranging from 0 to 9. These researchers

did not provide the anchor points for the scale or intermediate scale labels. Due to pilot test participants' preferences for a rating scale with a neutral mid-point, and to enable consistency of rating scales used throughout the questionnaire, a 7-point Likert-type scale, ranging from 1 (*strongly disagree*) to 7 (*strongly agree*) was used in the present study. Higher scores indicate more negative attitudes toward fat persons.

This scale is internally consistent, with Cronbach alpha coefficients ranging from .80 to .84 (Crandall, 1994; Crandall, et al., 2001; Crandall & Martinez, 1996). Crandall reported that males scored significantly higher than females on the Dislike scale ($p < .01$), but he did not find a significant relationship between respondent weight status and the Dislike scale. Crandall demonstrated the convergent validity of Dislike scores by showing that this scale had positive correlations with measures of belief in a just world, authoritarianism, racism, political conservatism, Protestant ethic values, and beliefs about the controllability of fatness. The lack of relationship between Dislike and a measure of personal fear of fat supported the discriminant validity of scores on Crandall's Dislike measure. Using principal components analysis, Morrison and O'Connor (1999) found that Dislike items loaded on two components. They also found a significant correlation between Crandall's Dislike scale and a measure of social desirability for females only ($p < .04$).

7.2.2.2.2.2 Anti-Fat Attitudes Scale

In response to limitations of Crandall's (1994) Dislike scale, Morrison and O'Connor (1999) developed and validated the Anti-fat Attitudes Scale (AFAS) to measure negative attitudes toward fat persons. This scale seems to measure aversive reactions to fat persons, with items such as "It is disgusting when a fat person wears a bathing suit at the beach" (see Table C4 in Appendix C). Although Morrison and O'Connor asked participants to rate the 5-item AFAS on a 5-point Likert-type scale, a 7-point scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*) was employed for the present study. Pilot test participants indicated that they preferred a 7-point scale, as this would enable consistency between this scale and most other measures in questionnaire, and provide participants with more response options. Higher scores on the AFAS indicate more negative attitudes toward fat persons.

Morrison and O'Connor (1999) reported Cronbach alphas ranging from .72 to .80, and found that males scored higher on the AFAS than females ($p < .001$).

Overweight participants also reported significantly lower scores on the AFAS than non-overweight participants ($p < .05$). Morrison and O'Connor demonstrated the convergent validity of AFAS scores by showing that scale scores had positive correlations with measures of authoritarianism, political conservatism, and homonegativity, and discriminant validity by demonstrating that the AFAS scores did not correlate significantly with a measure of personal fear of fat. Morrison and O'Connor found that the AFAS was not influenced by social desirability bias. Principal components analysis of AFAS items showed that the scale was unidimensional.

7.2.2.2.3 Paternalistic Anti-Fat Attitudes Scale

A Paternalistic Anti-Fat Attitudes Scale (PAFAS) was developed for this study, measuring the degree to which an individual believes that fat persons should be helped to lose weight in the interests of benefiting the fat person (e.g., for the sake of their happiness and health). Based on an extensive review of relevant academic and popular literature and research results, six elements of paternalistic anti-fat attitudes were proposed. These elements are presented below with an example PAFAS item reflecting each element:

1. Fat persons should be helped to lose weight in the interests of benefiting the fat person (e.g., “All fat people should be put on a diet for their own good”).
2. Helping someone lose weight is due to caring about them (e.g., “If someone truly cares about a fat person they will persuade him or her to diet and exercise to lose weight”).
3. Fat people should be helped to lose weight because they are incompetent at losing weight (e.g., “As fat people are incapable of maintaining normal weight, they should be helped to lose weight”).
4. It is necessary to disregard fat people’s opinions and beliefs about weight when trying to help them (e.g., “To help fat people lose weight it is often necessary to make them realise that they are fat as a result of their own behaviour”).
5. It is acceptable to use coercion to get fat people to lose weight (e.g., “Sometimes it is acceptable to push a fat person to lose weight”).
6. It is not acceptable for fat people to choose to stay fat (e.g., “Fat people who do not desire weight loss should be respected and not be encouraged to lose

weight” - reverse scored item).

Twenty-one statements were generated to reflect the above elements (see Table C5 in Appendix C). Each element was measured by at least three items. Four items were adapted from the Physician Concern factor of the Attitudes toward Management of Obesity Scale developed by Kristeller and Hoerr (1997; see Table C6). Two PAFAS items were adapted from Bagley et al.’s (1989) Attitudes Toward Obese Adult Patients scale (see Table C5). All other items were generated by the researcher to reflect various aspects of the proposed definition of paternalistic anti-fat attitudes. Ideas for items for the PAFAS came from the writings of Bovey (1994), Brown (1989), Bruere and O’Connor (1999), Crawford and Campbell (1998), Lyons (1989), Packer (1989), Tenzer (1989), and Tipton and Browning (1972). Participants rated PAFAS items on a scale from 1 (*strongly disagree*) to 7 (*strongly agree*). Although the researcher initially attempted to develop similar numbers of positively- and negatively-worded items for the PAFAS, some negatively-worded items were difficult to understand and were re-written in the positive manner following feedback from pilot test participants (see Foddy, 1993). The remaining seven negatively-worded items (see Table C5) are reverse scored. Higher scores indicate more paternalistic attitudes toward fat persons.

7.2.2.3 Weight Beliefs

7.2.2.3.1 Beliefs About Fat Persons Scale

A revised version of Allison et al.’s (1991) Beliefs About Obese Persons Scale (BAOP) was used to measure the degree to which fat people are believed to have had control over the cause of their fatness (see Table C6 in Appendix C). The eight items on this scale (e.g., “Obesity is usually caused by overeating”) reflect a range of beliefs about the causes of fatness discussed in the literature (e.g., Rothblum, 1990). For the present study, the terms obese and obesity in BAOP items were replaced with fat and fatness to enable consistency of terminology throughout the questionnaire. This revised version of Allison et al.’s BAOP was employed because, unlike other controllability measures [e.g., Crandall’s (1994) Willpower scale], this scale seems to measure only personal control over onset of fatness, and not also degree of control over continuing to be fat (i.e., changeability). Although Allison et al. employed a 6-point Likert-type scale ranging from +3 to -3, a 7-point

Likert-type scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*) was employed for the present study. Pilot test participants indicated that they preferred a 7-point scale, to enable consistency between this scale and most other measures in the questionnaire and to provide participants with a neutral response. Allison et al.'s original BAOP was scored so that higher scores indicated greater belief that obesity was not able to be controlled by obese persons. In contrast to Allison et al. and to aid interpretation, Beliefs About Fat Persons (BAFP) items are scored so that higher scores indicate greater belief that fatness is under the control of fat persons. Two items are reverse scored (see Table C6).

Allison et al. (1991) reported internal consistency estimates of .65 to .84. In support of the construct validity of BAOP scores, Allison et al. found that members of the National Association to Advance Fat Acceptance (NAAFA) scored significantly higher than two samples of university students on the BAOP. In these three samples, Allison et al. found significant correlations between the BAOP and a measure of stereotypical perceptions of fat persons ($p < .001$), supporting the convergent validity of BAOP scores.

7.2.2.3.2 Changeability Scale

A Changeability Scale was developed for this study, measuring the degree to which individuals believed that fat people can control whether or not they continue to be fat (e.g., "Fatness is readily changed if one chooses") (see Table C7 in Appendix C). This changeability measure consists of 10 items rated on a 7-point Likert-type scale, ranging from 1 (*strongly disagree*) to 7 (*strongly agree*). Four items are reverse scored (see Table C7). Higher scores indicate a stronger belief that fat people can change their weight.

One Changeability item was taken from Crandall's (1994) Willpower scale, while two other items were adapted from Crandall's Willpower scale and a factual question used by Crandall (see Table C7). Another item was adapted from Bagley et al.'s (1989) Attitudes Toward Obese Adult Patients scale (see Table C7). Item 3 is a direct quote from Baron and Lear (1989, p. 89). The researcher generated all other items following an extensive review of relevant literature. Ideas for items for the Changeability Scale came from the writings of Barron and Lear (1989), Bovey (1994), Bruere and O'Connor (1999), Lyons (1989), Packer (1989), Rothblum (1990), Tiggemann and Anesbury (2000), and Willmuth (1986).

7.2.2.3.3 *Desire to Change Scale*

A Desire to Change Scale was developed specifically for this study to measure beliefs that fat people do not want to be fat and want to change to become non-fat (see Table C8 in Appendix C). This scale includes items measuring beliefs that fat persons do not like being fat (e.g., “No one wants to be fat”), and beliefs that fat persons want to become non-fat (e.g., “Fat people want to become normal weight”). Two Desire to Change Scale items were adapted from Allison et al.’s (1991) Attitudes Toward Obese Persons (ATOP) Scale (see Table C8). All other items were developed by the researcher based on a review of relevant literature. Ideas for items for this scale came from the writings of Bovey (1994), DeJong (1980), Furnham and McDermott (1994), Lyons (1989), Murphee (1994), and Tenzer (1989). The Desire to Change Scale consists of eight items rated on a 7-point Likert-type scale, ranging from 1 (*strongly disagree*) to 7 (*strongly agree*). Three items are reverse scored (see Table C8). Higher scores indicate a stronger belief that fat people want to change.

7.2.2.3.4 *Benefits Scale*

A Benefits Scale, measuring beliefs that weight loss is beneficial for a fat person, was developed for the present study (see Table C9 in Appendix C). The ideas for items on this scale came from Barron and Lear (1989), Bovey (1994), and Lyons (1989), and from research on stereotyping suggesting that fat people are perceived as unhealthy, unhappy, unattractive, insecure, incompetent, and so on. The eight items on this scale include, “Fat people would feel better about themselves if they lost weight”. Participants rated Benefits Scale items on a scale from 1 (*strongly disagree*) to 7 (*strongly agree*). Although the researcher initially attempted to develop similar numbers of positively- and negatively-worded items for the Benefits Scale, some negatively-worded items were difficult to understand and were re-written in the positive manner following feedback from pilot test participants (see Foddy, 1993). The remaining two negatively-worded items were reverse scored (see Table C9). Higher scores on this scale indicate a greater belief that fat people would benefit from losing weight.

7.2.2.3.5 Stereotypes of Fat Persons

Two measures of stereotypic perceptions of fat persons were developed. These scales, Warmth (e.g., “Fat people tend to be warm and friendly towards others”; see Table C10.1 in Appendix C) and Competence (e.g., “Fat people are just as self-confident as other people”; see Table C11.1 in Appendix C) consisted of five and four items, respectively. These aspects of the fat stereotype were measured to explore the utility of Fiske et al.’s (1999; 2002) stereotype content model for understanding attitudes toward fat persons. Warmth and Competence Scale items were presented together in random order as a single scale. Items were developed to reflect stereotypic characteristics measured by Fiske et al., such as independence, intelligence, and confidence (i.e., Competence) and tolerance, good-naturedness, and sincerity (i.e., Warmth). One Warmth Scale item and one Competence Scale item were from Crandall’s (1994) Dislike scale. These two items were presented to participants in both the Dislike scale and Stereotypes of Fat Persons measures in this survey¹. Additionally, one item from each scale was adapted from Allison et al.’s (1991) ATOP, by replacing obese with fat (see Tables C10.1 and C11.1). Participants indicated the degree to which they agreed or disagreed with each item on a 7-point scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*). Two Warmth Scale items are reverse scored (see Table C10.1). Higher scores indicate stronger beliefs that fat persons are warm. Two Competence Scale items are reverse scored (see Table C11.1). Higher scores indicate stronger perceptions of fat persons as competent.

7.2.2.4 Definitions of Fat

To enable participants to respond to measures based on their own definition of fat, an operational definition of fat persons was not provided to participants. The range of body sizes that participants perceived as fat was determined by asking

¹ The Warmth and Competence Scales were included primarily to test Hypothesis 4g to determine if fat persons were perceived as more warm than competent. The correlations between these measures and the Dislike scale will be provided in chapter 8 for descriptive purposes, and it is noted that these correlations may be inflated due to the overlap of item content. No main analyses will examine the relationships between these measures; therefore the overlap in item content for these scales should not be problematic.

participants to indicate which of a set of drawings they considered to be fat. Participants were presented with two sets of nine silhouette drawings of people of varying body sizes wearing bathing suits; one male and one female (see Appendix B). Stunkard, Sorenson, and Schulsinger (1983) developed these drawings and found that there is a “monotonic increase in percentage overweight from the first to the ninth silhouette for both men and women” (p. 119). Each set of drawings ranges from 1 (*very thin*) to 9 (*very fat*). Stunkard et al.’s silhouette scales have been used to measure perception of own weight (Fallon & Rozin, 1985; Hallinan & Schuler, 1993) and others’ weight (Stunkard, et al., 1983). These figures have also been used to indicate ideal weight and most attractive body shape (Fallon & Rozin, 1985).

Participants were asked to indicate all drawings that they considered fat for both sets of figures by circling numbers from 1 to 9 beneath the drawings. Scores for these scales represent the smallest number selected by participants, and can range between 1 and 9. Higher scores indicate that participants’ definition of what constitutes a fat person is represented by a larger body size.

7.2.3 Scale Scoring

All multi-item measures in the weight attitudes and weight beliefs sections of the questionnaire were rated on Likert-type scales. Scale or subscale scores for these measures were calculated by averaging scores on all items of the scale. Scores on these measures ranged from 1 to 7.

7.3 Procedure

Students were recruited via the Psychology Experiment Sign-Ups Database (PESUD). The PESUD (<https://psych.sci.usq.edu.au/pesud/sec/>) is a website that allows people to participate in research projects being conducted by staff and students in the Department of Psychology at the USQ, including web-based surveys. After logging-on, participants could select from a range of experiments and surveys, including this study. The Weight-Related Beliefs and Attitudes Questionnaire was transformed into a web survey and was offered to students on the PESUD in semester 1 of 2004 (Appendix B). When participants clicked on ‘Participate’ adjacent to the survey, a page opened containing the Informed Consent Sheet for the Weight-Related Beliefs and Attitudes Study (Appendix B). This page informed participants about the study and participation, that participation was voluntary, that

they could withdraw their consent at any time, that their participation was anonymous and confidential, and who they could contact to obtain further information about the research. Participants were informed how to print a copy of this sheet for future reference. At the bottom of the consent page, participants were asked to provide their consent by typing an identification number in the Consent ID box. A statement above the Consent ID box informed participants that by consenting they were declaring that they were at least 18 years of age. After consenting, participants were instructed to click 'Next' to begin the survey. Further instructions were provided throughout the questionnaire. Participants responded to survey items by selecting appropriate radio buttons and typing responses. For some sections, participants were required to respond to each item on a page before they could proceed to the next page. After responding to survey items, a window opened which informed participants that they could receive a summary of the results of the study, and asked participants to indicate if they would like to receive such feedback. If they selected "yes" they were asked to provide their email address. These email addresses were stored in a data file separate from the questionnaire data.

CHAPTER 8 - STUDY 1 RESULTS

8.1 Overview

All quantitative analyses were conducted using the Statistical Package for the Social Sciences (SPSS) for Windows. Following initial data preparation, exploratory factor analysis and reliability analysis were used to explore the dimensionality and internal consistency of scores on multi-item affective reactions, weight attitudes, and weight beliefs measures. Following scale analyses and construction, scores were calculated for scales and other variables, and the distributions of all variables were examined to ensure that the assumptions of multivariate analysis were met. Descriptive statistics for all variables and correlations between all variables were calculated. The main analyses testing the hypotheses and examining the exploratory research questions were then conducted. Qualitative responses provided by respondents at the end of the questionnaire were also examined using thematic analysis.

8.2 Quantitative Data Analysis

8.2.1 Initial Data Preparation

The data set consisted of responses from 215 psychology students. Respondents' web survey responses were saved directly into a data file. The time it took each participant to complete the survey was recorded in the data file. The median time to complete was 21 minutes. Four participants completed the survey in less than 10 minutes. These cases were examined for response patterns; however, these cases appeared to contain valid data. The range of values for each item was also examined to detect any inaccuracies in the data file. One participant's metric height was recorded as 60. As this was unlikely to be an accurate reflection of this participant's height, this response was deleted and treated as missing data. There were no other out of range values for any item.

Missing value analysis was employed to examine the amount and pattern of missing data for each case on items to be used in analyses. Missing value analysis was not used to examine respondent information variables that were only used to describe the characteristics of the sample and were not used in analyses (i.e., marital

status, cultural/ethnic identification, employment status, level of education, and postcode). There were no missing values for scales with multiple items, as participants were required to respond to all of these scale items prior to proceeding through the web survey; however, there was a small amount of missing data on single-item measures. For single-item measures, four participants had missing values on one item and two participants had missing values on two items. Therefore, only 3% ($n = 6$) of the sample had missing values for items relevant to statistical analyses. The percentage of cases with missing values on each item ranged from 0 to 1.4%. Missing values were replaced by values calculated using the expectation-maximisation (EM) algorithm for maximum likelihood (ML) estimation, as recommended by Schafer and Graham (2002). Negatively-worded items were recoded prior to analyses.

8.2.2 Exploratory Factor Analysis and Reliability Analysis

Except for the measure of social desirability (i.e., Marlowe-Crowne Social Desirability Scale Form C), all multi-item measures employed in this study were revised versions of existing scales or new measures developed by the researcher (see chapter 7). Exploratory factor analyses and reliability analyses were performed to explore the dimensionality and internal consistency of scores on the revised or developed multi-item affective reactions, weight attitudes, and weight beliefs measures. The results of these analyses were used to refine these measures in order to obtain reliable scale and subscale scores. Although scale development was an important aspect of the current research (see Aim 4a in chapter 6), in the interests of focusing on the main analyses of this study, a detailed discussion of the results of the exploratory factor analyses and reliability analyses of the multi-item scales are presented in Appendix D. Table 8.1 provides a comparison of the scales completed by participants in the web survey with the final scales used in the analyses presented in this chapter.

Table 8.1

Summary of Scale Development for Study 1

Questionnaire Scales	No. of Items	Final Scales	No. of Items	Alpha	Notes
AFFECTIVE REACTIONS					
Affective Reactions Toward Fat Persons Scale:					
Pity subscale	2	Two single-item measures: <ul style="list-style-type: none"> • Pity • Sympathy 	N/A	N/A	
Anger subscale	3	Anger subscale	2	.74	
WEIGHT ATTITUDES					
Dislike scale	7	Negative Evaluation subscale	4	.90	Incl. Dislike item 3
		Social Distance subscale	3	.69	
Anti-fat Attitudes Scale (AFAS)	5	Unattractiveness Scale	4	.76	
Paternalistic Anti-Fat Attitudes Scale (PAFAS)	21	PAFAS	14	.84	
WEIGHT BELIEFS					
Beliefs About Obese Persons (BAFP) Scale	8	Controllability Scale	6	.80	Includes AFAS item 4
Changeability Scale	10	Changeability Scale	9	.79	
Desire to Change Scale	8	Desire to Change Scale	7	.83	
Benefits Scale	8	Benefits Scale	8	.77	
Warmth Scale	5	Warmth Scale	2	.95	
Competence Scale	4	Competence Scale	2	.63	Incl. Dislike item 3

Note. For further details of scale analyses see Appendix D. Details of items in measured and final scales are provided in Appendix C. See section 7.2.2.3.5 for discussion of overlapping item content of Dislike and Competence scales.

8.2.3 Computation of Variable Scores

Scale and subscale scores for multi-item affective reactions, weight attitudes, and weight beliefs variables were calculated by averaging scores on all items for each scale. This procedure yielded scale scores with the same measurement scale as the participant's original responses (i.e., 1 to 7). Scores on the Marlowe-Crowne Social Desirability Scale Form C (M-C Form C) were calculated by summing the number of true responses for each participant. From self-reported height and weight, Body Mass Index (BMI) was calculated, as weight (in kilograms) divided by squared height (in metres).

8.2.4 Evaluation of Assumptions of Multivariate Analysis

Prior to analyses, the distributions of all variables were examined to ensure that the assumptions of multivariate analysis were met. Assumptions specific to grouped analyses will be discussed with the results of the relevant analyses.

8.2.4.1 Outliers

All variables were examined for univariate and multivariate outliers. Although nine cases had large standard scores on 10 of the variables ($z > |3.29|$), most of these were not extreme ($z < |4.15|$), and examination of histograms suggested that these scores represented a continuation of the distributions of scores. These scores were retained as legitimate variation. Using Mahalanobis distance with $p < .001$, five cases were identified as multivariate outliers. These cases were deleted, leaving 210 participants.

8.2.4.2 Normality

Univariate normality of all variables was assessed through examination of histograms, and skewness and kurtosis standard scores. As the significance tests for skewness and kurtosis standard scores are overly sensitive for large samples (Tabachnick & Fidell, 1996), only the magnitudes of these scores were considered. Using these methods, the Negative Evaluation subscale ($z = 9.19$) was positively skewed. Square root transformation was applied to the Negative Evaluation subscale scores in order to improve the normality of the distribution of this scale. Although the skewness of the Negative Evaluation subscale ($z = 6.41$) was improved by transformation, the relationships between this scale and other variables were not

substantially altered. The magnitudes of the correlations for the non-transformed and transformed scales did not differ by more than .03. Due to this, and the increased difficulty in interpreting transformed scales, the non-transformed scale was employed. Tabachnick and Fidell (1996) note that the influence of skewness and kurtosis is diminished with larger sample sizes.

8.2.4.3 Linearity and Homoscedasticity

Bivariate scatterplots of all possible pairs of variables were inspected to assess the linearity and homoscedasticity of the relationships between the variables. Inspection of these plots indicated that the variables were linearly related or unrelated to each other. The plots for variables that were correlated generally showed homoscedastic relationships. The skewness of the Negative Evaluation subscale detracted from the homoscedasticity of relationships with this variable, with negative evaluation scores clustering at the lower end of the distribution. For the reasons provided earlier, transformation was not used to improve the distribution of this variable. Tabachnick and Fidell (1996) note that heteroscedasticity reduces the amount of relationship that can be captured using correlational analyses, but it does not invalidate the analyses.

8.2.4.4 Multicollinearity and Singularity

As none of the correlations between variables exceeded .90, multicollinearity and singularity were not present.

8.2.5 Descriptive Statistics

The final sample consisted of 210 participants, 45 (21.4%) males and 165 (78.6%) females. For descriptive purposes, the means and standard deviations for the final continuous variables are presented in Table 8.2. Higher scores on all measures reflect more of the relevant variable (e.g., stronger agreement with attitude, greater expression of affective reaction). Respondent weight was also explored by classifying BMI into weight categories suggested by the World Health Organization (2003). Using BMI as an indicator of respondent weight, 58 (27.6%) participants were classified as overweight (i.e., $25 \leq \text{BMI} < 30$), of which 19 were male and 39 were female. Additionally, 44 (21%) respondents were classified as obese (i.e., BMI

≥ 30), with 6 men and 38 women. Although 15 (7.1%) female participants were classified as underweight (i.e., BMI < 18.5), no males were underweight.

Table 8.2

Descriptive Statistics for Final Continuous Measures for Study 1 (N = 210)

Measures	<i>M</i>	<i>SD</i>	Range
Age	28.88	9.28	18-62
BMI	25.43	5.81	16.33-45.71
Definition of Fat Man	6.27	0.76	4-9
Definition of Fat Woman	5.64	0.96	3-9
Pity	4.00	1.76	1-7
Sympathy	4.68	1.59	1-7
Anger subscale	2.30	1.27	1-7
Negative Evaluation subscale	1.68	0.84	1-5
Social Distance subscale	2.64	1.24	1-6.67
Unattractiveness Scale	3.94	1.27	1-7
Paternalistic Anti-Fat Attitudes Scale	3.73	0.89	1.36-6.36
Controllability Scale	4.63	0.97	2-7
Changeability Scale	4.12	0.84	1.89-6.44
Desire to Change Scale	4.82	0.93	2.14-7
Benefits Scale	4.29	0.84	2-6.63
Warmth Scale	4.47	1.15	1-7
Competence Scale	5.34	1.03	2.5-7

8.2.6 Correlations

Table 8.3 shows the correlations among the affective reactions, weight attitudes, and weight beliefs variables. The correlations among the respondent variables and definitions of fat variables are presented in Table 8.4. The correlations of the affective reaction, weight attitudes, and weight beliefs variables with the respondent variables and definitions of fat variables are presented in Table 8.5. All correlations reported are Pearson product-moment correlation coefficients.

8.2.7 Social Desirability

Participant scores on the Marlowe-Crowne Social Desirability Scale Form C (M-C Form C) ranged from 0 to 13 ($M = 6.68$, $SD = 2.97$), the minimum and maximum scores possible on this scale. The Cronbach alpha for the M-C Form C was .70. The correlations between all variables and the M-C Form C were examined to ascertain the affect of socially desirable response tendencies on participants' responses to all measures employed. None of the variables was significantly correlated with social desirability.

8.2.8 Main Analyses

The results of analyses conducted to test the hypotheses and examine the exploratory aims of this study (see chapter 6) will be presented in this section. As recommended by the American Psychological Association (2001), the magnitude of effect size (ES) indices will be provided for statistically significant results. ES classifications will only be provided for ESs that are large enough to be classified as small or larger. Table 8.6 provides the criteria that were used to classify the magnitude of ES indices.

Table 8.3
Correlations among Affective Reactions, Weight Attitudes, and Weight Beliefs (N = 210)

	1	2	3	4	5	6	7	8	9	10	11	12
1. Pity	-											
2. Sympathy	.24***											
3. Anger	.26***	-.16*										
4. Negative Evaluation	.23**	-.24***	.47***									
5. Social Distance	.21**	-.17*	.50***	.54***								
6. Unattractiveness	.24**	-.22**	.52***	.42***	.53***							
7. Paternalistic Attitudes	.24**	-.15*	.42***	.37***	.50***	.56***						
8. Controllability	.21**	-.08	.34***	.13	.31***	.55***	.51***					
9. Changeability	.08	-.11	.37***	.23**	.39***	.54***	.56***	.64***				
10. Desire to Change	.25***	.11	.09	.04	.18**	.36***	.37***	.40***	.31***			
11. Benefits	.28***	-.04	.34***	.27***	.34***	.56***	.54***	.54***	.45***	.57***		
12. Warmth	.01	.03	.01	-.05	-.06	.08	-.01	.06	.50***	.13	.11	
13. Competence	-.01	.12	-.26***	-.43***	-.39***	-.29***	-.30***	.01	-.14*	-.01	-.23**	-.11

Note. The correlation of Competence and Negative Evaluation may be inflated due to overlapping item content (see Tables C3 and C11.1 in Appendix C).
 * $p < .05$. ** $p < .01$. *** $p < .001$.

Table 8.4
Correlations between Respondent Variables and Definitions of Fat Variables (N = 210)

	1	2	3	4
1. Age	-			
2. Gender	-.05			
3. Weight	.20**	-.04		
4. Definition of Fat Man	-.10	.11	.13	
5. Definition of Fat Woman	.07	.00	.17*	.62***

* $p < .05$. ** $p < .01$. *** $p < .001$.

Table 8.5
Correlations of Affective Reactions, Weight Attitudes, and Weight Beliefs, with Respondent Variables and Definitions of Fat Variables (N = 210)

	Age	Gender	Weight	Definition Fat Man	Definition Fat Woman
Pity	.02	-.01	-.09	-.08	-.21**
Sympathy	.10	.12	.09	.01	-.02
Anger	-.07	-.06	-.19**	-.21**	-.29***
Negative Evaluation	.04	-.10	-.16*	-.12	-.15*
Social Distance	.01	-.23**	-.33***	-.28***	-.24***
Unattractiveness	.01	-.10	-.35***	-.36***	-.44***
Paternalistic Attitudes	.04	-.07	-.33***	-.25***	-.25***
Controllability	.03	.00	-.20**	-.31***	-.29***
Changeability	-.10	-.09	-.23**	-.32***	-.29***
Desire to Change	.18**	-.02	.04	-.25***	-.26***
Benefits	.20**	-.04	-.13	-.29***	-.35***
Warmth	-.08	.03	.05	-.07	-.10
Competence	.09	.23**	.06	.06	.12

Note. For gender, males were coded as 1 and females were coded as 2.

* $p < .05$. ** $p < .01$. *** $p < .001$.

Table 8.6
Criteria used to Classify Effect Size Indices

Analysis	ES Index	ES Classification		
		Small	Medium	Large
Correlation	r	.10	.30	.50
Multiple Regression	f^2	.02	.15	.35
<i>T</i> -test	d	.20	.50	.80
ANOVA/MANOVA	η^2	.01	.06	.14

Note. ES classification cut-off values taken (or calculated) from Cohen (1988, 1992). ES indices with magnitudes equal to or greater than the above classification cut-offs are classified in the relevant ES classification.

8.2.8.1 Hostile Anti-Fat Attitudes and Affective Reactions

Hypothesis 1a: Hostile anti-fat attitude variables based on Crandall's (1994) Dislike scale and Morrison and O'Connor's (1999) AFAS will capture correlated but independent dimensions of hostile attitudes toward fat persons:

Exploratory factor analysis was also used to explore the dimensionality of the combined Negative Evaluation and Social Distance subscales items and Unattractiveness Scale items. The procedures followed for this analysis were the same as those for factor analyses of other scale items (see section D.1.1 in Appendix D). Although the determinant was zero to two decimal places, multicollinearity and singularity did not appear to be present as the highest SMC between items was .76. The factorability of the correlation matrix was adequate as 70.9% of the correlations exceeded .30, MSAs were all greater than .5, and as the Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy was .88. Correlations among hostile anti-fat attitude items are provided in Tables D5, D7, and D22 in Appendix D. Three correlated factors were extracted accounting for 57.6% of the variance in the items. The correlations between the factors were all substantial (see Table D21 in Appendix D).

Negative Evaluation subscale items loaded on Factor 1, Unattractiveness Scale items loaded on Factor 2, and Social Distance subscale items loaded on Factor 3 (see Table D22 in Appendix D). This solution validated the results of the separate

factor analyses for the Dislike scale (see section D.1.3.2 in Appendix D) and the AFAS (see section D.1.3.3 in Appendix D) items.

Hypothesis 1b: Hostile anti-fat attitudes will be positively correlated with anger toward fat persons:

Negative evaluation, social distance, unattractiveness, and anger were significantly inter-related with positive correlations ranging from .42 (medium ES) to .54 (large ES; see Table 8.3). Respondents who reported greater anger were also likely to report higher levels of hostile anti-fat attitudes.

8.2.8.2 Controllability Beliefs and Reactions to Fat Persons

Hypothesis 2a: Controllability beliefs will be positively correlated with hostile anti-fat attitudes and expressions of anger toward fat persons:

Controllability beliefs were positively correlated with social distance ($r = .31$, $p < .001$; medium ES), and unattractiveness ($r = .55$, $p < .001$; large ES). The correlation between negative evaluation and controllability beliefs was marginally significant ($r = .13$, $p = .052$; small ES). Anger was also positively correlated with controllability beliefs ($r = .34$, $p < .001$; medium ES). Greater belief that fatness is under personal control was related to more hostile anti-fat attitudes and anger toward fat persons.

Hypothesis 2b: Controllability beliefs will be negatively correlated with expressions of pity toward fat persons:

Contrary to expectation, pity was positively correlated with controllability beliefs ($r = .21$, $p < .01$; small ES), such that greater belief that fatness is under personal control was related to greater pity for fat persons. Sympathy was not significantly correlated with controllability beliefs ($r = -.08$, $p > .05$).

8.2.8.3 Changeability Beliefs and Reactions to Fat Persons

Hypothesis 3a: The majority of respondents will report agreement with controllability and changeability beliefs as reflected by scale scores on these beliefs that are greater than the neutral mid-points of the measurement scales:

The overall means for changeability ($M = 4.12$, $t(209) = 2.04$, $p < .001$; $d = .14$) and controllability ($M = 4.63$, $t(209) = 9.43$, $p < .05$; $d = .65$, large ES) beliefs

were both significantly greater than the neutral mid-point of the respective scales. For controllability beliefs, the majority of respondents (71.9%) had Controllability Scale scores greater than the neutral mid-point of the scales; fewer respondents tended to agree with changeability items: 50.48% had scale scores greater than the neutral mid-point, whereas a similar proportion of respondents (49.52%) had scores equivalent to the neutral mid-point or below.

Hypothesis 3b: Changeability and controllability beliefs will be positively correlated (but not so highly correlated that they are redundant concepts):

Changeability and controllability beliefs were significantly positively correlated ($r = .64, p < .001$), such that greater belief that fatness is changeable was related to greater belief that fatness is controllable. Although the ES for this relationship was large, the correlation between changeability and controllability beliefs was not so large that these variables could be considered redundant.

Hypothesis 3c: Changeability beliefs will be positively correlated with hostile anti-fat attitudes and expressions of anger toward fat persons:

As hypothesised, negative evaluation ($r = .23, p < .01$; small ES), social distance ($r = .39, p < .001$; medium ES), unattractiveness ($r = .54, p < .001$; large ES), and anger ($r = .37, p < .001$; medium ES) were positively correlated with changeability beliefs. Greater belief that fatness is changeable was related to more hostile anti-fat attitudes and anger toward fat persons.

Hypothesis 3d: Changeability beliefs will explain incremental variance in hostile anti-fat attitudes, over and above variance accounted for by controllability beliefs:

Hierarchical multiple regression analyses were conducted to ascertain whether changeability beliefs significantly predicted variance in hostile anti-fat attitudes beyond that explained by controllability beliefs. Separate hierarchical regression analyses were conducted to predict each hostile anti-fat attitude measure. The ratio of cases to independent variables was adequate for each analysis (see Coakes & Steed, 1997; Tabachnick & Fidell, 1996). Controllability was entered at the first step and changeability was entered at the second step for each analysis. The results of these analyses are summarised in Table 8.7. Consistent with univariate correlations (see Hypothesis 2a), at step 1 controllability beliefs significantly predicted social distance ($\beta = .31, t = 4.62, p < .001$), and unattractiveness ($\beta = .55, t = 9.38, p < .001$), explaining 9.3% and 29.7% of the variance in social distance and

unattractiveness attitudes, respectively. Controllability beliefs also marginally predicted negative evaluation at step 1 ($\beta = .13, t = 1.95, p = .052$), explaining 1.8% of the variance. The ESs for negative evaluation ($f^2 = .02$) and social distance ($f^2 = .10$) were small, and the ES for unattractiveness was large ($f^2 = .42$).

At step 2, the addition of changeability beliefs as a predictor explained significant additional variance in negative evaluation (3.3%), social distance (6.2%), and unattractiveness (6.2%). At step 2, changeability beliefs were a significant predictor of all hostile anti-fat attitude variables: negative evaluation ($\beta = .24, t = 2.68, p < .01$), social distance ($\beta = .32, t = 3.89, p < .001$), and unattractiveness ($\beta = .33, t = 4.49, p < .001$). While controllability beliefs were not a significant predictor of negative evaluation or social distance attitudes when changeability beliefs were added to the prediction at step 2, controllability beliefs were a significant predictor of unattractiveness ($\beta = .34, t = 4.65, p < .001$) at both steps. At step 2, the overall ES for the model was small for negative evaluation ($f^2 = .05$), medium for social distance ($f^2 = .18$) and large for unattractiveness ($f^2 = .56$). The ESs for the increase in variability explained by the addition of changeability beliefs were small for all hostile attitude variables: negative evaluation ($f^2 = .03$), social distance ($f^2 = .07$), and unattractiveness ($f^2 = .10$).

Hypothesis 3e: Changeability beliefs will be negatively correlated with expressions of pity toward fat persons:

Contrary to prediction, changeability beliefs were not significantly related to either pity or sympathy (see Table 8.3).

8.2.8.4 Paternalistic Anti-Fat Attitudes and Related Beliefs

Hypothesis 4a: The degree to which paternalistic and hostile anti-fat attitudes are endorsed will be explored. It is predicted that respondents will report greater paternalistic anti-fat attitudes than hostile anti-fat attitudes. It is also predicted that respondents will report greater pity than anger toward fat persons:

The means for negative evaluation ($M = 1.68$) and social distance ($M = 2.64$) suggested that overall respondents reported low levels of negative evaluations of fat persons and desire for social distance from fat persons. The majority of respondents had scale scores below the neutral mid-point for negative evaluation (95.7%) and social distance (80.5%). The means for unattractiveness ($M = 3.94$) and paternalistic

Table 8.7

Summary of Hierarchical Regression Analyses for Controllability and Changeability Predicting Hostile Anti-Fat Attitudes ($N = 210$)

Hostile Anti-Fat Attitudes												
Variable	Negative Evaluation				Social Distance				Unattractiveness			
	<i>B</i>	<i>SE B</i>	<i>B</i>	<i>sr</i> ²	<i>B</i>	<i>SE B</i>	β	<i>sr</i> ²	<i>B</i>	<i>SE B</i>	β	<i>sr</i> ²
Step 1												
Controllability	.12	.06	.13 ^a	.02	.39	.09	.31***	.09	.72	.08	.55***	.30
<i>R</i> ²	.02				.09				.30			
<i>F</i>	3.81 ^a				21.36***				87.98***			
Step 2												
Controllability	-.02	.08	-.02	.00	.13	.11	.10	.01	.44	.10	.34***	.07
Changeability	.24	.09	.24**	.03	.48	.12	.32***	.06	.49	.11	.33***	.06
<i>R</i> ²	.05				.16				.36			
<i>F</i> for change in <i>R</i> ²	7.18**				15.15***				20.17***			

^a $p = .052$.

** $p < .01$. *** $p < .001$.

anti-fat attitudes ($M = 3.73$) were closer to the mid-point of the scales. A greater percentage of respondents tended to espouse unattractiveness (44.3%) and paternalistic attitudes (37.1%), as evidenced by scale scores above the neutral mid-point of these scales.

Paired samples t -tests were conducted for each hostile anti-fat attitude variable paired with paternalistic anti-fat attitudes. As predicted, respondents reported more paternalistic anti-fat attitudes ($M = 3.73$) than either negative evaluation ($M = 1.68$, $t(209) = -30.38$, $p < .001$; $d = 2.10$, large ES) or social distance ($M = 2.64$, $t(209) = -14.23$, $p < .001$; $d = .98$, large ES) attitudes. The means for paternalistic anti-fat attitudes ($M = 3.73$) and unattractiveness ($M = 3.94$) were also significantly different, however, contrary to prediction, respondents reported greater unattractiveness than paternalistic anti-fat attitudes, $t(209) = 2.92$, $p < .01$ ($d = .20$, small ES). Paired samples t -tests also showed that respondents reported greater pity ($M = 4.00$, $t(209) = 13.03$, $p < .001$; $d = .90$, large ES) and sympathy ($M = 4.68$, $t(209) = 15.74$, $p < .001$; $d = 1.09$, large ES) than anger ($M = 2.30$) toward fat persons.

Hypothesis 4b: Hostile and paternalistic anti-fat attitudes will be positively correlated (but not so highly correlated that they are redundant concepts):

Paternalistic anti-fat attitudes were positively correlated with hostile anti-fat attitudes, with stronger paternalistic attitudes relating to greater hostile attitudes. Specifically, paternalistic attitudes were correlated with negative evaluation ($r = .37$, $p < .001$; medium ES), social distance ($r = .50$, $p < .001$; large ES), and unattractiveness ($r = .56$, $p < .001$; large ES). These correlations were significant but not so large that paternalistic and hostile anti-fat attitudes were redundant.

Hypothesis 4c: Pity will be positively correlated with anger and hostile anti-fat attitudes:

As predicted, pity had significant positive correlations with negative evaluation, social distance, unattractiveness, and anger, ranging from .21 to .26 (small ESs; see Table 8.3). In contrast, sympathy had significant negative correlations with the hostile anti-fat attitude variables and anger with correlations ranging from -.16 to -.24 (small ESs; see Table 8.3). Despite this differential pattern of relationships, pity and sympathy were positively correlated ($r = .24$, $p < .001$;

small ES). Although greater pity was related to greater hostility and anger toward fat persons, greater sympathy was related to less hostility and anger toward fat persons.

Hypothesis 4d: Paternalistic anti-fat attitudes will be positively correlated with pity and anger:

Paternalistic anti-fat attitudes were positively correlated with pity ($r = .24$, $p < .01$; small ES), but negatively correlated with sympathy ($r = -.15$, $p < .05$; small ES), such that more pity, but less sympathy, was associated with stronger paternalistic attitudes. Anger was also positively correlated with paternalistic anti-fat attitudes ($r = .42$, $p < .001$; medium ES), such that greater anger was associated with more paternalistic anti-fat attitudes.

Hypothesis 4e: Changeability, desire to change, and benefits beliefs will positively predict paternalistic anti-fat attitudes. The role of controllability beliefs in predicting paternalistic anti-fat attitudes will also be explored:

Changeability ($r = .56$, $p < .001$), desire to change ($r = .37$, $p < .001$), benefits ($r = .54$, $p < .001$), and controllability beliefs ($r = .51$, $p < .001$) were positively correlated with paternalistic anti-fat attitudes. Respondents reporting greater paternalistic anti-fat attitudes also tended to report greater controllability, changeability, desire to change and benefits beliefs. These beliefs were also significantly inter-related with correlations ranging from .31 to .64 (see Table 8.3). The ESs for these relationships were medium to large. A standard multiple regression was performed to assess the degree to which these belief variables predicted paternalistic anti-fat attitudes. The ratio of cases to independent variables was adequate for regression (see Coakes & Steed, 1997; Tabachnick & Fidell, 1996). The results of this analysis are summarised in Table 8.8.

Overall the four belief variables significantly predicted paternalistic anti-fat attitudes, accounting for 42.8% of the variance. The ES for this analysis was large ($f^2 = .75$). Although all of the predictor variables had significant univariate correlations with paternalistic anti-fat attitudes, only changeability ($\beta = .34$, $t = 4.93$, $p < .001$) and benefits ($\beta = .30$, $t = 4.20$, $p < .001$) beliefs made significant unique contributions to the prediction of paternalistic anti-fat attitudes in the regression model. Most of the variability in paternalistic attitudes explained by these belief variables was shared variability (30.4%) rather than unique variability (12.4%).

Table 8.8
Summary of Standard Multiple Regression Analysis for Belief Variables Predicting Paternalistic Anti-Fat Attitudes (N = 210)

Variable	<i>B</i>	<i>SE B</i>	β	sr^2
Controllability	.10	.07	.11	.01
Changeability	.36***	.07	.34***	.07***
Desire to Change	.04	.06	.05	.00
Benefits	.32***	.08	.30***	.05***
<i>R</i> ²			.43	
<i>F</i>			38.42***	

*** $p < .001$.

Hypothesis 4f: Changeability beliefs will explain incremental variance in paternalistic anti-fat attitudes, over and above the variance already explained by controllability beliefs:

A hierarchical multiple regression analysis was conducted to ascertain whether changeability beliefs significantly predicted variance in paternalistic anti-fat attitudes beyond that explained by controllability beliefs. The ratio of cases to independent variables was adequate for each analysis (see Coakes & Steed, 1997; Tabachnick & Fidell, 1996). Controllability was entered at the first step and changeability was entered at the second step. The results of this analysis are summarised in Table 8.9.

Consistent with the univariate correlation between controllability and paternalistic anti-fat attitudes (see Hypothesis 4e), at step 1 controllability beliefs significantly predicted paternalistic anti-fat attitudes ($\beta = .51$, $t = 8.56$, $p < .001$), explaining 26.1% of the variance in these attitudes. The ES for this relationship was large ($f^2 = .35$). At step 2, the addition of changeability beliefs as a predictor explained significant additional variance in paternalistic anti-fat attitudes (10%). At step 2, changeability ($\beta = .40$, $t = 5.53$, $p < .001$) and controllability ($\beta = .25$, $t = 3.49$, $p < .01$) beliefs were both significant predictors of paternalistic anti-fat attitudes.

The overall ES for the model at step 2 was large ($f^2 = .55$). The ES for the increase in variability explained by the addition of changeability beliefs was medium ($f^2 = .15$).

Table 8.9

Summary of Hierarchical Regression Analysis for Controllability and Changeability Predicting Paternalistic Anti-Fat Attitudes (N = 210)

Variable	Step 1				Step 2			
	<i>B</i>	<i>SE B</i>	β	sr^2	<i>B</i>	<i>SE B</i>	β	sr^2
Controllability	.47	.06	.51***	.26	.24	.07	.25**	.04
Changeability					.43	.08	.40***	.10
R^2			.26				.36	
<i>F</i> for change in R^2			73.32**				30.54***	

** $p < .01$. *** $p < .001$.

Hypothesis 4g: *Stereotypic perceptions of fat persons will be more warm than competent:*

Using a paired-samples *t*-test, fat persons were rated significantly more competent ($M = 5.34$), than warm ($M = 4.47$), $t(209) = -7.74$, $p < .001$. The ES for this analysis was medium ($d = .53$).

8.2.8.5 Respondent Variables

Aim 5: *To explore how respondent variables (i.e., age, gender, weight) relate to anti-fat attitudes, affective reactions, and beliefs.*

8.2.8.5.1 Age

Exploratory Results

Age was generally unrelated to the attitude and belief variables, except for positive correlations between age and desire to change beliefs ($r = .18$, $p < .01$; small ES) and benefits beliefs ($r = .20$, $p < .01$; small ES), with these beliefs increasing with age.

8.2.8.5.2 Gender

Hypothesis 5a: Males will report greater hostile anti-fat attitudes than females:

As three hostile anti-fat attitudes measures were employed in this study, a MANOVA was conducted to determine if males reported greater hostile anti-fat attitudes than females. Prior to analysis, the dependent variables were examined for fit between their distributions and the assumptions of MANOVA. The variables were examined separately for males ($N = 45$) and females ($N = 165$). Cell sizes were adequate for MANOVA as there were more cases in each cell than the number of dependent variables in this analysis (i.e., three hostile variables). The analysis was considered robust to deviations from normality and equality of variance as cell sizes were greater than 30. Using Mahalanobis distance with $p < .001$, one case could be identified as a multivariate outlier on the dependent variables; however, this case was retained as its chi-square (χ^2) was only marginally greater than the critical χ^2 value and represented a continuation of the distribution of χ^2 values. Inspection of bivariate scatterplots indicated that the variables were linearly related to each other for both males and females. The assumptions of univariate homogeneity of variance (Levene's Test for Equality of Variances, $p > .05$) and homogeneity of variance-covariance matrices (Box's M test, $p > .001$) were met. Neither multicollinearity nor singularity were present, as the determinants of the within-cells correlation matrices did not approach zero (Coakes & Steed, 1997; Tabachnick & Fidell, 1996).

Multivariate tests, including Wilk's Lambda and Pillai's Trace, were significant [$F(3, 206) = 4.10, p < .001$], indicating that there was a main effect for gender on a linear combination of the hostile anti-fat attitude variables. A significant portion of the variance (5.6%) in the combined hostile anti-fat variables was explained by gender ($\eta^2 = .06$; medium ES). The within-cell correlations between the dependent variables were mostly substantial (i.e., $> .30$; see Table 8.10). Although Tabachnick and Fidell (1996) recommend using Roy-Bargmann Stepdown analysis when dependent variables are substantially correlated, stepdown analysis was not performed as there were no theoretical grounds for prioritising the hostile anti-fat attitudes with respect to gender (see Coakes & Steed, 1997). Instead the results of univariate F -tests will be reported along with the within-cell correlations

between the dependent variables. These univariate F -tests need to be considered in combination with the correlations between the dependent variables.

Table 8.10

Inter-correlations between Hostile Anti-Fat Attitude Variables for Males ($N = 45$) and Females ($N = 165$)

	Negative Evaluation	Social Distance	Unattractiveness
Negative Evaluation	–	.54***	.46***
Social Distance	.51***	–	.51***
Unattractiveness	.25	.58***	–

Note. Correlations for females are presented above the diagonal, and correlations for males are presented below the diagonal.

*** $p < .001$.

Univariate F -tests were examined to determine which hostility variables contributed to the significant multivariate main effect. In order to minimise Type I error, a Bonferroni-type adjustment was employed, with an adjusted alpha of .017 used to evaluate the univariate F -tests. Social Distance was the only dependent variable that was significantly affected by gender [$F(1, 208) = 12.03, p < .017$], with males ($M = 3.19, SD = 1.29$) reporting stronger social distance attitudes than females ($M = 2.49, SD = 1.18$). One per cent of negative evaluation ($\eta^2 = .01$; small ES), 5.5% of social distance ($\eta^2 = .06$; medium ES), and 1.0% of unattractiveness ($\eta^2 = .01$; small ES) attitudes were explained by gender.

Hypothesis 5b: Controllability beliefs will be unrelated to respondent gender:

A one-way ANOVA was conducted to determine if controllability beliefs differed for males and females. Additional assumption testing for this analysis showed that controllability scores for both males and females were normally distributed and homogeneity of variance could be assumed (i.e., non-significant Levene's Test for Equality of Variances). As predicted, males' and females' controllability beliefs did not differ significantly [$F(1, 208) = .00, p > .05$].

Hypothesis 5c: Females will report stronger beliefs that weight loss would benefit fat persons than males:

A one-way ANOVA was conducted to determine if benefits beliefs differed for males and females. Additional assumption testing for this analysis showed that the benefits scores for both males and females were normally distributed, and that homogeneity of variance could be assumed (i.e., non-significant Levene's Test for Equality of Variances). Contrary to prediction, males' and females' beliefs that weight loss would benefit fat persons did not differ significantly [$F(1, 208) = .36, p > .05$].

Exploratory Results

Gender was uncorrelated with the attitude and belief variables, except for social distance (see Hypothesis 5a).

8.2.8.5.3 Weight

Hypothesis 5d: It is predicted that: (a) hostile anti-fat attitudes measured using items from Crandall's (1994) Dislike scale (i.e., negative evaluation and social distance) will be unrelated to respondent weight; and (b) hostile anti-fat attitudes measured using items from Morrison and O'Connor's (1999) AFAS (i.e., unattractiveness) will be negatively related to respondent weight:

Each of the hostile anti-fat attitude variables was significantly negatively correlated with respondent weight, such that greater weight was related to less hostility toward fat persons. Contrary to the findings of Crandall (1994), negative evaluation ($r = -.16, p < .05$; small ES) and social distance ($r = -.33, p < .001$; medium ES) were inversely related to respondent weight. The negative correlation between unattractiveness and respondent weight ($r = -.35, p < .001$; medium ES) was consistent with the findings of Morrison and O'Connor (1999).

Hypothesis 5e: Controllability beliefs will be unrelated to respondent weight:

Contrary to prediction, controllability beliefs were negatively related to respondent weight ($r = -.20, p < .01$; small ES), such that greater weight was related to lower belief in the controllability of fatness.

Exploratory Results

Respondent weight had significant negative correlations with anger ($r = -.19$, $p < .01$; small ES) and paternalistic anti-fat attitudes ($r = -.33$, $p < .001$; medium ES). Participants reporting greater weight tended to express less anger toward fat persons, and lower paternalistic anti-fat attitudes. Neither pity nor sympathy was significantly correlated with respondent weight.

Like controllability beliefs, changeability beliefs also had a significant negative correlation with respondent weight ($r = -.23$, $p < .01$; small ES). Respondents who reported lower weight also tended to espouse greater controllability and changeability beliefs. In contrast, benefits and desire to change beliefs were unrelated to respondent weight.

8.2.8.6 Definitions of fat

Aim 6a: To ascertain the range of body sizes that respondents consider indicative of the social category of fat persons:

Definitions of fat men ranged from figure 4 to 9 (see Appendix B), with 93.3% of participants selecting figures 5 to 7. Figure 6 (57.6%) was the most frequently selected drawing. Definitions of fat women ranged from figure 3 to 9 (see Appendix B), with 87.2% of participants selecting figures 5 to 7. Most respondents selected either figure 5 (33.8%) or figure 6 (40.5%) as the smallest female figures they would consider as fat.

Aim 6b: To explore the relationships of definition of fat man and definition of fat woman with attitude and belief variables:

As can be seen in Table 8.5, anger, social distance, unattractiveness, paternalistic anti-fat attitudes, controllability, changeability, desire to change, and benefits beliefs all had significant negative correlations with definition of fat man and definition of fat woman. These correlations reflected small to medium ESs. Negative evaluation was only significantly correlated with the definition of fat woman ($r = -.15$, $p < .05$). Sympathy was unrelated to both definitions (see Table 8.5). Pity was also unrelated to definition of fat man; however, pity was negatively correlated with definition of fat woman ($r = -.21$, $p < .01$). Generally, respondents who chose smaller drawings as indicative of fat people tended to report greater anti-fat attitudes and beliefs.

8.3 Qualitative Data Analysis

At the end of the web survey, respondents were invited to provide feedback regarding the survey and further comments about weight and fatness. Responses to this open-ended item contained feedback about the survey, comments about fatness and weight, or both. This qualitative data was analysed using thematic analysis (Fereday & Muir-Cochrane, 2006; Green, 2004; Joffe & Yardley, 2004) in order to (a) ascertain difficulties that participants experienced when completing the survey and (b) achieve a more comprehensive understanding of anti-fat attitudes and beliefs. As these analyses were not a focus of the present research project, detailed discussion of procedures followed and themes generated are provided in Appendix E. A summary of the themes generated from survey feedback will be provided in the following section. A summary of themes emerging from comments about weight and fatness for Studies 1 and 2 will be provided in chapter 12.

8.3.1 Summary of Themes from Study 1 Survey Feedback

Five themes were identified from comments about survey feedback:

1. Research is biased and offensive: A few participants commented that they found various aspects of the research (e.g., using the term fat) biased and potentially offensive to fat persons.
2. Fat encompasses range of weights: A few respondents commented on the range of weights suggested by the term fat. These comments clarified the respondent's definition of fat (e.g., versus overweight) or suggested that fat encompasses a range of weights. A participant also noted that individuals' definitions of fatness may affect survey responses.
3. Asked to make stereotypic judgements and broad generalisations: A few respondents commented that they felt that some of the survey items required them to make broad judgements about fat persons and people in general.
4. Would like to clarify responses: A few respondents noted that they would have liked an opportunity to clarify their rating scale responses with written responses.
5. Weight or weight-height ratio is a poor measure of fatness: A few respondents noted that weight or weight-height ratio may not accurately reflect body fatness.

These themes highlight limitations of the survey employed for Study 1 and will be discussed further in chapters 9 and 14.

CHAPTER 9 - STUDY 1 DISCUSSION

9.1 Discussion of Quantitative Results

Although some of the variables and hypotheses evaluated in Study 1 had been examined in previous research (e.g., Aims 1 and 2), Study 1 predominantly explored original variables and exploratory predictions. As such many of the findings of Study 1 can be regarded as tentative. The following discussion of Study 1 results will focus on whether results were consistent with hypotheses and possible methodological issues that may have influenced the results, in order to identify issues to be modified for Study 2. The results of both studies in this research project will be discussed in more detail in chapters 13 and 14.

As indicated in chapter 8, two single-item measures of pity and sympathy were employed in Study 1. Unexpectedly, these items were found to have different relationships with the other variables of interest. The mixed results for pity and sympathy may be due to actual differences in what these items are measuring. Although both items were developed to reflect the same construct, pity may reflect a more judgemental feeling (i.e., as in pitiable or pathetic) related to hostility and anger, while sympathy may reflect compassion, empathy, and benevolent concern contrary to hostility and anger. Alternatively, these mixed results may be due to measurement error. The negative wording of the sympathy item (i.e., “I do not feel much sympathy for fat persons”) may have affected respondents’ interpretation of the item (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). Results for pity and sympathy in the current study should be interpreted cautiously. For Study 2, the pity measure will be revised, and the relationships between pity and the other attitude and belief variables will be re-examined.

9.1.1 Hostile Anti-Fat Attitudes and Affective Reactions

The first aim of this study focused on exploring hostile anti-fat attitudes and affective reactions towards fat persons, and the relationships between these variables. Initially the underlying structure of hostile attitudes was examined. As predicted, the measures of hostile attitudes employed in the present study captured three independent but correlated dimensions: Negative evaluation of fat persons, desire for social distance from fat persons, and perceptions of fat persons as unattractive

(Hypothesis 1a). A similar structure was found by Morrison and O'Connor (1999). As predicted (Hypothesis 1b), these three hostile attitude variables were inter-correlated and positively correlated with expressions of anger toward fat persons. Previous research has measured negative reactions to fat persons as hostile anti-fat attitudes (i.e., attitude research), or anger toward fat persons (i.e., attribution research). The comparability of these constructs is supported by the medium and large effect sizes of the relationships between hostile anti-fat attitudes and anger in the present study.

9.1.2 Controllability Beliefs and Reactions to Fat Persons

The second aim of this study was to explore the relationships of controllability beliefs with hostile anti-fat attitudes and affective reactions to fat persons (i.e., anger and pity). Previous research in both the anti-fat attitude (e.g., Allison, et al., 1991; Crandall, 1994) and attribution fields (Menec & Perry, 1998; Weiner, et al., 1988) has consistently demonstrated correlational and causal relationships between control beliefs or attributions, and hostile anti-fat attitudes or anger toward fat persons. These relationships were replicated in the current study: Controllability beliefs were positively correlated with negative evaluation, social distance, and unattractiveness attitudes, and anger (Hypothesis 2a). Beliefs that fatness was caused by factors which were under the personal control of fat persons were related to greater negative evaluation, preference for social distance, perceptions of unattractiveness and expressions of anger toward fat persons.

Attributional research exploring reactions to stigmas has also found that controllability attributions are inversely related to expressions of pity toward fat persons (e.g., Weiner, et al., 1988). Although similar relationships were anticipated in the current study (Hypothesis 2b), pity was positively correlated with controllability beliefs, while sympathy was unrelated to these beliefs. As discussed previously, the differential pattern of results for pity and sympathy may be due to measurement error or may reflect the actual relationships of pity and sympathy with controllability beliefs. For Study 2 these relationships will be explored further with a revised measure of pity for fat persons.

9.1.3 Changeability Beliefs and Reactions to Fat Persons

The third aim of this study was to extend previous anti-fat attitude research by differentiating between changeability and controllability beliefs. Although attribution research examining reactions to stigmas has explored both control over onset, and changeability of stigma (i.e., control over offset), as determinants of affective reactions, attitude research has not specifically explored the role of changeability beliefs in predicting anti-fat attitudes. Attitude research has not differentiated between beliefs about controllability and changeability of fatness, and some measures seem to capture both types of belief. For the present study separate controllability and changeability belief scales were developed in order to differentiate between these constructs and explore the role of each variable in understanding anti-fat attitudes and beliefs.

As hypothesised (Hypothesis 3a), the majority of respondents (72%) tended to endorse agreement of scale items reflecting controllability beliefs; however, only approximately half of the respondents tended to agree with changeability statements. The overall means for controllability and changeability beliefs were significantly greater than the neutral scale mid-points. In support of Hypothesis 3b, changeability and controllability beliefs were found to be positively correlated but not redundant variables. Participants who endorsed stronger beliefs that fatness is due to controllable causes tended to report stronger beliefs that fatness is changeable. Like controllability beliefs, changeability beliefs were also positively correlated with negative evaluation, social distance and unattractiveness attitudes and expressions of anger toward fat persons (Hypothesis 3c). Therefore, believing that fatness is attributable to controllable causes and that fatness is changeable or curable, relates to greater expression of anger toward fat persons and greater hostile anti-fat attitudes. Following these preliminary analyses, the role of changeability beliefs in predicting hostile attitudes was also explored. As predicted (Hypothesis 3d), changeability beliefs explained significant variance in negative evaluation, social distance and unattractiveness attitudes, in addition to the variance explained by controllability beliefs. These findings highlight the importance of considering changeability beliefs in addition to controllability beliefs in the prediction of hostile anti-fat attitudes.

It was hypothesised that changeability, like controllability, beliefs would be inversely correlated with expressions of pity toward fat persons (Hypothesis 3e).

Contrary to prediction, changeability beliefs were not correlated with either pity or sympathy for fat persons. Due to problems measuring pity for fat persons in the current study, further data are required before evaluating the finding that changeability beliefs are unrelated to pity and sympathy towards fat persons. These relationships will be explored further in Study 2 with a revised measure of pity for fat persons.

9.1.4 Paternalistic Anti-Fat Attitudes and Related Beliefs

While attitude research has focused on hostility toward fat persons, attribution researchers have examined both subjectively positive (i.e., pity) and negative (i.e., anger) affective reactions to fat persons. A major objective of this research project is to extend the current research on anti-fat attitudes, by conceptualising and measuring a further dimension of attitudes to fat persons, paternalistic anti-fat attitudes (Aim 4a). Paternalistic anti-fat attitudes are defined as the degree to which an individual espouses that fat persons should be helped to lose weight in the interests of benefiting the fat person, regardless of the beliefs and wishes of the fat person. Relationships between paternalistic attitudes and affective reactions, hostile attitudes, and weight-related beliefs will be discussed in this section (Aim 4b).

Over 44% of respondents tended to agree with statements designed to capture paternalistic anti-fat attitudes, and over one third of respondents (37%) tended to endorse unattractiveness attitudes. However, negative evaluation (2%) and social distance (13%) attitudes tended to be supported by few respondents. Previous researchers have found low levels of explicit hostile anti-fat attitudes (e.g., Perez-Lopez, et al., 2001; Teachman, et al., 2003). As predicted (Hypothesis 4a), respondents reported significantly greater paternalistic attitudes compared to negative evaluation or social distance attitudes; however, contrary to prediction, respondents reported significantly less paternalistic attitudes than unattractiveness attitudes. These results suggest that attitudes regarding the unattractiveness of fat persons and paternalistic anti-fat attitudes may be more prevalent than negative evaluations of fat persons or desire of social distance from fat persons. Alternatively, people may be less willing to report negative evaluation or social distance attitudes, than unattractiveness or paternalistic attitudes. The lack of correlation between the social desirability measure and all of the attitude variables in the current study does

not support this explanation (see section 14.3.3. for further discussion). Additionally, respondents reported significantly greater pity and sympathy than anger toward fat persons. Greater subjectively positive emotions were reported compared to hostile affect. As proposed, each of the hostile attitude variables was positively correlated with paternalistic attitudes (Hypothesis 4b); however, the correlations between these variables were not so large that paternalistic attitudes and hostile attitudes were redundant.

Consistent with Hypothesis 4c, pity toward fat persons was positively correlated with hostile anti-fat attitudes and anger toward fat persons; however, sympathy was negatively correlated with these variables. The relationships between the affective reaction variables and paternalistic anti-fat attitudes were also examined. Like hostile attitudes, anger was positively correlated with paternalistic attitudes: Greater anger toward fat persons related to stronger paternalistic attitudes (and hostile attitudes). Also in support of Hypothesis 4d, pity was positively correlated with paternalistic attitudes. However, in contrast, sympathy was negatively related to paternalistic attitudes. As discussed previously, the differential pattern of results for pity and sympathy may be due to measurement error or may reflect the actual relationships of pity and sympathy with the attitude variables and anger. For Study 2 these relationships will be explored further with a revised measure of pity for fat persons.

In order to explore the prediction of paternalistic anti-fat attitudes from relevant beliefs, two additional belief variables were conceptualised and measured for the current study: Desire to change (i.e., fat persons' desire to change their fatness) and benefits (i.e., perceived benefits of weight loss for fat persons) beliefs. It was proposed that paternalistic attitudes could be predicted from changeability, desire to change, and benefits beliefs (Hypothesis 4e). The role of controllability beliefs in predicting paternalistic attitudes was also explored. These belief variables were inter-correlated and each was positively correlated with paternalistic attitudes. The combination of these belief variables explained 42.8% of the variance in paternalistic attitudes; however, only changeability and benefits beliefs were significant unique predictors in the regression analysis. These results suggest that a substantial portion of the variance in paternalistic anti-fat attitudes can be predicted from changeability, controllability, desire to change, and benefits beliefs, and also

that changeability and benefits beliefs may be particularly important in understanding paternalistic anti-fat attitudes.

An important aim of this research project was to differentiate between controllability and changeability beliefs and to determine the relative importance of these variables for understanding anti-fat attitudes. Hypothesis 4f focused on examining the contributions of changeability and controllability beliefs in predicting paternalistic anti-fat attitudes. As hypothesised, changeability beliefs predicted significant unique variance in paternalistic attitudes, in addition to the variance explained by controllability beliefs. As discussed previously, changeability beliefs also predicted unique variance in each of the hostile anti-fat attitude variables in addition to variance explained by controllability beliefs (Hypothesis 3d). Taken together, these results highlight the importance of examining changeability beliefs as well as controllability beliefs when predicting attitudes toward fat persons.

The conceptualisation of paternalistic anti-fat attitudes was based on Fiske et al.'s (1999; 2002) stereotype content model of attitudes to social out-groups and bioethical definitions of paternalism. Fiske et al. proposed that the degree to which out-group stereotype content is characterised as warm and competent is predictive of affective reactions and attitudes toward out-group members. These researchers found that out-groups perceived as significantly more warm than competent elicit paternalistic attitudes. It was hypothesised (Hypothesis 4g) that fat persons would be rated as significantly more warm than competent. Contrary to prediction, respondents rated fat persons as significantly more competent than warm. Fiske and colleagues describe this pattern of stereotypes as envious stereotypes and found that out-groups with envious stereotypes (e.g., rich people, feminists, Asians, Jews) were not liked due to their perceived coldness, but envied for their perceived competence. Such out-groups did not elicit pity from others. On the basis of literature reviewed in chapters 1 to 5, it does not seem likely that fat persons are envied. Additionally, the current study has provided tentative evidence that both paternalistic and hostile attitudes are directed towards fat persons. Measurement error may account for the unexpected finding that fat persons were perceived as more competent than warm. As the Competence Scale scores in the present study had poor reliability, Hypothesis 4g will be re-evaluated using a revised competence measure in Study 2.

9.1.5 Respondent Variables

The fifth aim of the current research was to explore the relationships between respondent variables and weight-related attitudes, affective reactions and beliefs. Respondent variables included age, gender, and weight.

9.1.5.1 Age

Age was unrelated to all of the variables, except for small positive correlations with desire to change and benefits beliefs. Older respondents tended to report greater beliefs that fat persons want to become non-fat and that becoming non-fat would benefit fat persons.

9.1.5.2 Gender

Like age, gender was generally unrelated to the attitude, affective reaction, and belief variables. However, in partial support of Hypothesis 5a, males did report significantly greater social distance anti-fat attitudes than females. Contrary to prediction, the other hostile anti-fat attitude variables (i.e., negative evaluation and unattractiveness) were not significantly related to gender. Researchers employing measures of negative affective reactions have generally found that males dislike fat persons more than females (Brochu & Morrison, 2007; Crandall, 1994; Glenn & Chow, 2002; Morrison & O' Connor, 1999; Perez-Lopez, et al., 2001); however, using Crandall's (1994) Dislike scale, Crandall and Martinez (1996) did not find a relationship between gender and dislike of fat persons. The relationship between gender and hostile anti-fat attitudes will be re-examined in Study 2.

Social distance was the only affective reaction, attitude, or belief variable that was significantly related to gender in the present study. The lack of relationship between gender and controllability beliefs (Hypothesis 5b) was consistent with the findings of Allison et al. (1991). Although Australian research by Crawford and Campbell (1998) suggested that females would report greater benefits beliefs (Hypothesis 5c), these variables were unrelated in the current study. With few exceptions, affective reactions to fat persons, anti-fat attitudes, and weight-related beliefs reported by participants in the current sample did not differ for males or females, or relate to the age of respondents.

9.1.5.3 Weight

Respondent weight was negatively correlated with negative evaluation, social distance, unattractiveness, and paternalistic attitudes, as well as anger. The inverse relationship between unattractiveness attitudes and weight supports the second part of Hypothesis 5d, and is consistent with the findings of Morrison and O'Connor (1999). However, the inverse relationships of weight with negative evaluation and social distance [based on Crandall's (1994) Dislike scale] contradict the first part of Hypothesis 5d and do not support Crandall's finding that Dislike is unrelated to respondent weight. The inverse relationships of respondent weight with anti-fat attitudes and anger in the current study suggest that fat persons do report an in-group bias as fatter respondents tended to report lower levels of hostile and paternalistic attitudes and anger toward fat persons. Pity and sympathy were unrelated to respondent weight.

Controllability and changeability beliefs were inversely related to weight, while desire to change and benefits beliefs were unrelated to weight. Respondents reporting greater weight tended to report lower levels of controllability and changeability beliefs. Allison et al.'s (1991) finding that controllability beliefs were unrelated to respondent weight was not replicated in the current study (Hypothesis 5e). Fatter respondents may espouse lower levels of controllability and changeability beliefs as their personal experiences of the onset of their fatness and attempts to lose weight may have led them to believe that fatness is less controllable and changeable. Alternatively, fat people may reject beliefs that fatness is controllable and changeable as such beliefs may be damaging to their self-esteem. Consistent with this explanation, Tiggemann and Rothblum (1997) found that fat females who believed that they have personal control over their weight reported lower self-esteem than fat females who did not believe they could control their weight.

9.1.6 Definitions of fat

In addition to examining what people feel towards and believe about fat persons, the range of body sizes that respondents considered indicative of the social category of fat persons was explored (Aim 6a). The present research did not distinguish between degrees of fatness, and a specific operational definition of fatness was not provided to respondents. It was assumed that the social category of fatness is culturally and socially constructed and that there is a shared social

perception of what is perceived as fat. This premise was supported in the current research with over 87% selecting fat thresholds (i.e., smallest figures perceived as fat) represented by one of three silhouette drawings for both males and females. The most frequently selected fat thresholds were represented by drawings at the mid-point of the silhouette scale or slightly above, suggesting that perceptions of fat persons included figures that could be considered overweight as well as obese and morbidly obese. Although there was individual variation in perceptions of fat thresholds, respondents' fat thresholds were quite homogenous and reflected a continuum ranging from overweight to morbidly obese.

The relationships between perceptions of fat thresholds for male and females and the affective reaction, attitude, and belief variables were also explored (Aim 6b). It was found that male and female thresholds were inversely related to most of the attitude and belief variables. Generally, respondents who indicated smaller drawings as indicative of fat people tended to report greater anti-fat attitudes and beliefs. Interestingly, negative evaluation and pity were only significantly related to the definition of a fat woman but not the definition of a fat man. Sympathy was not related to either definition. The relationships between the definitions of fatness and affective reaction, attitude, and belief variables will be re-examined in Study 2.

9.2 Discussion of Qualitative Results

Themes emerging from qualitative comments providing survey feedback were presented in chapter 8. These themes highlighted several limitations of the current study related to terminology, survey items, response formats, and indices of respondent weight. Most issues raised by respondents for Study 1 were relevant to the research project in general and will be discussed in the limitations section of chapter 14 along with survey feedback themes arising from Study 2. Only one theme will be addressed in this section (i.e., research is biased and offensive). Feedback from this theme will be used to improve the approach taken for Study 2.

One theme related to using the term fat to describe people in higher weight ranges. Some respondents indicated that they were offended by use of the word fat, or were concerned that 'larger' persons would be offended by the term fat. As discussed in chapter 1, using the term fat was not ideal as this word has been used as an insult toward fat persons (Bovey, 1994; Wadden & Didie, 2003); however, it is difficult to avoid using this term as it aptly describes "the construct of interest ... the

stigmatized social category of fatness” (Harrison, 2000, p. 638), unlike terms such as overweight and obese (see section 1.3). Fat will continue to be used in the survey for Study 2; however, the following rationale will be provided to respondents in the cover letter for Study 2:

The word ‘fat’ is used in this study to describe people in higher weight ranges. It is not my intention to insult fat people or cause offence. I have chosen to use this word as it best describes the group of people I am interested in. Overweight and obese are medical terms used to describe people of particular degrees of overweight whereas fat is a social term which may be used to describe both overweight and obese people. I have not provided a definition of ‘fat’ – you are likely to have your own opinion about which people are fat. Please answer the survey questions based on your own definition of ‘fat’.

It is hoped that this rationale will help respondents understand why the term fat is used in the study, and alleviate offence. The effectiveness of this measure will be determined by examining qualitative survey feedback for Study 2.

9.3 Limitations of Study 1 and Modifications to Study 2

This section will focus on Study 1 limitations that will be addressed by undertaking Study 2. Other limitations of this research project in general will be discussed in chapter 14 following discussion of Study 2 results.

9.3.1 Measurement Issues

A significant achievement of the current study was the conceptualisation and measurement of paternalistic anti-fat attitudes and related beliefs (i.e., changeability, desire to change, and benefits beliefs). Study 1 was a preliminary exploration of these aspects of weight-related attitudes and beliefs. Scales measuring the degree to which fat persons are perceived as warm and competent were also developed. In addition to the development of new scales, measures developed by other researchers were also adapted to suit the aims of the present research (i.e., hostile anti-fat attitudes, affective reactions, and controllability beliefs). These measures were refined on the basis of pilot test feedback and statistical scale analyses in order to enhance the validity and reliability of the data obtained.

Reliabilities of scores on the attitude and belief scales used in this study were generally acceptable ($\alpha > .69$) or good ($\alpha > .80$; see Streiner, 2003). Whereas the attitude and belief scales consisted of three or more items, the affective reaction and

stereotype variables were captured using two-item scales; or in the case of pity, two single-items. The reliance on one or two items to capture these variables may have increased the measurement error associated with these variables by reducing the statistical reliability and conceptual validity of scores on these indices (Bohner & Wänke, 2002; Loo, 2002). Although Anger subscale scores had acceptable reliability, the reliability of Competence Scale scores was low, and the very high reliability of Warmth Scale scores suggested that the two items of this scale were redundant (Streiner, 2003). These measures will be revised for Study 2 in order to include a greater range of items reflecting different aspects of anger, warmth, and competence that respondents may associate with fat persons, thus capturing a broader conceptualisation of these variables (Bohner & Wänke, 2002; Loo, 2002). It is envisaged that these revisions will result in scale scores with acceptable levels of statistical reliability.

The pity and sympathy items employed in the current study related differently to anger, hostile and paternalistic attitudes, and the weight-related belief variables (except changeability). Potential explanations for these unexpected results are discussed at the beginning of this chapter. It was noted that the negative wording of the sympathy item (i.e., “I do not feel much sympathy for fat persons”) may have affected respondents’ interpretation of the item (Podsakoff, et al., 2003). In order to overcome this potential issue, the sympathy item will be re-worded for Study 2. An additional pity-related item will also be measured for Study 2 in an attempt to obtain valid and reliable data on expressions of pity for fat persons. In order to evaluate whether Study 1 findings regarding pity and sympathy are replicated in Study 2, Study 2 hypotheses will be evaluated on the basis of both individual pity and sympathy items and a revised pity subscale.

Additional items will also be developed for measures of controllability, changeability, and benefits beliefs in order to clarify interpretation of the factor structure underlying these scales (see Study 1 scale analyses in Appendix D). For controllability, it was unclear whether the scale used in the current study reflected general control over fatness or control over eating as a specific cause of fatness. For Study 2 additional items reflecting general controllability of fatness will be measured and used to clarify interpretation of the Controllability factor. Two factors were found to underlie measures of both changeability and benefits beliefs; however, these factors were deemed to be artifactual as all positively worded items loaded on one

factor, and all negatively worded items loaded on the other factor. Additional items will be included to evaluate whether the factor structure of these scales was artifactual or substantive.

9.3.2 Sample Issues

The current study explored the fat-related affective reactions, attitudes, and beliefs of a sample of psychology students enrolled at an Australian university. This easily-accessible, convenience sample provided the researcher with an opportunity to conduct a preliminary investigation into reactions to fat persons, prior to exploring the aims of this research project in a more diverse community sample in Study 2. Study 1 may be considered a pilot study, which enabled preliminary examination of the validity and utility of the new attitude and belief variables conceptualised for this research project, particularly paternalistic anti-fat attitudes and related beliefs. It is acknowledged that the attitudes, beliefs, and affective reactions of this student sample may not be representative of the attitudes, beliefs and affective reactions of the general Australian population (see Sears, 1986, for a discussion of how student samples may differ from the general population). Study 2 will explore the fat-related attitudes, beliefs, and affective reactions of a substantial sample of community participants recruited from various sources. It is anticipated that the community sample will be more diverse than the student sample in terms of demographic characteristics, particularly weight and age, which may be important influences on fat-related attitudes, beliefs, and affective reactions. For example, due to the impact of weight on health and mobility with increasing age, older persons may report greater desire to change and benefits beliefs. Furthermore, fatter participants may be less likely to endorse changeability beliefs based on greater personal experience of ineffective attempts to maintain weight loss. The generalisability of the results of the current study will be assessed by comparing Study 1 findings with those of Study 2. As original variables were conceptualised, original measures were developed, and original hypotheses were proposed in Study 1, replication with different samples was considered very important to establishing the reliability and generalisability of the results of Study 1 (Benoit & Holbert, 2008; S. Schmidt, 2009).

CHAPTER 10 - STUDY 2 INTRODUCTION

10.1 Introduction

Study 2 will explore the fat-related affective reactions, attitudes, and beliefs of a substantial sample of community participants predominantly recruited from a regional centre of Queensland, Australia. This study will replicate and extend on Study 1. The aims outlined in chapter 6 will be re-examined for Study 2. Although some of the variables and hypotheses evaluated in Study 1 had been examined in previous research (e.g., Aims 1 and 2), this research predominantly explored original variables and exploratory predictions. As such many of the findings of Study 1 can be regarded as tentative. An important objective of Study 2 will be to assess the degree to which Study 1 findings can be replicated.

Study 1 examined the affective reactions, attitudes, and beliefs of a sample of psychology students enrolled at an Australian university. As noted in chapter 9, the attitudes, beliefs, and affective reactions of the student sample employed in Study 1 may not be representative of those of the general Australian population. An important aim of Study 2 is to explore the generalisability of Study 1 findings using a community sample. It was deemed important to examine the fat-related affective reactions, attitudes, and beliefs in a general community sample as past research has primarily utilised student samples. Previous research has generally examined the anti-fat attitudes and beliefs of samples of tertiary students or samples consisting of predominantly tertiary students (e.g., Crandall, 1994; Crandall, et al., 2001; Morrison & O' Connor, 1999; Perez-Lopez, et al., 2001; Tiggemann & Rothblum, 1997). Attributional analyses of reactions to stigmas that include fat persons as a stigmatised group have also relied on samples of university students (e.g., Crandall & Moriarty, 1995; Menec & Perry, 1998; Weiner, et al., 1988). A few researchers have examined the anti-fat attitudes and beliefs of university students as well general community participants (Glenn & Chow, 2002; Teachman, et al., 2003). Additionally, some Australian research has examined the weight-related beliefs of community samples of adults (Crawford & Campbell, 1998; Paxton & Sculthorpe, 1999). The current study will extend previous research by examining the fat-related affective reactions, attitudes, and beliefs of adults from the general community. It is anticipated that the community sample will be more varied in terms of weight and age.

An important element of this research project involves the conceptualisation and development of new constructs and measures, particularly paternalistic anti-fat attitudes and related beliefs (i.e., changeability, desire to change, and benefits beliefs). A significant achievement of Study 1 was the development of scales designed to measure original attitude and belief variables. Additionally, existing scales were adapted to suit the aims of the present research. In Study 1, these original and adapted measures were pilot tested and refined on the basis of statistical analyses. These measures will be further refined in Study 2. For example, the affective reaction (i.e., pity and anger) and stereotype (i.e., warmth and competence) measures will be revised in order to address psychometric and conceptual deficiencies identified in Study 1. Additional items will also be developed for measures of controllability, changeability, and benefits beliefs to enable further exploration of the factor structure underlying these scales (see section 9.3.1). For measures that have not been revised for Study 2, scale analyses will be used to assess the degree to which Study 1 scale properties can be replicated. Measures of affective reactions, attitudes, and beliefs will be further refined in Study 2 in order to enhance the reliability and validity of Study 2 findings.

10.2 Hypotheses Revised for Study 2

Most of the hypotheses explored for Study 2 are the same as those examined for Study 1; however, two hypotheses have been updated on the basis of Study 1 findings. Only hypotheses that were revised for Study 2 are presented in this section. All other hypotheses are the same as those provided in chapter 6. Revised hypotheses will be identified in subsequent chapters by an asterisk following the hypothesis number.

The two hypotheses revised for Study 2 both relate to relationships between respondent weight and attitude/belief variables. The measures of hostile anti-fat attitudes used in the present research project were adapted from Crandall's (1994) Dislike scale, and Morrison and O'Connor's (1999) AFAS. It was hypothesised for Study 1 that the hostile anti-fat attitude measures would relate to respondent weight in a manner similar to that found by Crandall, and Morrison and O'Connor:

Hypothesis 5d: Based on the findings of Crandall (1994) and Morrison and O'Connor (1999) it is predicted that: (a) hostile anti-fat attitudes measured using Crandall's Dislike scale will be unrelated to respondent weight; and (b) hostile anti-fat attitudes measured using items from Morrison and O'Connor's AFAS will be negatively related to respondent weight, such that fatter persons will report more positive attitudes toward fat persons.

However, for Study 1, all measures of hostile anti-fat attitudes were negatively correlated with respondent weight. As such Hypothesis 5d has been updated for Study 2:

Hypothesis 5d: Hostile anti-fat attitudes will be negatively related to respondent weight.*

Similarly, the measure of controllability beliefs employed in the current study was adapted from Allison et al.'s (1991) BAOP. It was hypothesised for Study 1 that controllability beliefs would be unrelated to respondent weight on the basis of Allison and colleagues' finding that the BAOP was unrelated to respondent:

Hypothesis 5e: Controllability beliefs will be unrelated to respondent weight.

However, for Study 1 controllability beliefs were inversely related to respondent weight. As such Hypothesis 5e has been updated for Study 2:

Hypothesis 5e: Controllability beliefs will be negatively related to respondent weight*

Some hypotheses that were not supported by Study 1 results have not been updated for Study 2. Due to deficiencies of some measures employed for Study 1 (see chapter 9), hypotheses for several variables will be re-evaluated using revised measures in Study 2. For example, although no (Hypotheses 2b, 3e) or only partial (Hypotheses 4c, 4d) support was found for the hypotheses relating to pity for Study 1, these hypotheses will not be revised for Study 2. Predictions relating to pity will be re-evaluated using a revised measure in Study 2. Similarly, Hypothesis 4g (examining the degree to which fat persons are viewed as warm and competent) has not been revised on basis of Study 1 results, but will be re-evaluated using revised warmth and competence scales in Study 2.

Several hypotheses that were not supported in Study 1 have not been updated for Study 2 as Study 1 predictions were tentative or exploratory, and further data are required to evaluate the outcome of these hypotheses. For example, Hypothesis 5c that females would report stronger benefits beliefs was based on a single research finding by Crawford and Campbell (1998) showing that women were more likely than men to report that weight loss had benefits. Gender was not related to benefits beliefs for Study 1, and Hypothesis 5c will be re-evaluated in Study 2.

Chapter 11 will provide an outline of the methods employed to collect data for Study 2, and details of the sample obtained. The results of analyses undertaken to examine the hypotheses for Study 2 will be presented in chapter 12.

CHAPTER 11 - STUDY 2 METHOD

11.1 Participants

In order to participate, individuals had to be over 18 years of age. Participants were recruited via community groups, advertising, and snowball sampling. Multiple recruitment methods were used to recruit a range of community respondents.

11.1.1 Recruitment

11.1.1.1 Community Groups

Participants were recruited from community organisations in Toowoomba, Queensland. These participants included members of a church, an environmental group, a tai chi society, a choral society, a gym, a social group, a swimming club, and a slimmers group. Different types of community groups were selected in order to survey a range of community members. Surveys were distributed to interested group members at meetings by the researcher or were given to a representative of the group to distribute to members. Several community groups emailed information about the study to members using distribution lists, inviting group members to contact the researcher if they were interested in participating.

11.1.1.2 Advertising

This research project was advertised in the local community using various methods, including posters in public places, an article in a community newspaper, interviews on local radio stations, and a segment on local television news. People interested in being involved in this research were invited to contact the researcher.

11.1.1.3 Snowball Sampling

Community members known to the researcher were asked to complete the survey and to distribute extra surveys to other people who were willing to participate. Participants recruited via community groups and advertising were also invited to take extra surveys to distribute to other people whom they thought would be willing to complete a survey, or to ask interested people to contact the researcher to obtain a survey.

11.1.2 Sample Characteristics

Of the 645 questionnaires distributed, 365 were returned, with a response rate of 56.6%. One non-Australian resident was removed from the sample to minimise the influence of cultural variation on beliefs and attitudes. The remaining sample consisted of 364 participants between the ages of 18 and 84 years ($M = 44.94$, $SD = 16.26$). Two hundred and fifty-five participants were female (70.1%) and 108 were male (29.7%). One participant did not report his or her gender. Age did not differ significantly for males ($M = 46.02$, $SD = 16.91$) and females [$M = 44.57$, $SD = 15.80$; $t(342) = .76$, $p > .05$]. Participant weight ranged from 40 to 238 kg ($M = 76.64$, $SD = 20.51$). The mean weight for female participants was 72.77 kg ($SD = 21.25$), and the mean weight for male participants was 85.68 kg ($SD = 15.46$). Participant height ranged from 1.39 to 1.98 m ($M = 1.69$, $SD = 0.10$). The mean height for female participants was 1.65 m ($SD = 0.07$), and the mean height for male participants was 1.77 m ($SD = 0.08$). Most of the sample identified themselves as Caucasian ($n = 348$; 95.6%), and resided in Queensland, Australia ($n = 337$; 95.6%). Detailed information about the marital status, cultural/ethnic identification, employment status, highest level of educational achievement, and location of residence of participants is provided in Table F in Appendix F. Participants were offered entry in a draw for cash prizes for participating.

11.2 Materials

A self-administered paper survey, the Weight-Related Beliefs and Attitudes Questionnaire, was completed by all participants. This questionnaire included measures of anti-fat attitudes, fat-related attributions and beliefs, respondent weight-related information, and other respondent information. The survey was printed in Optical Mark Recognition format to allow scanning of responses directly into a data file (see Appendix G). Due to the complexity of distributing different versions of the survey to a large community sample, no measures were taken to minimise order effects of measures in the questionnaire used for Study 2. As in Study 1, participants were not provided with an operational definition of fat, and were asked to answer the survey questions based on their own definition of fat.

The questionnaire used for Study 2 was similar to that used for Study 1. The General Information (i.e., respondent variables and measure of social desirability)

and Definitions of Fat Persons sections were the same for both studies. Amendments and additions made to the Study 1 questionnaire for Study 2 are discussed below.

11.2.1 Weight Attitudes

Crandall's (1994) 7-item Dislike scale, Morrison and O'Connor's (1999) 5-item Anti-fat Attitudes Scale (AFAS), and the 21-item Paternalistic Anti-Fat Attitudes Scale (PAFAS) developed for Study 1, were included in the questionnaire for Study 2. Amendments to the Affective Reactions to Fat Persons Scale are discussed below.

11.2.1.1 Affective Reactions to Fat Persons Scale

11.2.1.1.1 Pity Subscale-Revised

Two Pity subscale items were included in the web survey for Study 1, "I feel much pity for fat persons", and "I do not feel much sympathy for fat persons" (reverse scored). Both of these items were included in the survey for Study 2, although the second item was reworded (i.e., "I feel sympathy for fat persons"). Although there was a significant relationship between the original items in Study 1, the reliability of scores on a scale composed of these two items was poor, and the items correlated in different directions with the Anger subscale. It was proposed that the negative wording of the Sympathy for Fat Persons item might have contributed to these findings. As such, the Sympathy for Fat Persons item was reworded for Study 2. Additionally, to attempt to increase the reliability and validity of the pity measure, a third Pity item, "I feel sorry for people who are fat", was included for Study 2. This Pity Subscale-Revised was consistent with Schmidt and Weiner's (1988) pity measure, including indicators of pity, sympathy, and feeling sorry for.

11.2.1.1.2 Anger Subscale-Revised

Three Anger subscale items were included in the web survey for Study 1. Based on the scale analyses discussed in chapter 8, item 3 ("I do not feel any resentment towards fat persons") was not included in the questionnaire for Study 2. As Tabachnick and Fidell (1996) suggest that interpretation of factors with fewer than three items may be unreliable, an additional Anger item was included in the survey for Study 2 ("I feel frustration toward fat persons"). Frustration was one of

the anger-associated emotions measured by Fiske et al. (2002) (see Table C2.2 in Appendix C).

11.2.2 Weight Beliefs

All scales from the Weight Beliefs section of the questionnaire used for Study 1 were amended for Study 2. Weight Beliefs measures employed for Study 2 are discussed below.

11.2.2.1 Controllability Scale-Revised

Although only five of the eight items of Beliefs About Fat Persons Scale were retained in the final Controllability Scale employed in Study 1, all items were included in the survey for Study 2. Additionally, two new controllability items were included in the survey for Study 2 (see Table C6 in Appendix C). These items, “Some people are fat because they have no willpower” (item 9) and “Fat people tend to be fat pretty much through their own fault” (item 10) were taken from Crandall’s (1994) Willpower scale. These items were included in Study 2 to explore the meaning of the Controllability factor. In Study 1, the highest loading items were specifically about eating as a cause of fatness. It was unclear whether the Controllability factor reflected general controllability of fatness or control over eating as a specific cause of fatness. Therefore, for Study 2 two new items reflecting general controllability of fatness have been included to clarify interpretation of the Controllability factor.

11.2.2.2 Changeability Scale

All items of the Changeability Scale developed for Study 1 were included in the survey for Study 2. Additionally, two items were added to this scale. In Study 1, a two-factor solution was generated for nine of the Changeability Scale items; however, this solution was deemed artifactual due to all positively-worded items loading on one factor and all negatively-worded items loading on the second factor. Despite this interpretation, it was noted that the two-factor solution could have been substantive rather than artifactual as the negatively-worded items loading on the Difficulty factor did not seem to be merely the opposite of Changeability factor items (i.e., unable to change) but reflected beliefs about how difficult it is to change weight.

In order to explore the validity of a separate Difficulty factor, two additional items were added to the Changeability Scale for Study 2. These items were “Weight loss is only a matter of changing one’s lifestyle” (item 11) and “Diets simply do not work in the longer term” (item 12). Item 11 is from Bagley et al.’s (1989) Attitudes Toward Obese Adult Patients scale. Item 12 was based on a statement written by Tiggemann and Rothblum (1997), and was reverse scored (see Table C7 in Appendix C). As both items were designed to measure beliefs about how difficult it is to change weight, if the Difficulty factor is a substantive factor in Study 2, the new items should load on this factor. However, if the two-factor solution is artifactual, the positively-worded item (item 11) should load with the other positively-worded items on a Changeability factor, rather than with the negatively-worded items on a Difficulty factor.

11.2.2.3 Desire to Change Scale

All Desire to Change Scale items, except item 8 (“Some fat people do not wish to lose weight”) were included in the Desire to Change Scale for Study 2 (see Table C8 in Appendix C). Preliminary factor analysis results for Study 1 indicated that item 8 was an outlier among the items, and it was removed from the Desire to Change Scale.

11.2.2.4 Weight Loss Benefits Fat Persons

In addition to the eight items included in the Benefits Scale for Study 1, a new item (“Fat people would be healthier if they lost weight”) was included in the questionnaire for Study 2 (see Table C9 in Appendix C). In Study 1, a two-factor solution was generated for the eight Benefits Scale items; however, this solution was deemed artifactual due to all positively-worded items loading on one factor and both negatively-worded items loading on the second factor. Despite this interpretation, it was noted that the two-factor solution could have been substantive rather than artifactual as the negatively-worded items loading on the Health Benefits factor reflected beliefs about improved health and quality of life, whereas positively-worded items loading on the Benefits factor reflected social and psychological benefits. In order to explore the validity of a separate Health Benefits factor, an additional item was added to the Benefits Scale for Study 2. This positively-worded item (“Fat people would be healthier if they lost weight”) was

designed to measure beliefs about health benefits of weight loss. If the Health Benefits factor is a substantive factor in Study 2, reflecting beliefs about health and quality of life, then the new health benefits item should load on this factor. However, if the two-factor solution is artifactual, the new health benefits item should load with the other positively-worded items on the main factor, rather than with the negatively-worded items on the Health Benefits factor.

11.2.2.5 Stereotypes of Fat Persons

11.2.2.5.1 Warmth Scale-Revised

Although only two of the five Warmth items were included in the final Warmth Scale employed in Study 1, all items were included in the survey for Study 2 to reassess the dimensionality of these items. Additionally, as three of the five items did not load on the Warmth factor in Study 1, an additional item was developed for Study 2 (i.e., “Fat people are generally pleasant to talk to”). Unlike in Study 1, the item (“I tend to think that people who are overweight are a little untrustworthy”) that was used in both the Warmth Scale and Dislike scale was not presented in both scales, but only in the Dislike scale (item 2) (see Table C10.2 in Appendix C).

11.2.2.5.2 Competence Scale

As there was little inter-correlation between the Competence Scale items developed for Study 1, and the reliability of scores on the final two-item Competence Scale for Study 1 was poor, the Competence Scale was revised for Study 2. The following four items were developed for Study 2:

1. Fat people tend to be less independent than non-fat people,
2. I find that fat people are less intelligent than non-fat people,
3. Fat people are less driven to succeed than other people, and
4. Fat people are just as confident as other people.

Items were developed to reflect stereotypic characteristics measured by Fiske et al. (1999, 2002), such as independence, intelligence, and confidence. Items 1, 2, and 3 were reverse-scored (see Table C11.2 in Appendix C).

11.3 Procedure

Each participant was provided with (a) a cover letter, (b) a Feedback and Prize Draw Entry Form, (c) an informed consent sheet, (d) the questionnaire (Appendix G), and (e) two reply-paid envelopes. The cover letter (see section H.1 in Appendix H) provided general information about the process of participating in the study. Qualitative responses from Study 1 indicated that some participants were offended by use of the word *fat* to describe people in higher weight ranges. As a result of this feedback, a brief rationale for using this terminology was provided to participants in the cover letter for Study 2. Survey packages were posted to participants who directly contacted the researcher (e.g., in response to advertising).

A Feedback and Prize Draw Entry Form (see section H.2 in Appendix H) was attached to the cover letter. This form enabled participants to provide their contact details if they wished to receive feedback or enter a draw for cash prizes, or both. Participants were informed that feedback would consist of specific information about the aims of the study and a summary of the overall results. Two reply paid envelopes were provided to participants: one to return the survey and the other to return the Feedback and Prize Draw Entry Form. This procedure protected participant confidentiality. Although two envelopes were provided, some participants returned their survey and Feedback and Prize Draw Form in the same envelope. When this occurred, the forms were immediately separated from surveys and stored separately.

The cover letter, informed consent sheet, and questionnaire instructed participants to read the consent form and to consent to participation prior to completing the questionnaire. The Informed Consent Sheet for Weight-Related Beliefs and Attitudes Study (see section H.3 in Appendix H) informed participants about the study and participation, that participation was voluntary, that they could withdraw their consent at any time, and that their participation was anonymous and confidential. The consent sheet also informed participants of who to contact to obtain further information about the research. Participants were asked to retain this sheet for future reference. At the bottom of the informed consent sheet, participants were asked to provide their consent by transcribing an identification number from the consent sheet onto the front of the questionnaire in the Consent ID box. A statement above the Consent ID box informed participants that by consenting they were

declaring that they were at least 18 years of age, and that they were giving their consent to participate.

Instructions were provided throughout the questionnaire (Appendix G). Participants responded to survey items by crossing appropriate boxes and writing responses. The cover letter asked participants to return the questionnaire within three weeks. After three weeks, the researcher asked group leaders and individuals who had distributed surveys to remind participants to return surveys. Posters reminding participants to return surveys were displayed in the building used by one community organisation.

Additional documentation was completed by leaders of community organisations. When possible, permission was obtained from leaders prior to recruiting participants from a community organisation. In some cases this was not possible as some groups were less formal and did not have leadership positions. Leaders were provided with a letter outlining the nature of the study and participation (see section H.4 in Appendix H), and were asked to complete a Permission to Recruit Participants from Organisation form (see section H.5 in Appendix H) if they consented to allow the researcher to recruit participants from the organisation. Group leaders were also sent a sample cover letter, consent form, and questionnaire to examine prior to providing consent.

CHAPTER 12 - STUDY 2 RESULTS

12.1 Overview

All quantitative analyses were conducted using SPSS for Windows. As in Study 1, following initial data preparation, exploratory factor analysis and reliability analysis were used to explore the dimensionality and internal consistency of scores on multi-item measures. Following scale analyses and construction, scores were calculated for scales and other variables, and the distributions of all variables were examined to ensure that the assumptions of multivariate analysis were met. Descriptive statistics for all variables and correlations between all variables were calculated. The main analyses testing the hypotheses and examining the exploratory research questions were then conducted. Qualitative responses provided by participants at the end of the questionnaire were also examined using thematic analysis.

12.2 Quantitative Data Analysis

12.2.1 Initial Data Preparation

The survey was designed and printed in Optical Mark Recognition format, and responses were scanned directly into a data file. Data that were missing due to the software being unable to detect a participant's response were manually entered into the data file. The range of values for each item was also examined to detect any inaccuracies in the data file. There were no out of range values for any item.

Missing value analysis was employed to examine the amount and pattern of missing data for each case on items to be used in analyses. Missing value analysis was not used to examine respondent information variables that were only used to describe the characteristics of the sample and were not used in analyses (i.e., marital status, cultural/ethnic identification, employment status, level of education, and postcode). Two cases had more than 50% of responses to items missing and were removed from the sample. Additionally, eight cases with missing values on all items of a scale or page(s) of the questionnaire were detected and deleted. As removed cases represented only 2.7% of the total sample, case deletion was deemed to be an efficient way of dealing with cases with numerous missing responses (Schafer,

1997). With these cases removed, 103 cases had missing values on items, ranging from one (.85%) to 13 (11.02%) items. Eighty-one of these cases had only one or two missing values. The case with 11.02% of missing values was the only case with more than 10% of missing values on items. This case was retained as 12 of the 13 values missing were for items of the social desirability measure, which was not of primary interest in the present study. For all survey items, the percentage of cases with missing values on each item ranged from 0 to 2.2%. Missing values were replaced by values calculated using the expectation-maximisation (EM) algorithm for maximum likelihood (ML) estimation through SPSS, as recommended by Schafer and Graham (2002). The remaining sample consisted of 354 cases with complete data for items to be used in analyses. Negatively-worded items were recoded prior to analyses.

12.2.2 Exploratory Factor Analysis and Reliability Analysis

As for Study 1, exploratory factor analysis and reliability analysis were performed to explore the dimensionality and internal consistency of scores on multi-item affective reactions, weight attitudes, and weight beliefs measures. The results of these analyses were used to refine these measures in order to obtain reliable scale and subscale scores. For measures revised for Study 2 (see chapter 11), factor analysis was used to explore the utility of the scale revisions. Additionally, for unrevised measures, these analyses were performed to examine the replicability of the factor solutions generated in Study 1. In the interests of focusing on the main analyses of this study, a detailed discussion of the results of the scale analyses is presented in Appendix I.

Table 12.1 provides a summary of the scales used in Studies 1 and 2, along with the number of items comprising each scale and the reliability of scale scores for both studies. Additionally, Table 12.1 indicates the difference between measures used in Studies 1 and 2.

Table 12.1

Summary of Scales used in Studies 1 and 2

Measured Scales	STUDY 1			STUDY 2			Comparison
	Final Scales	No. of Items	Alpha	Final Scales	No. of Items	Alpha	
AFFECTIVE REACTIONS							
Affective Reactions Toward Fat Persons Scale:							
Pity subscale	Two single-item measures: Pity Sympathy	N/A	N/A	Pity subscale	3	.84	Subscale included 1 new item & 1 revised Study 1 item
Anger subscale	Anger subscale	2	.74	Anger subscale-Revised	3	.78	Revised included 1 new item & 1 revised Study 1 item
WEIGHT ATTITUDES							
Dislike scale	Negative Evaluation subscale	4	.90	Negative Evaluation subscale	4	.86	Same
	Social Distance subscale	3	.69	Social Distance subscale	3	.73	
Anti-fat Attitudes Scale (AFAS)	Unattractiveness Scale	4	.76	Unattractiveness Scale	4	.77	Same
Paternalistic Anti-Fat Attitudes Scale (PAFAS)	PAFAS	14	.84	PAFAS	14	.87	Same

Table 12.1 (continued).

Summary of Scales used in Studies 1 and 2

Measured Scales	STUDY 1			STUDY 2			Comparison
	Final Scales	No. of Items	Alpha	Final Scales	No. of Items	Alpha	
WEIGHT BELIEFS							
Beliefs About Obese Persons (BAFP) Scale	Controllability Scale (including AFAS item 4)	6	.80	Controllability Scale-Revised (including AFAS item 4)	7	.84	Revised scale included 2 new items; 1 item removed based on Study 2 EFA
Changeability Scale	Changeability Scale	9	.79	Changeability Scale	9	.73	Same
Desire to Change Scale	Desire to Change Scale	7	.83	Desire to Change Scale	7	.83	Same
Benefits Scale	Benefits Scale	8	.77	Benefits Scale	8	.80	Same
Warmth Scale	Warmth Scale	2	.95	Warmth Scale-Revised	4	.87	Revised scale included 2 new items
Competence Scale	Competence Scale	2	.63	Competence Scale-Revised	3	.71	All items revised for Study 2

Note. For further details of scale analyses see Appendix I. Details of items comprising measured and final scales are provided in Appendix C. There was no overlap of item content for any scales for Study 2.

12.2.3 Computation of Variable Scores

Scale and subscale scores for multi-item affective reactions, weight attitudes, and weight beliefs variables were calculated by averaging scores on all items for each scale. This procedure yielded scale scores with the same measurement scale as the participant's original responses (i.e., 1 to 7). Scores on the Marlowe-Crowne Social Desirability Scale Form C (M-C Form C) were calculated by summing the number of true responses for each participant. From self-reported height and weight, Body Mass Index (BMI) was calculated, as weight (in kilograms) divided by squared height (in metres).

12.2.4 Evaluation of Assumptions of Multivariate Analysis

Prior to analyses, the distributions of all variables were examined to ensure that the assumptions of multivariate analysis were met. Assumptions specific to grouped analyses will be discussed with the results of the relevant analyses.

12.2.4.1 Outliers

All variables were examined for univariate and multivariate outliers. Although 25 cases had large standard scores on 12 of the variables ($z > |3.29|$), most of these were not extreme ($z < |4.85|$), and examination of histograms suggested that these scores represented continuation of the distributions of scores. These scores were retained as legitimate variation. Four of the univariate outlier cases had more extreme scores ($z > |6.24|$). Using Mahalanobis distance with $p < .001$, these four cases and six others were identified as multivariate outliers. All cases identified as multivariate outliers were deleted, leaving 344 participants.

12.2.4.2 Normality

Univariate normality of all variables was assessed through examination of histograms, and skewness and kurtosis standard scores. As the significance tests for skewness and kurtosis standard scores are overly sensitive for large samples (Tabachnick & Fidell, 1996), only the magnitudes of these scores were considered. As in Study 1, the Negative Evaluation subscale ($z = 10.21$) was positively skewed. Square root transformation was applied to the Negative Evaluation subscale scores in order to improve the normality of the distribution of this scale. The magnitudes of

the correlations between the transformed scale and other variables were not substantially different from the magnitudes of the correlations between non-transformed scale and other variables ($< |.03|$), so the non-transformed scale was employed to facilitate interpretation. Tabachnick and Fidell (1996) note that the influence of skewness and kurtosis is diminished with larger sample sizes.

12.2.4.3 Linearity and Homoscedasticity

Bivariate scatterplots of all possible pairs of variables were inspected to assess the linearity and homoscedasticity of the relationships between the variables. Inspection of these plots indicated that the variables were linearly related or unrelated to each other. The plots for variables that were correlated generally showed homoscedastic relationships. The skewness of the Negative Evaluation subscale detracted from the homoscedasticity of relationships with this variable, with subscale scores clustering at the lower end of distribution. For the reasons provided earlier, transformation was not used to improve the distributions of these variables. Tabachnick and Fidell (1996) note that heteroscedasticity reduces the amount of relationship that can be captured using correlational analyses, but it does not invalidate the analyses.

12.2.4.4 Multicollinearity and Singularity

None of the correlations between variables exceeded .90, therefore multicollinearity and singularity were not present.

12.2.5 Descriptive Statistics

The final sample consisted of 344 participants, 101 (29.4%) males and 243 (70.6%) females. For descriptive purposes, the means and standard deviations for the final continuous variables are presented in Table 12.2. Respondent weight was also explored by classifying BMI into weight categories suggested by the World Health Organization (2003). Using BMI as an indicator of respondent weight, 106 (30.8%) participants were classified as overweight (i.e., $25 \leq \text{BMI} < 30$), of which 43 were male and 63 were female. Additionally, 79 (23%) respondents were classified as obese (i.e., $\text{BMI} \geq 30$), with 19 men and 60 women. Although 14 (4.1%) female participants were classified as underweight (i.e., $\text{BMI} < 18.5$), no males were underweight.

Table 12.2

Descriptive Statistics for Final Continuous Measures for Study 2 (N = 344)

Measures	<i>M</i>	<i>SD</i>	Range
Age	45.00	16.12	18-84
BMI	26.58	5.75	15.94-51.79
Definition of Fat Man	6.79	0.83	5-9
Definition of Fat Woman	6.67	0.89	4-9
Pity subscale	4.22	1.47	1-7
Anger subscale-Revised	2.60	1.23	1-7
Negative Evaluation subscale	1.87	0.91	1-5.5
Social Distance subscale	2.74	1.30	1-7
Unattractiveness Scale	3.86	1.31	1-7
Paternalistic Anti-Fat Attitudes Scale	3.94	1.01	1.43-6.43
Controllability Scale-Revised	4.57	1.10	1.14-7
Changeability Scale	4.14	0.81	1.11-6.22
Desire to Change Scale	4.59	0.95	1.86-6.86
Benefits Scale	4.24	0.92	1.38-6.25
Warmth Scale-Revised	4.75	1.08	1-7
Competence Scale-Revised	5.36	0.98	1.33-7

Table 12.3 shows the percentage of participants classified as underweight, average weight, overweight, and obese for Studies 1 and 2. As shown in Table 12.3, the distribution of weight classifications for the two samples was similar, with the maximum difference in percentage between samples of only 4% for each weight category. An independent samples *t*-test indicated that the student sample (Study 1) on average had lower weights than the community sample (Study 2), $t(552) = -2.28$, $p < .05$. Homogeneity of variance was assumed for this analysis as Levene's Test for Equality of Variances was non-significant. The effect size for this difference was small ($d = .20$).

Table 12.3

Comparison of Weight Classifications for Study 1 (N = 210) and Study 2 (N = 344)

	Underweight (BMI < 18.5)	Average (18.5 ≤ BMI < 25)	Overweight (25 ≤ BMI < 30)	Obese (BMI ≥ 30)
Study 1 (Student Sample) N = 210				
Total	7.1	44.3	27.6	21.0
Males	0.0	9.5	9.0	2.9
Females	7.1	34.8	18.6	18.1
Study 2 (Community Sample) N = 344				
Total	4.1	42.2	30.8	23.0
Males	0.0	11.3	12.5	5.5
Females	4.1	30.8	18.3	17.4

Note. Numbers in table represent percentage of sample.

12.2.6 Correlations

Table 12.4 shows the correlations among the affective reactions, weight attitudes, and weight beliefs variables. The correlations among the respondent variables and definitions of fat variables are presented in Table 12.5. The correlations of the affective reactions, weight attitudes, and weight beliefs variables with the respondent variables and definitions of fat variables are presented in Table 12.6. All correlations reported are Pearson product-moment correlation coefficients.

Table 12.4
Correlations among Affective Reactions, Weight Attitudes, and Weight Beliefs (N = 344)

	1	2	3	4	5	6	7	8	9	10	11
1. Pity	-										
2. Anger	.14*										
3. Negative Evaluation	.05	.50***									
4. Social Distance	.20***	.48***	.66***								
5. Unattractiveness	.18**	.55***	.49***	.59***							
6. Paternalistic Attitudes	.25***	.43***	.36***	.41***	.52***						
7. Controllability	.09	.44***	.37***	.41***	.57***	.59***					
8. Changeability	-.06	.35***	.30***	.26***	.44***	.52***	.65***				
9. Desire to Change	.22***	.17**	.06	.16**	.25***	.37***	.31***	.16**			
10. Benefits	.25***	.39***	.35***	.45***	.58***	.57***	.52***	.34***	.47***		
11. Warmth	.07	.00	-.10	-.07	-.06	.18**	.03	.13*	.00	.07	
12. Competence	-.06	-.39***	-.50***	-.45***	-.37***	-.39***	-.31***	-.37***	-.21***	-.34***	-.03

* $p < .05$. ** $p < .01$. *** $p < .001$.

Table 12.5

Correlations between Respondent Variables and Definitions of Fat Variables (N = 344)

	1	2	3	4
1. Age	-			
2. Gender	-.04			
3. Weight	.14*	-.07		
4. Definition of Fat Man	-.10	.10	.02	
5. Definition of Fat Woman	-.03	.05	.03	.81***

* $p < .05$. ** $p < .01$. *** $p < .001$.

Table 12.6

Correlations of Affective Reactions, Weight Attitudes, and Weight Beliefs, with Respondent Variables and Definitions of Fat Variables (N = 344)

	Age	Gender	Weight	Definition Fat Man	Definition Fat Woman
Pity	.26***	.01	-.01	-.08	-.09
Anger	.02	-.06	-.20***	-.19***	-.21***
Negative Evaluation	.13*	-.12*	-.18**	-.23***	-.22***
Social Distance	.17**	-.18**	-.21***	-.25***	-.23***
Unattractiveness	.06	-.25***	-.22***	-.37***	-.38***
Paternalistic Attitudes	.26***	-.15***	-.13*	-.39***	-.34***
Controllability	.11*	-.09	-.14**	-.35***	-.34***
Changeability	.02	-.16**	-.14**	-.28***	-.31***
Desire Change	.11*	.00	.18**	-.29***	-.30***
Benefits	.14**	-.16**	-.07	-.38***	-.38***
Warmth	.09	-.02	.13*	-.08	-.09
Competence	-.10	.19***	.08	.19**	.18**

* $p < .05$. ** $p < .01$. *** $p < .001$.

12.2.7 Social Desirability

Participant scores on the Marlowe-Crowne Social Desirability Scale Form C (M-C Form C) ranged from 0 to 13 ($M = 5.60$, $SD = 2.99$), the minimum and maximum scores possible on this scale. The Cronbach alpha for the M-C Form C was .72. The correlations between all variables and the M-C Form C were examined to ascertain the affect of socially desirable response tendencies on participants' responses to all measures employed. All variables were unrelated to M-C Form C except age ($r = -.21$, $p < .05$) and warmth ($r = -.16$, $p < .05$). These relationships represent small ESs.

12.2.8 Main Analyses

The results of analyses conducted to test the hypotheses and examine the exploratory aims of this study (see chapters 6 and 10) will be presented in this section. As recommended by the American Psychological Association (2001), the magnitude of effect size (ES) indices will be provided for statistically significant results. ES classifications will only be provided for ESs that are large enough to be classified as small or larger. Table 8.6 in chapter 8 provides the criteria that were used to classify the magnitude of ES indices.

12.2.8.1 Hostile Anti-Fat Attitudes and Affective Reactions

Hypothesis 1a: Hostile anti-fat attitude variables based on Crandall's (1994) Dislike scale and Morrison and O'Connor's (1999) AFAS will capture correlated but independent dimensions of hostile attitudes toward fat persons:

Exploratory factor analysis was used to explore the dimensionality of the combined Negative Evaluation and Social Distance subscale items and Unattractiveness Scale items. The procedures followed for this analysis were the same as those for other factor analyses of scale items (see section D.1.1 in Appendix D). Although the determinant was zero to two decimal places, multicollinearity and singularity did not appear to be present as the highest SMC between items was .74. The factorability of the correlation matrix was adequate as 83.6% of the correlations exceeded .30, MSAs were all greater than .5, and the KMO measure of sampling adequacy was .88. Correlations among hostile anti-fat attitude items are provided in Tables I3 and I17 in Appendix I. Three correlated factors were extracted accounting

for 57.9% of the variance in the items. The correlations between the factors were all substantial (see Table I18 in Appendix I).

Consistent with Study 1, Unattractiveness Scale items loaded on Factor 2 and Social Distance subscale items loaded on Factor 3 (see Table I19 in Appendix I). The pattern of loadings for Negative Evaluation scale items slightly deviated from the pattern of loadings for Study 1. Although all Negative Evaluation subscale items loaded on Factor 1 for Study 1, only three of the four Negative Evaluation subscale items loaded on Factor 1 for Study 2. The remaining Negative Evaluation subscale item (“I really don’t like fat people much”) loaded on Factor 3 with the Social Distance subscale items. The loading of this item did not greatly change the interpretation of either factor, as this item could reflect either social distance from fat persons or negative evaluation of fat persons. This pattern of factor loadings was consistent with the results of the separate factor analyses of the Dislike scale (see section I.1.3.2 in Appendix I) and AFAS items (not reported for Study 2 as consistent with Study 1 solution; see section D.1.3.3 in Appendix D) conducted to inform construction of scales measuring hostile anti-fat attitudes. Despite the slightly different pattern of loadings for Study 2, Negative Evaluation and Social Distance subscales were constructed based on the two-factor structure found in Study 1 to maintain consistency across Studies 1 and 2.

Hypothesis 1b: Hostile anti-fat attitudes will be positively correlated with anger toward fat persons:

As for Study 1, negative evaluation, social distance, unattractiveness, and anger were inter-related with positive correlations ranging from .48 (medium ES) to .66 (large ES; see Table 12.4). Respondents who reported greater anger were also likely to report higher levels of hostile anti-fat attitudes.

12.2.8.2 Controllability Beliefs and Reactions to Fat Persons

Hypothesis 2a: Controllability beliefs will be positively correlated with hostile anti-fat attitudes and expressions of anger toward fat persons:

Consistent with Study 1 findings, controllability beliefs were positively correlated with all hostile anti-fat attitude variables: negative evaluation ($r = .37, p < .001$; medium ES), social distance ($r = .41, p < .001$; medium ES), and

unattractiveness ($r = .57, p < .001$; large ES). As for Study 1, controllability beliefs were also positively correlated with anger ($r = .44, p < .001$; medium ES). Greater belief that fatness is under personal control was related to more hostile anti-fat attitudes and anger toward fat persons.

Hypothesis 2b: Controllability beliefs will be negatively correlated with expressions of pity toward fat persons:

Contrary to prediction, controllability beliefs and pity were not significantly correlated in the present study ($r = .09, p > .05$). Similarly, sympathy was uncorrelated with controllability beliefs for Study 1; however, pity was positively correlated with controllability beliefs for Study 1. In order to evaluate Study 1 results, the relationships between the individual items forming the Pity subscale and controllability were also explored for Study 2. Like the Pity subscale, the sympathy and “sorry for” items were uncorrelated with controllability beliefs; however, the pity item was positively correlated with controllability beliefs ($r = .18, p < .01$; small ES).

12.2.8.3 Changeability Beliefs and Reactions to Fat Persons

Hypothesis 3a: The majority of respondents will report agreement with controllability and changeability beliefs as reflected by scale scores on these beliefs that are greater than the neutral mid-points of the measurement scales:

Consistent with Study 1 findings, the means for changeability ($M = 4.14, t(343) = 2.04, p < .01; d = .17$) and controllability ($M = 4.57, t(343) = 9.66, p < .001; d = .52$, medium ES) were both significantly greater than the neutral mid-point of the respective scales indicating that participants generally espoused both changeability and controllability beliefs about fatness. The majority of respondents had Controllability Scale – Revised (68.31%) and Changeability Scale (58.14%) scores greater than neutral mid-point of the scales.

Hypothesis 3b: Changeability and controllability beliefs will be positively correlated (but not so highly correlated that they are redundant concepts):

Consistent with Study 1 findings, changeability and controllability beliefs were significantly positively correlated ($r = .65, p < .001$), such that greater belief that fatness is changeable was related to greater belief that fatness is controllable. Although the ES for this relationship was large, the correlation between

changeability and controllability beliefs was not so large that these variables could be considered redundant.

Hypothesis 3c: Changeability beliefs will be positively correlated with hostile anti-fat attitudes and expressions of anger toward fat persons:

As predicted, negative evaluation ($r = .30, p < .001$; medium ES), social distance ($r = .26, p < .001$; small ES), unattractiveness ($r = .44, p < .001$; medium ES), and anger ($r = .35, p < .001$; medium ES) were positively correlated with changeability beliefs. Greater belief that fatness is changeable was related to more hostile anti-fat attitudes and anger toward fat persons. These relationships were also found in Study 1.

Hypothesis 3d: Changeability beliefs will explain incremental variance in hostile anti-fat attitudes, over and above variance accounted for by controllability beliefs:

Hierarchical multiple regression analyses were conducted to ascertain whether changeability beliefs significantly predicted variance in hostile anti-fat attitudes beyond that explained by controllability beliefs. Separate hierarchical regression analyses were conducted to predict each hostile anti-fat attitude measure. The ratio of cases to independent variables was adequate for hierarchical regression (see Coakes & Steed, 1997; Tabachnick & Fidell, 1996). Controllability was entered at the first step and changeability was entered at the second step for each analysis. The results of these analyses are summarised in Table 12.7. Consistent with univariate correlations (see Hypothesis 2a), at step 1 controllability beliefs significantly predicted negative evaluation ($\beta = .37, t = 7.39, p < .001$), social distance ($\beta = .41, t = 8.27, p < .001$), and unattractiveness ($\beta = .57, t = 12.79, p < .001$), explaining 13.8%, 16.7% and 32.4% of the variance in negative evaluation, social distance and unattractiveness attitudes, respectively. The ESs for negative evaluation ($f^2 = .16$) and social distance ($f^2 = .20$) were medium, and the ES for unattractiveness was large ($f^2 = .48$).

Although the addition of changeability beliefs at step 2 for Study 1 explained significant additional variance in each measure of hostile anti-fat attitudes, for Study 2, the addition of changeability beliefs explained a small but significant amount of additional variance in unattractiveness only (0.9%), but not in negative evaluation or

Table 12.7

Summary of Hierarchical Regression Analyses for Controllability and Changeability Predicting Hostile Anti-Fat Attitudes ($N = 344$)

Hostile Anti-Fat Attitudes												
Variable	Negative Evaluation				Social Distance				Unattractiveness			
	<i>B</i>	<i>SE B</i>	β	sr^2	<i>B</i>	<i>SE B</i>	β	sr^2	<i>B</i>	<i>SE B</i>	β	sr^2
Step 1												
Controllability	.31	.04	.37***	.14***	.49	.06	.41***	.17***	.68	.05	.57***	.32***
R^2	.14				.17				.32			
<i>F</i>	54.53***				68.46***				163.57***			
Step 2												
Controllability	.26	.06	.31***	.05***	.50	.08	.42***	.10***	.59	.07	.49***	.14***
Changeability	.11	.08	.10	.01	-.03	.11	-.02	.00	.20	.10	.12*	.01*
R^2	.14				.17				.33			
<i>F</i> for change in R^2	2.19				.06				4.40*			

* $p < .05$. *** $p < .001$.

social distance. Consistent with these findings, changeability beliefs were a significant predictor of unattractiveness ($\beta = .12, t = 2.10, p < .05$), but not negative evaluation and social distance attitudes. As with step 1, controllability beliefs continued to be a significant predictor of all hostile anti-fat variables [negative evaluation ($\beta = .31, t = 4.64, p < .001$); social distance ($\beta = .42, t = 6.41, p < .001$); unattractiveness ($\beta = .49, t = 8.36, p < .001$)] when changeability beliefs were added to the prediction at step 2. At step 2, the overall ES for the model was medium for negative evaluation ($f^2 = .17$) and social distance ($f^2 = .20$), and large for unattractiveness ($f^2 = .50$). The ESs for the increase in variability explained by the addition of changeability beliefs were less than small (i.e., $f^2 < .02$). In contrast, the ESs for the increase in variability for Study 1 were all small.

Hypothesis 3e: Changeability beliefs will be negatively correlated with expressions of pity toward fat persons:

Consistent with Study 1 findings, changeability beliefs were not significantly correlated with the revised pity subscale ($r = -.06, p > .05$). In order to further evaluate Study 1 results, the relationships between the individual items forming the Pity subscale and changeability beliefs were also explored for Study 2. Like the Pity subscale, the pity and sympathy items were uncorrelated with changeability beliefs; however, the “sorry for” item was negatively correlated with changeability beliefs ($r = -.18, p < .01$; small ES).

12.2.8.4 Paternalistic Anti-Fat Attitudes and Related Beliefs

Hypothesis 4a: The degree to which paternalistic and hostile anti-fat attitudes are endorsed will be explored. It is predicted that respondents will report greater paternalistic anti-fat attitudes than hostile anti-fat attitudes. It is also predicted that respondents will report greater pity than anger toward fat persons:

The means for negative evaluation ($M = 1.87$) and social distance ($M = 2.74$) suggested that overall respondents reported low levels of negative evaluations of fat persons and desire for social distance from fat persons. The majority of respondents had scale scores below the neutral mid-point for negative evaluation (93.9%) and social distance (77.6%). The means for unattractiveness ($M = 3.86$) and paternalistic anti-fat attitudes ($M = 3.94$) were closer to the mid-point of the scales. A greater percentage of respondents tended to espouse agreement with unattractiveness (43%)

and paternalistic attitudes (43.9%), as evidenced by scale scores above the neutral mid-point of these scales. Similar means and percentages were found for Study 1.

Paired samples *t*-tests were conducted for each hostile anti-fat attitude variable paired with paternalistic anti-fat attitudes. As predicted, respondents reported more paternalistic anti-fat attitudes than either negative evaluation ($t(343) = -35.09, p < .001; d = 1.89$, large ES) or social distance ($t(343) = -17.32, p < .001; d = .93$, large ES) attitudes. The means for paternalistic and unattractiveness anti-fat attitudes were not significantly different. Additionally, a paired samples *t*-test showed that respondents reported greater pity ($M = 4.22, t(343) = 16.94, p < .001; d = .91$, large ES) than anger ($M = 2.60$) toward fat persons.

Hypothesis 4b: Hostile and paternalistic anti-fat attitudes will be positively correlated (but not so highly correlated that they are redundant concepts):

As for Study 1, paternalistic anti-fat attitudes were positively correlated with hostile anti-fat attitudes, with stronger paternalistic attitudes relating to greater hostile attitudes. Specifically, paternalistic anti-fat attitudes were positively correlated with negative evaluation ($r = .36, p < .001$; medium ES), social distance ($r = .41, p < .001$; medium ES), and unattractiveness ($r = .52, p < .001$; large ES). These correlations were significant but not so large that paternalistic anti-fat attitudes and hostile anti-fat attitudes were redundant.

Hypothesis 4c: Pity will be positively correlated with anger and hostile anti-fat attitudes:

As predicted (and consistent with Study 1 results), anger, social distance, and unattractiveness were significantly positively correlated with pity, with correlations ranging from .14 to .20 (small ESs; see Table 12.4). Although negative evaluation also had a significant positive correlation with pity for Study 1, negative evaluation was not significantly correlated with pity for Study 2. Greater pity was related to greater hostility (i.e., social distance and unattractiveness attitudes) and anger toward fat persons.

In order to further examine Study 1 results, the relationships between the individual items forming the Pity subscale and the hostile anti-fat attitude and anger variables were explored (see Table 12.8). Like the Pity subscale, the pity and “sorry for” items were positively correlated with anger, social distance, and unattractiveness but unrelated to negative evaluation. Consistent with these findings, the sympathy

item was also unrelated to negative evaluation and positively correlated with social distance; however, sympathy was unrelated to anger and unattractiveness.

Table 12.8

Inter-correlations between Pity Items, Pity Subscale, Anger, and Hostile Anti-Fat Attitudes (N = 354)

	1	2	3	4	5	6	7
1. Pity item	–						
2. Sympathy item	.55**	–					
3. “Sorry for” item	.65**	.68**	–				
4. Pity	.85**	.86*	.90**	–			
5. Anger	.15**	.03	.17**	.14*	–		
6. Negative Evaluation	.08	.00	.04	.05	.50**	–	
7. Social Distance	.23**	.13*	.17**	.20**	.48**	.66**	–
8. Unattractiveness	.25**	.04	.17**	.18**	.55**	.49**	.59**

* $p < .05$. ** $p < .01$.

Hypothesis 4d: Paternalistic anti-fat attitudes will be positively correlated with pity and anger:

Consistent with Study 1 findings, paternalistic anti-fat attitudes were positively correlated with pity ($r = .25$, $p < .001$; small ES), such that more pity was associated with more paternalistic attitudes. Also consistent with Study 1, anger was positively correlated with paternalistic anti-fat attitudes ($r = .43$, $p < .001$; medium), such that greater anger was related to more paternalistic anti-fat attitudes.

In order to further evaluate Study 1 results, the relationships between the individual items forming the Pity subscale and paternalistic anti-fat attitudes were also explored for Study 2. Like the Pity subscale, the pity ($r = .30$, $p < .01$; medium ES), sympathy ($r = .11$, $p < .05$; small ES), and “sorry for” ($r = .24$, $p < .01$; small ES) items were all positively correlated with paternalistic anti-fat attitudes.

Hypothesis 4e: Changeability, desire to change, and benefits beliefs will positively predict paternalistic anti-fat attitudes. The role of controllability beliefs in predicting paternalistic anti-fat attitudes will also be explored:

Changeability ($r = .52, p < .001$), desire to change ($r = .37, p < .001$), benefits ($r = .57, p < .001$), and controllability beliefs ($r = .59, p < .001$) were positively correlated with paternalistic anti-fat attitudes. These belief variables were also significantly inter-correlated ($ps < .01$), with correlations ranging from .16 to .65 (see Table 12.4). The ESs for these relationships ranged from small to large. Similar relationships were also found in Study 1. A standard multiple regression was performed to assess the degree to which changeability, controllability, benefits and desire to change beliefs predicted paternalistic anti-fat attitudes. The ratio of cases to independent variables was adequate for regression (see Coakes & Steed, 1997; Tabachnick & Fidell, 1996). The results of this analysis are summarised in Table 12.9.

Table 12.9

Summary of Standard Multiple Regression Analysis for Belief Variables Predicting Paternalistic Anti-Fat Attitudes (N = 344)

Variable	<i>B</i>	<i>SE B</i>	β	sr^2
Controllability	.22***	.05	.24***	.03***
Changeability	.30***	.06	.24***	.03***
Desire to Change	.12**	.05	.12**	.01**
Benefits	.34***	.06	.31***	.06***
R^2			.48	
F			79.57***	

** $p < .01$. *** $p < .001$.

Overall, the four belief variables significantly predicted paternalistic anti-fat attitudes, accounting for 48.4% of the variance. The ES for this analysis was large ($f^2 = .94$). All of the independent variables made significant unique contributions to the prediction of paternalistic anti-fat attitudes: controllability ($\beta = .24, t = 4.17, p < .001$), changeability ($\beta = .24, t = 4.60, p < .001$), desire to change ($\beta = .12, t = 2.62, p$

< .01), and benefits ($\beta = .31, t = 6.23, p < .001$). Most of the variability in paternalistic anti-fat attitudes explained by these four belief variables was shared variability (35.5%) rather than unique variability (12.9%). Study 1 results were similar to the current findings in that the combination of the four belief variables significantly predicted paternalistic anti-fat attitudes; however, for Study 1, only changeability and benefits beliefs made significant unique contributions to prediction of paternalistic attitudes.

Hypothesis 4f: Changeability beliefs will explain incremental variance in paternalistic anti-fat attitudes, over and above the variance already explained by controllability beliefs:

A hierarchical multiple regression analysis was conducted to ascertain whether changeability beliefs significantly predicted variance in paternalistic anti-fat attitudes beyond that explained by controllability beliefs. The ratio of cases to independent variables was adequate for each analysis (see Coakes & Steed, 1997; Tabachnick & Fidell, 1996). Controllability was entered at the first step and changeability was entered at the second step. The results of this analysis are summarised in Table 12.10.

Table 12.10

Summary of Hierarchical Regression Analysis for Controllability and Changeability Predicting Paternalistic Anti-Fat Attitudes (N = 210)

Variable	Step 1				Step 2			
	<i>B</i>	<i>SE B</i>	β	<i>sr</i> ²	<i>B</i>	<i>SE B</i>	β	<i>sr</i> ²
Controllability	.55	.04	.59***	.35	.41	.05	.44***	.11
Changeability					.28	.07	.23***	.03
<i>R</i> ²	.35				.38			
<i>F</i> for change in <i>R</i> ²	184.14**				16.32***			

*** $p < .001$

Consistent with the univariate correlation between controllability and paternalistic anti-fat attitudes (see Hypothesis 4e), at step 1 controllability beliefs

significantly predicted paternalistic anti-fat attitudes ($\beta = .59, t = 13.57, p < .001$), explaining 35% of the variance in these attitudes. The ES for this relationship was large ($f^2 = .54$). At step 2, the addition of changeability beliefs as a predictor explained significant additional variance in paternalistic anti-fat attitudes (3%). At step 2 changeability ($\beta = .23, t = 4.04, p < .001$) and controllability ($\beta = .44, t = 7.87, p < .001$) beliefs were both significant predictors of paternalistic anti-fat attitudes. The overall ES for the model at step 2 was large ($f^2 = .61$). The ES for the increase in variability explained by the addition of changeability beliefs was small ($f^2 = .05$). Similar results were found for Study 1.

Hypothesis 4g: Stereotypic perceptions of fat persons will be more warm than competent:

Using a paired-samples *t*-test, fat persons were rated significantly more competent ($M = 5.36$) than warm ($M = 4.75$), $t(343) = -7.62, p < .001$. The ES for this relationship was small ($d = .41$).

12.2.8.5 Respondent Variables

Aim 5: To explore how respondent variables (i.e., age, gender, weight) relate to anti-fat attitudes, affective reactions, and beliefs.

12.2.8.5.1 Age

Exploratory Results

As in Study 1, age was positively correlated with desire to change beliefs ($r = .11, p < .05$) and benefits beliefs ($r = .14, p < .01$). In addition, age was positively correlated with pity ($r = .26, p < .001$), negative evaluation ($r = .13, p < .05$), social distance ($r = .17, p < .01$), paternalistic anti-fat attitudes ($r = .26, p < .001$), and controllability beliefs ($r = .11, p < .05$). The ESs for these relationships were all small. As age increased, respondents reported greater desire to change, benefits, and controllability beliefs, and more pity, and stronger negative evaluation, social distance, and paternalistic anti-fat attitudes.

More of the attitude and belief variables were related to age in the present study than in Study 1. This may be due to greater variability in age for the community participants. An independent samples *t*-test indicated that the community sample ($M = 45$; range 18-84 years) was significantly older than the student sample

[($M = 28.88$, range 18-62); $t(552) = -14.93$, $p < .001$]. Levene's Test for Equality of Variances was significant for this analysis, indicating that variances were unequal. As such, the t -statistic for unequal variances is provided. The ES for the difference in ages of the samples was large ($d = 1.23$).

The most consistent findings across the two studies were that age was positively correlated with desire to change and benefits beliefs. As age was positively correlated with weight for both Study 1 ($r = .20$, $p < .01$; small ES) and Study 2 ($r = .14$, $p < .05$; small ES), follow-up analyses were undertaken to determine if the relationships between weight and age could explain the relationships of age with desire to change and benefits beliefs. When age was statistically controlled via partial correlation the correlations of age with desire to change and benefits beliefs did not differ by more than .03 from the univariate correlations of age with these belief variables.

12.2.8.5.2 Gender

Hypothesis 5a: Males will report greater hostile anti-fat attitudes than females:

As three variables of hostile anti-fat attitudes were employed in this study, a MANOVA was conducted to determine if males reported greater hostile anti-fat attitudes than females. Prior to analysis, the dependent variables were examined for fit between their distributions and the assumptions of MANOVA. The variables were examined separately for males ($N = 101$) and females ($N = 243$). Cell sizes were adequate for MANOVA as there were more cases in each cell than the number of dependent variables in this analysis (i.e., three hostile variables). The analysis was considered robust to deviations from normality and equality of variance as cell sizes were greater than 30. Using Mahalanobis distance with $p < .001$, two female cases were identified as multivariate outliers on the hostile anti-fat attitude variables. These two cases were deleted for this analysis ($N = 342$). Inspection of bivariate scatterplots indicated that the variables were linearly related to each other for both males and females. The assumptions of univariate homogeneity of variance (Levene's Test for Equality of Variances, $p > .05$) and homogeneity of variance-covariance matrices (Box's M test, $p > .001$) were met. Neither multicollinearity nor singularity were present, as the determinants of the within-cells correlation matrices did not approach zero (Coakes & Steed, 1997; Tabachnick & Fidell, 1996).

Multivariate tests, including Wilk's Lambda, were significant [$F(3, 338) = 8.34, p < .001$], indicating that there was a main effect for gender on a linear combination of the hostile anti-fat attitude variables. A significant portion of the variance (6.9%) in the combined hostile anti-fat variables was explained by gender ($\eta^2 = .07$; medium ES). The within-cell correlations between the dependent variables were substantial (i.e., $> .30$; see Table 12.11). Although Tabachnick and Fidell (1996) recommend using Roy-Bargmann Stepdown analysis when dependent variables are substantially correlated, stepdown analysis was not performed as there were no theoretical grounds for prioritising the hostile anti-fat attitudes with respect to gender (see Coakes & Steed, 1997). Instead, the results of univariate F -tests will be reported along with the within-cell correlations between the dependent variables. These univariate F -tests need to be considered in combination with the correlations between the dependent variables.

Univariate F -tests were examined to determine which hostility variables contributed to the significant multivariate main effect. In order to minimise Type I error, a Bonferroni-type adjustment was employed, with an adjusted alpha of .017 used to evaluate the univariate F -tests. Each of the hostile anti-fat attitude variables were significantly affected by gender, such that males reported more hostile anti-fat attitudes than females, including greater negative evaluation [$F(1, 340) = 6.68, p < .017$; males: $M = 2.04, SD = .86$; females: $M = 1.77, SD = .87$], social distance [$F(1, 340) = 12.33, p < .017$; males: $M = 3.11, SD = 1.33$; females: $M = 2.57, SD = 1.25$], and unattractiveness [$F(1, 340) = 24.42, p < .017$; males: $M = 4.37, SD = 1.16$; females: $M = 3.63, SD = 1.31$] attitudes. Gender explained significant variance in each dependent variable: 6.7% of unattractiveness ($\eta^2 = .07$; medium ES), 3.5% of social distance ($\eta^2 = .04$; small ES), and 1.9% of negative evaluation ($\eta^2 = .02$; small ES). For Study 1, only social distance attitudes were significantly affected by gender.

Table 12.11

Inter-correlations between Hostile Anti-Fat Attitude Variables for Males (N = 101) and Females (N = 241)

	Negative Evaluation	Social Distance	Unattractiveness
Negative Evaluation	-	.71***	.48***
Social Distance	.53***	-	.59***
Unattractiveness	.45***	.52***	-

Note. Correlations for females are presented above the diagonal, and correlations for males are presented below the diagonal.

*** $p < .001$.

Hypothesis 5b: Controllability beliefs will be unrelated to respondent gender:

A one-way ANOVA was conducted to determine if controllability beliefs differed for males and females. Additional assumption testing for this analysis showed that the controllability scores for both males and females were normally distributed, and that homogeneity of variance could be assumed (i.e., non-significant Levene's Test for Equality of Variances). As predicted, males' and females' controllability beliefs did not differ significantly [$F(1, 342) = 2.62, p > .05$]. Controllability beliefs and gender were also unrelated in Study 1.

Hypothesis 5c: Females will report stronger beliefs that weight loss would benefit fat persons than males:

A one-way ANOVA was conducted to determine if benefits beliefs differed for males and females. Additional assumption testing for this analysis showed that the benefits scores for both males and females were normally distributed, and that homogeneity of variance could be assumed (i.e., non-significant Levene's Test for Equality of Variances). In contrast to Study 1, where gender was unrelated to benefits beliefs, Study 2 showed a significant difference for males' and females' benefits beliefs [$F(1, 342) = 8.57, p < .01$]. However, contrary to prediction, males ($M = 4.46, SD = .80$) reported significantly stronger benefits beliefs than females ($M = 4.15, SD = .95$). The ES for this analysis was small ($\eta^2 = .02$).

Exploratory Results

In addition to the relationships discussed thus far in relation to specific hypotheses, paternalistic anti-fat attitudes and changeability beliefs were negatively correlated with gender (see Table 12.6). Neither of these relationships was significant in Study 1. Due to the unequal number of males ($N = 101$) and females ($N = 243$) in the sample, ANOVAs were employed to determine the affect of gender on paternalistic anti-fat attitudes and changeability beliefs. Additional assumption testing for these analyses showed that paternalistic and changeability scores for both males and females were normally distributed, and that homogeneity of variance could be assumed (i.e., non-significant Levene's Test for Equality of Variances). Males ($M = 4.17$) reported significantly stronger paternalistic anti-fat attitudes than females [$M = 3.84$; $F(1, 342) = 8.05, p < .01$]. Males ($M = 4.34$) also reported significantly greater changeability beliefs than females [$M = 4.05$; $F(1, 342) = 9.04, p < .01$]. The ESs for the relationships of paternalistic anti-fat attitudes ($\eta^2 = .02$) and changeability beliefs ($\eta^2 = .03$) with gender were small.

12.2.8.5.3 Weight

Hypothesis 5d*: *Hostile anti-fat attitudes will be negatively related to respondent weight:*

As predicted, negative evaluation ($r = -.18, p < .01$), social distance ($r = -.21, p < .001$), and unattractiveness ($r = -.22, p < .001$) were inversely related to respondent weight. As for Study 1, greater weight was related to less hostility toward fat persons. The ESs for these correlations were all small.

Hypothesis 5e*: *Controllability beliefs will be negatively related to respondent weight:*

As predicted (and consistent with Study 1), controllability beliefs were negatively related to respondent weight ($r = -.14, p < .01$; small ES), such that greater weight was related to lower belief in the controllability of fatness.

Exploratory Results

As for Study 1, respondent weight had significant negative correlations with anger ($r = -.20, p < .001$; small ES) and paternalistic anti-fat attitudes ($r = -.13, p < .05$; small ES). Participants reporting greater weight tended to express less anger

toward fat persons, and lower paternalistic anti-fat attitudes. Consistent with Study 1 results, pity was not significantly correlated with respondent weight.

As in Study 1, changeability beliefs were negatively correlated with respondent weight ($r = -.14, p < .01$; small ES). Respondents who reported lower weight also tended to espouse greater changeability beliefs. Consistent with Study 1 results, benefits beliefs were unrelated to respondent weight. Although in Study 1 desire to change beliefs were also unrelated to respondent weight, for Study 2 there was a significant positive relationship between these variables ($r = .18, p < .01$; small ES). Respondents who reported higher weight tended to espouse greater beliefs that fat persons want to change.

12.2.8.6 Definitions of fat

Aim 6a: To ascertain the range of body sizes that respondents consider indicative of the social category of fat persons:

Definitions of fat men ranged from figure 5 to 9 (see Appendix G), with 94.8% of participants selecting figures 6 to 8. Most respondents selected figure 6 (35.8%) or figure 7 (43%) as the smallest male figure they would consider as fat. Definitions of fat women ranged from figure 4 to 9 (see Appendix G), with 89.8% of participants selecting figures 6 to 8. Most respondents selected either figure 6 (32.8%) or figure 7 (43%) as the smallest female figures they would consider as fat.

Independent samples *t*-tests were employed to determine if definitions of fatness differed significantly across the samples for Studies 1 and 2. Homogeneity of variance was assumed for each analysis as Levene's Tests for Equality of Variances were non-significant. Mean definitions of fat man [$t(552) = -7.45, p < .001$] and fat woman [$t(552) = -12.76, p < .001$] were significantly larger for the community sample compared to the student sample (see Table 12.12), indicating that the student sample (Study 1) rated smaller male and female figures as indicative of fatness compared to the community sample (Study 2). The ESs for these analyses were medium for definition of fat man ($d = .66$), and large for definition of fat woman ($d = 1.11$).

As the community sample was significantly older and fatter than the student sample, the correlations of age and respondent weight with definitions of fatness were examined for combined data from Studies 1 and 2. Although neither age nor weight were correlated with definition of fat man, both age ($r = .23, p < .001$; small

ES) and weight ($r = .12, p < .01$; small ES) were positively correlated with definition of fat woman.

Table 12.12

Descriptive Statistics for Definitions of Fat Man and Fat Woman for Studies 1 and 2

Variables	<i>M</i>	<i>SD</i>	Range
Study 1 (<i>N</i> = 210)			
Definition of Fat Man	6.27	0.76	4-9
Definition of Fat Woman	5.64	0.96	3-9
Study 2 (<i>N</i> = 344)			
Definition of Fat Man	6.79	0.83	5-9
Definition of Fat Woman	6.67	0.89	4-9

Aim 6b: To explore the relationships of definition of fat man and definition of fat woman with attitude and belief variables:

As can be seen in Table 12.6, anger, hostile and paternalistic anti-fat attitudes, and controllability, changeability, desire to change and benefits beliefs all had significant negative correlations with definition of fat man and definition of fat woman. These correlations reflected small to medium ESs. Respondents who chose smaller drawings as indicative of fat people tended to report greater anti-fat attitudes and beliefs. These correlations were also found in Study 1, except that the correlation between negative evaluation and definition of fat man was not significant in Study 1.

The revised pity measure was unrelated to both definitions in Study 2. For Study 1, pity was negatively related to the female fatness definition, but unrelated to the male fatness definition; while sympathy was unrelated to both definitions. In order to further evaluate Study 1 results, the relationships between the individual items forming the Pity subscale and definitions of fatness were also explored for Study 2. Like the Pity subscale, the sympathy and “sorry for” items were uncorrelated with both definitions of fatness; however, the pity item was negatively correlated with both definition of fat woman ($r = -.15, p < .01$; small ES) and definition of fat man ($r = -.17, p < .01$; small ES).

12.3 Qualitative Data Analysis

At the end of the survey, participants were invited to provide feedback regarding the survey and further comments about weight and fatness. Responses to this open-ended item contained feedback about the survey, comments expressing beliefs and attitudes about fatness and weight, or both. Comments written throughout the survey were also included as qualitative data. As for Study 1, this qualitative data was analysed using thematic analysis in order to (a) ascertain difficulties that participants experienced when completing the survey and (b) achieve a more comprehensive understanding of anti-fat attitudes and beliefs. As these analyses were not a focus of the present research project, detailed discussion of procedures followed and themes generated are provided in Appendix J. The following sections will provide a (a) summary of themes generated from Study 2 survey feedback, (b) comparison of survey themes for Studies 1 and 2, (c) summary of themes emerging from comments about weight and fatness for Studies 1 and 2, and (d) comparison of weight and fatness themes for Studies 1 and 2. Only recurrent themes (i.e., themes generated from comments by multiple respondents) will be discussed below.

12.3.1 Summary of Themes from Study 2 Survey Feedback

Ten major themes were identified from comments providing survey feedback:

1. Researcher should provide definitions of fat and thin: A few participants commented that definitions of fat and thin should have been provided to participants.
2. Fat encompasses range of weights: As for Study 1, a few participants commented about the range of weights encompassed by the term fat. These comments provided clarification of respondents' definitions of fat (e.g., as compared to obesity). A participant also noted that individuals' definitions of fatness may affect survey responses.
3. Asked respondents to make stereotypic judgements and broad generalizations: As for Study 1, some respondents commented that they felt that some of the survey items required them to make broad judgements about fat persons and people in general.

4. Weight or weight-height ratio is a poor measure of fatness: As for Study 1, a few participants commented that weight or a weight-height ratio may not accurately reflect a person's body fatness or size.
5. Other issues could or should have been measured or weren't adequately covered: Some respondents indicated that there were important fat and weight-related issues that were not covered (or adequately covered) in the survey. These issues included opinions about fat children, the contribution of exercise to fatness, and other causes of fatness (e.g., emotional insecurities).
6. Suggestions for further research and applications: Some participants suggested that fat and weight-related issues not covered in the survey could or should be researched further (e.g., origin of attitudes; comparing attitudes of successful versus "failed" weight losers).
7. Opinions depend on who you are asking about: A few participants commented that their attitudes varied depending on who they were thinking about (e.g., friend versus family; self versus other person).
8. Difficult to respond to questions asking about fat persons' thoughts and feelings: A few participants indicated that they found it difficult to answer questions that asked them to comment on fat persons' thoughts and feelings about their weight.
9. Difficulties with response categories or rating scales: Some participants commented that they experienced difficulties using the ratings scale and response categories provided in the survey (e.g., wanted neutral response option for social desirability items).
10. Difficulties with silhouette pictures: A few participants reported that they experienced difficulties responding to the Definition of Fat Man and Definition of Fat Woman scales, as the pictures were unclear.

These themes highlight limitations of the survey employed for Study 2 and will be discussed further in chapter 14.

12.3.2 Comparison of Themes from Survey Feedback for Studies 1 and 2

Table 12.13 provides a summary of the major survey feedback themes identified for Studies 1 and 2. It is evident from the table that twice as many themes were identified for Study 2 compared to Study 1. Although the majority of themes

found for Study 1 were also identified in Study 2 qualitative responses, the majority of themes identified for Study 2 were not evident in the Study 1 feedback.

Table 12.13

Comparison of Major Survey Feedback Themes for Studies 1 and 2

Survey Feedback Themes	Study 1	Study 2
Research is biased and offensive	●	
Researcher should provide definitions of fat and thin		●
Fat encompasses range of weights	●	●
Asked respondents to make stereotypic judgements and broad generalisations	●	●
Would like opportunity to clarify responses	●	
Weight or weight-height ratio is a poor measure of fatness	●	●
Other issues could or should have been measured or weren't adequately covered		●
Suggestions for further research and applications		●
Opinions depend on who you are asking about		●
Difficult to respond to questions asking about fat persons' thoughts and feelings		●
Difficulties with response categories and rating scales		●
Difficulties with silhouette pictures		●

Note. A dot represents the presence of a theme for the relevant study.

12.3.3 Summary of Themes from Weight and Fatness Comments for Studies 1 and 2

Themes emerging from weight and fatness comments for Studies 1 and 2 are summarised in Table 12.14. For both studies, themes emerging from weight and fatness comments were grouped into seven overarching categories. These seven super-ordinate themes related to attitudes and beliefs about fat persons, the experience of fat persons, weight loss, causes of fatness, and the relationship between weight and health.

12.3.4 Comparing Themes from Weight and Fatness Comments for Studies 1 and 2

It is evident Table 12.14 that there was substantial overlap between the themes identified in the two samples. Of the seven overarching categories, two categories shared the same themes for both studies and a further three categories shared similar themes with one or two dissimilarities across the studies.

Table 12.14

Weight and Fatness Themes for Studies 1 and 2

Themes from Weight and Fatness Comments	Study 1	Study 2
Attitudes toward, and beliefs about, fat persons		
Concern about increasing fatness and related consequences	●	
Others' prejudice towards, and stereotypes about, fat persons <i>(also dissatisfaction with such attitudes/beliefs)</i>	●	●
Personal anti-fat attitudes, affective reactions and beliefs	●	●
Positive attitudes toward fat persons	●	●
It's what's on the inside that counts <i>(valuing personality over physical appearance; weight not indicative of personality)</i>	●	●
Others' weight is not my concern	●	●
Know fat persons who don't fit fat stereotype <i>(self or others)</i>	●	●
Fat is unattractive <i>(fatness and/or fat people)</i>		●
Factors that influence attitudes and beliefs		
Personal eating issues or weight may influence opinions	●	●
Thin societal preference <i>(e.g., negative societal views of fatness as opposed to thinness; affect on persons' body image/self-esteem)</i>	●	●
Influence of media <i>(on attitudes/beliefs, body image, self-esteem)</i>	●	●
Gender Issues <i>(e.g., society/media focus on females; weight standards more stringent for females)</i>	●	

Table 12.14 (continued).

Weight and Fatness Themes for Studies 1 and 2

Themes from Weight and Fatness Comments	Study 1	Study 2
The experience of fat persons		
Being fat is uncomfortable	●	
It is hard for fat people to accept and love themselves and feel attractive (<i>other perception or personal experiences</i>)	●	●
Fat people receive comments about their weight and advice about weight loss (<i>personal experience; seen as socially acceptable</i>)	●	
Employment discrimination (<i>e.g., when seeking employment; perceptions of fat persons as less efficient workers</i>)	●	
Fat and happy (<i>self or others</i>)		●
Weight change affects how you are treated by others (<i>e.g., treated more favourably if lose weight</i>)		●
The causes of fatness		
Fatness (and weight) is due to lifestyle choices and controllable factors (<i>i.e., diet and exercise</i>)	●	●
Fatness is influenced by factors outside personal control (<i>e.g., medical conditions, disability, medications, and genetics</i>)	●	●
Fatness is due to emotional issues (<i>e.g., eating in response to emotional issues</i>) (<i>e.g., unresolved childhood or adult trauma, stress</i>)	●	●
The relationship between fatness and health		
Being fat is unhealthy (<i>fatness is associated with greater risk of negative health outcomes</i>)	●	●
Being fat is not necessarily unhealthy	●	●
Health and exercise should be the focus, not weight (or appearance) (<i>greater focus on health and health-related behaviours; fat persons can be healthy</i>)	●	●

Table 12.14 (continued).

Weight and Fatness Themes for Studies 1 and 2

Themes from Weight and Fatness Comments	Study 1	Study 2
Can fat people lose weight? How?		
Suggestions on how to lose weight (changeability) (<i>primarily dietary changes and increased exercise; possible (even easy) for fat persons to lose weight</i>)	●	●
Fat people can (only) lose weight if they chose to and are committed (<i>weight loss is only possible/effective if persons really want to lose weight</i>)	●	●
Helping fat people lose weight (<i>how to approach helping fat people lose weight - range of attitudes/approaches including desire to help others lose weight, helping without appearing to, and letting fat people ask for help if they want it</i>)		●
I can lose weight (<i>personal effectiveness at weight loss</i>)	●	●
It is hard to lose weight and weight loss is complex (<i>range of factors need to be considered</i>)	●	●
Weight loss can be impeded by factors outside personal control (<i>e.g., medical conditions, age, disability, and genetics</i>)	●	●
Should fat people lose weight? Why?		
Fat people have a right to chose to be fat or reduce (<i>implied that fat persons have a choice about whether they are fat</i>)	●	
Fat people should lose weight or be healthier		●
Fat people should lose weight if it affects their health (<i>acceptable for persons to remain fat as long as their weight didn't negatively affect their health</i>)	●	●
Losing weight improves life and benefits fat person (<i>e.g., more energy, improved self-esteem, better health</i>).	●	
Fat people are unhappy with their weight and want to lose weight (regardless of what they say)	●	
Fatness affects others (<i>e.g., friends, family, society in general</i>)		●

Note. A dot represents the presence of a theme for the relevant study.

CHAPTER 13 - STUDY 2 DISCUSSION

This second study examined the weight-related attitudes and beliefs of a community sample predominantly recruited from a regional centre of Queensland, Australia. This study enabled further exploration of the inter-relationships among attitudes, beliefs, and affective reactions toward fat persons in order to extend current understanding of the bases of societal attitudes toward fat persons in the Australian context. An overarching objective of the current study was to explore the replicability of Study 1 findings in a community sample. This study also enabled further refinement of measures developed for Study 1.

13.1 Comparison of Samples for Studies 1 and 2

A substantial community sample was recruited for Study 2 in order to capture the weight-related attitudes and beliefs of a range of adult participants. It was anticipated that the larger community sample would be more diverse in terms of age and weight. This was supported by the findings that the community sample for Study 2 was significantly heavier and older on average than the student sample examined for Study 1.

13.2 Refinement of Anti-Fat Attitude and Belief Measures

On the basis of Study 1 scale analyses, some measures employed for Study 1 were revised for Study 2. Measures of affective reactions to fat persons (i.e., pity and anger), and stereotypic perceptions of fat persons (i.e., warmth and competence) were revised as the final measures for Study 1 consisted of only one or two items. The final affective reaction and stereotype measures for Study 2 each consisted of three or more items. These measures were revised in order to include a greater range of items reflecting different aspects of pity, anger, warmth, and competence that respondents may associate with fat persons, thus capturing a broader conceptualisation of these variables than Study 1 measures (Bohner & Wänke, 2002; Loo, 2002). Additionally, these scales were revised to improve statistical reliability of scale scores. Improvements to these measures resulted in all scale scores obtained in Study 2 having acceptable or good reliability (Streiner, 2003).

Additional items were developed for measures of controllability, changeability, and benefits beliefs in order to clarify the interpretation of factors

suggested by Study 1 scale analyses. For controllability, the additional items consolidated the interpretation of the controllability factor as reflecting general control over fatness, rather than control over eating as a specific cause of fatness. As such, the new items were retained in a revised controllability measure. The inclusion of additional items for Study 2 enabled the researcher to confirm the unidimensional structure of the benefits and changeability beliefs measures employed for Study 1 (see Appendix I). As these items did not add to the interpretation of the factors underlying these scales, and to maintain consistency across Studies 1 and 2, the Changeability and Benefits Scales employed for Study 1 were also used for Study 2.

Affective reaction (i.e., pity and anger), stereotype (i.e., warmth and competence), and controllability beliefs measures were revised for Study 2. These revisions will be taken into consideration when comparing Study 1 and Study 2 findings.

13.3 Discussion of Quantitative Results

13.3.1 Hostile Anti-Fat Attitudes and Affective Reactions

The first aim of this study focused on exploring hostile anti-fat attitudes and affective reactions towards fat persons, and the relationships between these variables. As predicted, the measures of hostile attitudes employed in the present study captured three independent but correlated dimensions: Negative evaluation of fat persons, desire for social distance from fat persons, and perceptions of fat persons as unattractive (Hypothesis 1a). The overall factor structure and interpretation was consistent with Study 1 results. A similar structure was reported by Morrison and O'Connor (1999). As predicted (Hypothesis 1b), the three hostile anti-fat attitudes were inter-correlated and positively correlated with expressions of anger toward fat persons. These relationships were also found in Study 1. Previous research has measured negative reactions to fat persons as hostile anti-fat attitudes (i.e., attitude research), or anger toward fat persons (i.e., attribution research). The comparability of these constructs is supported by the medium and large effect sizes of the relationships between hostile anti-fat attitudes and anger in the present study.

13.3.2 Controllability Beliefs and Reactions to Fat Persons

The second aim of this study was to explore the relationships of controllability beliefs with hostile anti-fat attitudes and affective reactions to fat persons (i.e., anger and pity). Previous research in both the anti-fat attitude (e.g., Allison, et al., 1991; Crandall, 1994) and attribution fields (Menec & Perry, 1998; Weiner, et al., 1988) has consistently demonstrated correlational and causal relationships between control beliefs or attributions and hostile anti-fat attitudes or anger toward fat persons. In the current study, controllability beliefs were positively correlated with negative evaluation, social distance, and unattractiveness attitudes, and anger, thus confirming Hypothesis 2a, and replicating Study 1 findings and previous research. Beliefs that fatness was caused by factors which were under the personal control of fat persons were related to greater negative evaluation, preference for social distance, perceptions of unattractiveness and expressions of anger toward fat persons.

Attributional research exploring reactions to stigmas has also found that controllability attributions are inversely related to expressions of pity toward fat persons (e.g., Weiner, et al., 1988). Study 1 results were not consistent with previous research: Pity was positively correlated with controllability beliefs, while sympathy was unrelated to these beliefs. The prediction that controllability attributions would be negatively correlated with pity (Hypothesis 2b) was re-examined in Study 2 using a revised Pity subscale. Contrary to prediction these variables were uncorrelated. Interestingly, the correlations of the individual pity and sympathy items with controllability beliefs for Study 2 were consistent with the findings of Study 1: The pity item was positively correlated with controllability beliefs, and the sympathy item was unrelated to controllability beliefs. This pattern of results was replicated in Study 2 despite revisions to the measure of controllability beliefs and rewording of the sympathy item. Like the overall Pity subscale and sympathy item, the “sorry for” item was uncorrelated with controllability beliefs. Further research is required to explore the relationships between subjectively positive affect(s) and controllability beliefs.

13.3.3 Changeability Beliefs and Reactions to Fat Persons

As discussed in chapter 9, the differentiation of changeability and controllability beliefs was an important objective of this research. Additional

changeability items were included in the survey for Study 2 to clarify the interpretation of the factor structure of the changeability measure employed in Study 1; however, these additional items were not retained (see section 13.2). The same measure of changeability beliefs was used for both studies in this research project.

As hypothesised (Hypothesis 3a), over half of the respondents tended to endorse controllability (68%) and changeability (58%) beliefs. The overall means for controllability and changeability beliefs were significantly greater than the neutral scale mid-points. In support of Hypothesis 3b, changeability and controllability beliefs were found to be directly correlated but not redundant variables. Participants who endorsed stronger beliefs that fatness is due to controllable causes tended to report stronger beliefs that fatness is changeable. Like controllability beliefs, changeability beliefs were also positively correlated with negative evaluation, social distance and unattractiveness attitudes and expressions of anger toward fat persons (Hypothesis 3c). Therefore, believing that fatness is attributable to controllable causes and that fatness is changeable or curable, relates to greater expression of anger toward fat persons and greater hostile anti-fat attitudes. These hypotheses were also supported by Study 1 findings. Following these preliminary analyses, the role of changeability beliefs in predicting hostile anti-fat attitudes was also explored. It was hypothesised that changeability beliefs would predict variance in hostile attitudes in addition to variance explained by controllability beliefs (Hypothesis 3d). Although this hypothesis was supported for Study 1 for each of the hostile attitude variables, Study 2, the addition of changeability beliefs explained a small but significant amount of additional variance in unattractiveness only, but not in negative evaluation or social distance. These results suggest that changeability beliefs may be particularly important for understanding aspects of anti-fat attitudes that focus on the physical appearance or unattractiveness of fat persons. Further research is required to determine the importance of changeability beliefs for understanding negative evaluation and social distance attitudes.

It was hypothesised that changeability, like controllability, beliefs would be inversely correlated with expressions of pity toward fat persons (Hypothesis 3e). Contrary to prediction, changeability beliefs were not correlated with the Pity subscale or individual pity or sympathy items for Study 2. This result is consistent with Study 1 findings showing that both pity and sympathy for fat persons were

unrelated to changeability beliefs. The consistency of these findings suggests that the degree to which respondents felt pity for fat persons was not related to the degree to which they believed fatness to be changeable. It was hypothesised that these variables would be inversely correlated as it was expected that the relationship between changeability beliefs and pity would be similar to the inverse relationship between controllability beliefs and pity reported by previous research (e.g., Weiner, et al., 1988). Additionally, it seemed reasonable that perceptions of fatness as unchangeable would be associated with greater feelings of pity toward fat persons. Interestingly, there was an inverse correlation between changeability beliefs and the feeling “sorry for” item for Study 2. This finding may indicate that pity, sympathy, and feeling “sorry for” are interpreted or experienced as different affective reactions toward fat persons. For example, perhaps people do feel sorry for fat persons because they believe they cannot become non-fat, but do not pity them or feel sympathy for them. Alternatively, these inconsistent results may be due to the unreliability of scores generated using single-item measures. These issues will be discussed further in relation to Hypothesis 4c.

13.3.4 Paternalistic Anti-Fat Attitudes and Related Beliefs

While attitude research has focused on hostility toward fat persons, attribution researchers have examined both subjectively positive (i.e., pity) and negative (i.e., anger) affective reactions to fat persons. A major objective of this research project is to extend the current research on anti-fat attitudes, by conceptualising and measuring a further dimension of attitudes to fat persons, paternalistic anti-fat attitudes (Aim 4a). Paternalistic anti-fat attitudes are defined as the degree to which an individual espouses that fat persons should be helped to lose weight in the interests of benefiting the fat person, regardless of the beliefs and wishes of the fat person. Relationships between paternalistic attitudes and affective reactions, hostile attitudes, and weight-related beliefs will be discussed in this section (Aim 4b).

Almost 44% of respondents tended to agree with statements designed to capture paternalistic anti-fat attitudes, and 43% of participants tended to endorse unattractiveness attitudes. Negative evaluation (4.1%) and social distance (15.7%) attitudes tended to be supported by fewer participants. These findings are consistent with responses for Study 1, and low levels of explicit hostile anti-fat attitudes

reported by other researchers (e.g., Perez-Lopez, et al., 2001; Teachman, et al., 2003). As predicted (Hypothesis 4a), respondents reported significantly greater paternalistic attitudes compared to negative evaluation or social distance components of hostile attitudes. These differences were also evident in Study 1. For Study 1, unattractiveness attitudes were significantly greater than paternalistic attitudes; however, these variables were not significantly different for Study 2. These results suggest that attitudes regarding the unattractiveness of fat persons and paternalistic anti-fat attitudes may be more prevalent than negative evaluations of fat persons or desire of social distance from fat persons. Alternatively, people may be less willing to report negative evaluation or social distance attitudes, than unattractiveness or paternalistic anti-fat attitudes. Consistent with Study 1, the lack of correlation between the social desirability measure and all of the attitude variables in the current study does not support this explanation (see section 14.3.3 for further discussion). Additionally, respondents reported significantly greater pity than anger toward fat persons. This difference was also found in Study 1. Greater subjectively positive emotions were reported compared to hostile affect. As predicted, for both studies, each of the hostile attitudes was positively correlated with paternalistic attitudes (Hypothesis 4b), however, the correlations between these variables were not so large that paternalistic attitudes and hostile attitudes were redundant.

Study 2 findings partially support Hypothesis 4c. As predicted, the revised pity subscale was positively correlated with anger, social distance, and unattractiveness, but unrelated to negative evaluation. This hypothesis was also partially confirmed for Study 1 as the pity item was positively correlated to anger and hostile anti-fat attitudes; however, the sympathy item was inversely related to these variables. The inconsistent results for Studies 1 and 2 may be due to differences in the way that pity was measured. A revised Pity subscale was employed for Study 2, while two single-item measures of pity and sympathy for fat persons were used for Study 1. The revised Pity subscale included items capturing pity, sympathy, and feeling “sorry for” fat persons. For Study 1, pity was positively correlated to anger and hostile anti-fat attitudes, while sympathy was inversely related to these variables, despite pity and sympathy being positively correlated. It was proposed in chapter 9, that these findings may have been an artefact of the negative wording of the sympathy item. To overcome this potential difficulty, the sympathy item was re-worded for Study 2. Although the correlation between the

pity and sympathy items increased from a small effect for Study 1 to a large effect for Study 2, the pity and sympathy items continued to relate differently to anger and hostile anti-fat attitudes in Study 2.

It was also proposed in chapter 9 that the inconsistent pattern of relationships of pity and sympathy with anger and hostile anti-fat attitudes may reflect actual differences in these affective reactions and how they relate to anger and hostility toward fat persons. To evaluate this proposition, the correlations between the individual Pity subscale items and the measures of anger and hostile attitudes were examined for Study 2. Like the Pity subscale, the pity and “sorry for” items were positively correlated to anger, social distance, and unattractiveness, and unrelated to negative evaluation. Consistent with these findings, the sympathy item was also positively correlated with social distance and unrelated to negative evaluation; however, sympathy was also unrelated to anger and unattractiveness. Therefore, sympathy seems to relate differently to hostility and anger toward fat persons, compared to pity and “sorry for”. The differences were not as dramatic as for Study 1 where pity positively correlated with hostile attitudes and anger while sympathy was inversely related to these variables. Pity and “sorry for” may reflect judgemental feelings (i.e., as in pitiable or pathetic), while sympathy may reflect compassion, empathy, and benevolent concern. Fiske et al. (2002) suggest that “pity is inherently a mixed emotion” (p. 897), which “combines sympathy with superiority” (p. 899). Further research is required to explore the relationships between subjectively positive affect(s) and negative affect and hostile anti-fat attitudes.

The relationships between the affective reaction variables and paternalistic anti-fat attitudes were also examined. In support of Hypothesis 4d, anger was found to be positively correlated with paternalistic attitudes for Study 2. Therefore, for both studies, participants who espoused greater agreement with paternalistic attitudes also reported feeling more anger for fat persons. Also in support of Hypothesis 4d, a positive correlation was found between the revised pity measure and paternalistic attitudes. Mixed results were found for Study 1: The pity item was positively correlated with paternalistic attitudes, while the sympathy item was negatively related to paternalistic attitudes. This mixed pattern of relationships was not evident for the individual sympathy and pity items for Study 2. For Study 2 each of the individual Pity subscale items (i.e., pity, sympathy, and “sorry for”) were positively

correlated with paternalistic anti-fat attitudes. Overall the results of this research suggest that persons expressing greater pity for fat persons also report more paternalistic anti-fat attitudes; however, further research is required to explore whether pity and sympathy relate differently to paternalistic anti-fat attitudes.

In order to explore the prediction of paternalistic anti-fat attitudes from relevant beliefs, two additional belief variables were conceptualised and measured for the current study: Desire to change beliefs (i.e., fat persons' desire to change their fatness) and benefits beliefs (i.e., perceived benefits of weight loss for fat persons). It was proposed that paternalistic attitudes could be predicted from changeability, desire to change, and benefits beliefs (Hypothesis 4e). The role of controllability beliefs in predicting paternalistic anti-fat attitudes was also explored. These belief variables were inter-correlated and each belief was positively correlated with paternalistic attitudes. The combination of these belief variables explained 48.4% of the variance in paternalistic attitudes. Much of this explained variability (35.5%) was shared variability. Although only changeability and benefits beliefs were significant unique predictors of paternalistic attitudes for Study 1, more variables were significant predictors in Study 2. Specifically, changeability, desire to change, benefits, and controllability beliefs all made significant unique contributions to the prediction of paternalistic attitudes in Study 2. These results confirm the importance of the paternalistic-related belief variables developed for this study (i.e., changeability, desire to change, and benefits) for predicting paternalistic anti-fat attitudes, and also identify controllability beliefs as an important predictor of paternalistic anti-fat attitudes as well as hostile anti-fat attitudes.

An important aim of this research was to differentiate between controllability and changeability beliefs and to determine the relative importance of these variables for understanding anti-fat attitudes. Hypothesis 4f focused on examining the contributions of changeability and controllability beliefs in predicting paternalistic anti-fat attitudes. As hypothesised, changeability beliefs predicted significant unique variance in paternalistic attitudes, in addition to the variance explained by controllability beliefs. This hypothesis was also supported in Study 1. For Study 1, changeability beliefs also predicted unique variance in each of the hostile anti-fat attitude variables in addition to the variance explained by controllability beliefs (Hypothesis 3d). However, for the current study, changeability beliefs only predicted additional unique variance in unattractiveness attitudes, but not in negative

evaluation or social distance attitudes. Overall the results of this research highlight the importance of examining changeability beliefs as well as controllability beliefs when predicting attitudes toward fat persons, particularly paternalistic and unattractiveness attitudes.

The conceptualisation of paternalistic anti-fat attitudes was based on Fiske et al.'s (1999; 2002) stereotype content model of attitudes to social out-groups and bioethical definitions of paternalism. Fiske et al. proposed that the degree to which out-group stereotype content is characterised as warm and competent is predictive of affective reactions and attitudes toward out-group members. These researchers found that out-groups perceived as significantly more warm than competent elicit paternalistic attitudes. As such it was hypothesised (Hypothesis 4g) that fat persons would be rated as significantly more warm than competent. Contrary to prediction, respondents rated fat persons as significantly more competent than warm. This relationship was also found in Study 1. Fiske and colleagues describe this pattern of stereotypes as envious stereotypes and found that out-groups with envious stereotypes (e.g., rich people, feminists, Asians, Jews) were not liked due to their perceived coldness, but envied for their perceived competence. Such out-groups did not elicit pity from others. On the basis of literature reviewed in chapters 1 to 5, it seems unlikely that fat persons are envied. Additionally, the findings of the current research suggest that both paternalistic and hostile attitudes are directed towards fat persons.

For Study 1 it was suggested that measurement error may account for the unexpected finding that fat persons were perceived as more competent than warm, as scores on the Competence Scale used in Study 1 had poor reliability. As such, Hypothesis 4g was re-evaluated using a revised competence measure in Study 2. Despite the improved reliability of scores on the revised competence measure, Study 2 results were consistent with Study 1: Fat persons were viewed as significantly more competent than warm. Following these unexpected results, the researcher reviewed the methodology used by Fiske et al. (1999; 2002), and found that these researchers had compared the consensual stereotypes of out-groups rather than participants' personal stereotypes. Participants were asked to indicate how out-groups were generally viewed in society, in order to "elicit cultural beliefs and minimize social desirability concerns" (Fiske, et al., 1999, p. 478). Additionally, participants were asked to rate a range of out-groups on various traits. Although participants were not

asked to compare out-groups on the traits, the juxtaposition of out-group ratings could elicit comparative ratings. In hindsight, the warmth and competence measures employed in the current study were not comparable to the variables captured by Fiske et al. and as such, Hypothesis 4g cannot be adequately evaluated in the current research. Further research is required to ascertain the degree to which fat persons are viewed as warm and competent, and the relationship between these traits.

13.3.5 Respondent Variables

The fifth aim of the current research was to explore the relationships between respondent variables and weight-related attitudes, affective reactions and beliefs. Respondent variables included age, gender, and weight.

13.3.5.1 Age

Although age was not related to any of the affective reaction or attitude variables for Study 1, for Study 2 age had small positive correlations with pity, and negative evaluation, social distance, and paternalistic attitudes. Consistent with Study 1, age also had small positive correlations with desire to change and benefits beliefs. Additionally, age was positively correlated with controllability beliefs for Study 2. As age increased so did expressions of pity, negative evaluation, social distance and paternalistic attitudes, as well as beliefs that becoming fat is controllable, fat persons want to lose weight, and becoming non-fat would benefit fat persons. More variables were related to age in Study 2. This may be due to greater variability in age for the community sample. Age ranged up to 62 years for the student sample for Study 1, whereas the oldest participant from the community sample for Study 2 was 84 years. The community sample was significantly older than the student sample, and the effect size of this relationship was large. The findings of the current research suggest that some aspects of reactions to fat persons tend to increase with greater age. The most consistent findings across the two studies were that greater desire to change and benefits beliefs tended to be reported by older persons. Although age was positively correlated with weight for both studies, follow-up analyses suggested that relationships between weight and age did not explain the correlations of age with desire to change and benefits beliefs.

13.3.5.2 Gender

For Study 1, gender was unrelated to all of the affective reaction, attitude, and belief variables, except for social distance attitudes, with males reporting greater social distance attitudes than females. Like age, gender was related to a greater number of variables for Study 2. In support of Hypothesis 5a, males reported significantly greater negative evaluation, social distance, and unattractiveness anti-fat attitudes than females. These findings are consistent with previous research showing that males tend to report greater hostile anti-fat attitudes than females (Brochu & Morrison, 2007; Crandall, 1994; Glenn & Chow, 2002; Morrison & O' Connor, 1999; Perez-Lopez, et al., 2001). Like hostile attitudes, males in this sample also reported greater paternalistic attitudes than females. Therefore, males tended to report greater dislike and disrespect of fat persons.

Hypothesis 5b was also confirmed as controllability beliefs were unrelated to respondent gender. This is consistent with Allison et al.'s (1991) findings and Study 1 results. Interestingly, although no relationship between gender and controllability beliefs has been found in the current research, for Study 2 males reported greater changeability beliefs than females. This difference was not found for Study 1. Although Australian research by Crawford and Campbell (1998) suggested that females would report greater benefits beliefs than males, in the present study males reported greater benefits beliefs than females, thus disconfirming Hypothesis 5c. Benefits beliefs did not relate to gender for Study 1.

With regards to gender, the most consistent finding across the two studies was that males reported greater social distance attitudes. Additionally, for Study 2 only, males reported greater negative evaluation, unattractiveness, and paternalistic attitudes; and changeability and benefits beliefs.

13.3.5.3 Weight

For both studies respondent weight was negatively correlated with hostile and paternalistic attitudes, and anger toward fat persons. It was originally hypothesised for Study 1 that negative evaluation and social distance [based on Crandall's (1994) Dislike scale] would be unrelated to weight, while unattractiveness [based on Morrison and O'Connor's (1999) AFAS] would be inversely related to respondent weight. However, as each of the hostile measures was inversely related to respondent weight for Study 1, Hypothesis 5d was updated for Study 2 to reflect

these results. In support of Hypothesis 5d* and consistent with Study 1 findings, each of the hostile anti-fat attitude variables were inversely related to weight for Study 2. Also consistent with Study 1 findings, weight was inversely correlated with paternalistic anti-fat attitudes in Study 2. The inverse relationships of respondent weight with anti-fat attitudes and anger in the current research, suggest that fat persons do report an in-group bias: Fatter respondents tended to report lower levels of hostile and paternalistic attitudes and anger toward fat persons.

Based on Allison et al.'s (1991) findings, it was originally hypothesised for Study 1 that controllability beliefs would be unrelated to respondent weight (Hypothesis 5e). However, as respondent weight was inversely related to controllability beliefs for Study 1, Hypothesis 5e was updated for Study 2 to reflect this result. In support of Hypothesis 5e* and consistent with Study 1 findings, controllability beliefs were inversely related to respondent weight for Study 2. Also consistent with Study 1 findings, weight was inversely correlated with changeability beliefs in Study 2. Thus participants with greater BMI tended to report less controllability and changeability beliefs. Fatter respondents may espouse lower levels of controllability and changeability beliefs as their personal experiences of the onset of their fatness and attempts to lose weight may have led them to believe that fatness is less controllable and changeable. Alternatively, fat people may reject beliefs that fatness is controllable and changeable as such beliefs may be damaging to their self-esteem. Consistent with this explanation, Tiggemann and Rothblum (1997) found that fat females who believed that they have personal control over their weight reported lower self-esteem, than fat females who did not believe they could control their weight.

Benefits beliefs were consistently unrelated with respondent weight in this research project. Although desire to change beliefs were also unrelated to weight for Study 1, for Study 2 desire to change beliefs were positively correlated with respondent weight. This result suggests that persons with greater BMI endorsed greater beliefs that fat persons want to lose weight and become non-fat.

13.3.6 Definitions of Fat

In addition to examining what people feel towards and believe about fat persons, the range of body sizes that respondents considered indicative of the social category of fat persons was explored (Aim 6a). The present research did not

distinguish between degrees of fatness, and a specific operational definition of fatness was not provided to participants. It was assumed that the social category of fatness is culturally and socially constructed and that there is a shared social perception of what is perceived as fat. This premise was supported in the current research with over 89% of respondents selecting fat thresholds (i.e., smallest figures perceived as fat) represented by one of three silhouette drawings for both males and females. The majority of participants selected fat thresholds represented by drawings one or two points above the mid-point of the silhouette scale. Although there was individual variation in perceptions of fat thresholds, participants' fat thresholds were quite homogenous and reflected a continuum ranging from overweight to morbidly obese. However, differences between samples for Studies 1 and 2 did not support the existence of a shared social perception of what is perceived as fat. Overall the student sample (Study 1) rated smaller male and female figures as indicative of fatness compared to the community sample (Study 2). Whereas the majority of participants for Study 1 selected fat thresholds represented by drawings at the mid-point of the silhouette scale or slightly above (figures 5 or 6), the majority of Study 2 participants selected the next biggest drawings (figures 6 or 7).

As the community sample was significantly older and fatter than the student sample, the relationships of age and respondent weight with definitions of fatness were examined for the combined data from both studies. Definition of fat woman was positively correlated with both age and respondent weight; however, definition of fat man was not related to either of these variables. Older and fatter participants tended to select larger figures as defining fat women, and these relationships may account for the tendency of community participants to select larger figures as defining fat women.

The relationships between perceptions of fat thresholds for male and females and the affective reaction, attitude, and belief variables were also explored (Aim 6b). Male and female thresholds were inversely related to all of the attitude and belief variables and anger toward fat persons. Generally, respondents who indicated smaller drawings as indicative of fat people tended to report greater anti-fat attitudes and beliefs, and anger. These correlations were also found in Study 1, except that the correlation between negative evaluation and definition of fat man was not significant in Study 1.

Pity was unrelated to both definitions for the present study. This finding was consistent with the lack of relationship between sympathy and both definitions found in Study 1; however, pity was negatively related to female definition in Study 1. Examination of the relationships between the individual pity and sympathy items for both studies suggests that these affective reactions relate to definitions of fatness differently. Across both studies the sympathy item was consistently unrelated to both definitions of fatness whereas the pity item was inversely related to definition of fat woman for Study 1 and both definitions for Study 2.

13.4 Discussion of Qualitative Results

13.4.1 Survey Feedback

Themes emerging from survey feedback for Studies 1 and 2 will be discussed in the limitations section of chapter 14. Other limitations of the current research will also be addressed in chapter 14.

13.4.2 Weight and Fatness Comments for Studies 1 and 2

For both studies, themes emerging from weight and fatness comments were grouped into seven overarching categories. These categories included themes relating to attitudes and beliefs about fat persons, factors that influence attitudes and beliefs, the experience of fat persons, causes of fatness, the relationship between weight and health, and weight loss. There was substantial overlap between the themes identified for the two samples (see Appendices E and J). Some of the themes reflect broader issues discussed in this thesis. Themes pertaining to the experience of fat persons, and factors that influence anti-fat attitudes and beliefs, reflected issues discussed in chapters 1 and 2 (e.g., societal preference for thinness, employment discrimination). Participants also commented on the relationship between fatness and health. It was proposed in chapter 3, that anti-fat attitudes may be socially acceptable due to the association between fatness and health risks. Although some participants indicated that they believe fatness is unhealthy, other comments reflected beliefs that the relationship between weight and health is more complex and that fat people can be healthy. Future research could examine the degree to which beliefs about the (un)healthiness of fatness predict anti-fat attitudes.

Other themes reflected variables examined in the current research. Although some participants expressed hostile attitudes (e.g., disgust) and stereotypes of fat persons (e.g., unattractive, short-tempered), most attitude-related comments reflected positive attitudes to fat persons and dislike of others' fat prejudice and stereotypes. This is consistent with the low levels of hostile anti-fat attitudes reported in this research, especially negative evaluation and social distance. However, qualitative comments may have reflected greater expression of pro-fat or non-judgemental attitudes and beliefs, as participants did not have an opportunity to express such attitudes and beliefs elsewhere on the survey.

In support of the differentiation of controllability and changeability beliefs, themes regarding the causes of fatness as well as weight loss were found. Consistent with controllability beliefs, some themes reflected beliefs that weight is under personal control, while other themes indicated beliefs that weight is caused by uncontrollable factors. Changeability-related themes reflected the degree to which fatness is changeable (i.e., weight loss) and how fatness is changeable (i.e., how to lose weight). As well as beliefs about changeability of others' weight, some participants noted that they are able to lose weight. Future research could explore personal weight changeability beliefs as well as personal weight control beliefs.

Another category of themes related to beliefs about whether fat persons "should" lose weight. Several themes reflected that fat persons should lose weight to improve their health or if their health is affected by their weight. Consistent with paternalistic anti-fat attitudes, these themes suggested that fat people should lose weight in the interests of benefiting the fat person, regardless of the beliefs and wishes of the fat person. While some comments suggested that fat persons should be helped to lose weight, others implied that fat persons were responsible for changing their fatness. One theme reflected non-paternalistic attitudes, with comments indicating that fat persons have the right to decide whether to lose weight; however, such comments often implied that it was up to the fat person, as long as it did not affect their health. Several themes were indicative of paternalistic behaviour toward fat persons. One theme reflected personal experiences of receiving comments about fatness and advice about weight loss. Participants noted that such behaviour seems to be socially acceptable, and more acceptable than providing advice to persons with other negatively evaluated characteristics. Other themes provided suggestions for

how fat people can lose weight and approaches to helping others lose weight (e.g., “best to try and help without appearing to”).

Themes consistent with paternalistic-related beliefs were also found. Consistent with desire to change beliefs, one theme suggested that fat people are unhappy with their weight and want to lose weight, regardless of what they say. Another theme, reflecting benefits beliefs, consisted of reasons why fat persons should lose weight (e.g., better health, improved self-esteem). One theme highlighted a reason why people believe that fat persons should lose weight that was not considered in the current research. Beliefs about the affect of fatness on others (i.e., family, friends, and society) may be important predictors of anti-fat attitudes.

It is acknowledged that the reliability and validity of these themes may be limited by the processes undertaken to collect and analyse the qualitative data (e.g., lack of depth, voluntary/not representative, influence of survey content, single coder) (Fossey, Harvey, McDermott, & Davidson, 2002; Green, 2004; Mayring, 2000; Mays & Pope, 1995). However, analysis of qualitative comments about weight and fatness provided useful preliminary results. For example, the themes emerging from the qualitative data were consistent with the variables considered in the current research. The emergence of themes reflecting changeability, desire to change, and benefits beliefs, and paternalistic anti-fat attitudes provided some validation for these constructs. Themes also highlighted additional factors that could be addressed in future research.

A range of issues relating to reactions to fat persons have been investigated in Studies 1 and 2. Chapter 14 will provide an overview of the main findings of this research project, and discuss how the results of the current research fit with theoretical approaches previously used to understand reactions to fat persons, as well as Fiske et al.’s (1999; 2002) stereotype content model of prejudice. Limitations and implications of the current research as well as suggestions for future research will also be addressed in the next chapter.

CHAPTER 14 - GENERAL DISCUSSION AND CONCLUSION

14.1 Introduction

The “war on obesity” has become a very salient topic in contemporary Westernised cultures, with increasing rates of obesity and associated health consequences receiving regular public attention and condemnation (Gard & Wright, 2005). In contrast, little attention is directed toward social attitudes, discrimination, and stigmatisation of fat persons – the consequences of which may contribute to, and be as severe as, the health risks associated with fatness (Brownell & Wadden, 1992). As such it seems timely to re-examine social attitudes and beliefs about fat persons and fatness. This final chapter presents an overview of the current research, including a summary of the main findings, and methodological limitations. The results will be discussed in terms of theoretical approaches previously used to understand reactions to fat persons, as well as Fiske et al.’s (1999; 2002) stereotype content model of prejudice. As a principal contribution of this research was the conceptualisation, measurement, and exploration of paternalistic anti-fat attitudes and related beliefs (including changeability beliefs), the discussion of implications and future research will focus on these issues.

14.2 Overview of Current Research

The current research explored attitudes and affective reactions toward fat persons and beliefs about fatness and fat persons in the Australian context. Little research has examined social reactions to fat persons using Australian samples; in fact, previous research has predominantly employed North American samples. Two samples of Australian adults were surveyed. For Study 1, the final sample consisted of 210 undergraduate and postgraduate psychology students enrolled at a regional Australian university. These participants completed a web-administered survey. The final sample for Study 2 consisted of 344 community participants, predominantly recruited from a regional centre of Australia. Study 2 participants completed a self-administered paper survey. The questionnaires employed for both studies were similar; however, modifications were made to the instrument for Study 2 in order to address methodological and psychometric deficiencies identified in Study 1.

A significant achievement of the current research was the conceptualisation and development of original constructs and measures, particularly paternalistic anti-fat attitudes and related beliefs (i.e., changeability, desire to change, and benefits beliefs). Study 1 may be considered a pilot study, which enabled preliminary examination of the utility and psychometric properties of the new attitude and belief variables, prior to re-examining the research aims in a more diverse community sample in Study 2. Study 2 replicated Study 1 with methodological improvements to enhance reliability and validity of obtained data. The same research aims were explored in both studies. Most of the hypotheses explored for Study 2 were the same as those examined for Study 1; however, some hypotheses were updated on the basis of Study 1 findings. In addition to replicating Study 1 findings, it was deemed important to examine reactions to fat persons in a general community sample as past research has primarily utilised student samples. The community sample recruited for Study 2 was significantly fatter (i.e., had greater BMI) and older than the student sample examined for Study 1.

14.3 Summary of Research Aims and Results

This section provides an overview of the main findings of the current research. The results will be discussed in relation to theoretical approaches to understanding reactions to fat persons and social out-groups in general. Unless indicated otherwise, it can be assumed that results discussed below were found in both studies. Findings relating to affective reactions of pity (and sympathy) will only be discussed for relationships that were generally consistent across the two studies. Findings relating to definitions of fatness will be discussed in section 14.4.

14.3.1 Hostility and Controllability

Initially this research re-examined variables and relationships that have been explored in past prejudice and attribution research. The first aim of this research focused on exploring hostile attitudes and anger towards fat persons, and the relationships between these variables. Similar to previous findings by Morrison and O'Connor (1999), three independent but correlated dimensions of hostile attitudes toward fat persons were found: Negative evaluation of fat persons, desire for social distance from fat persons, and perceptions of fat persons as unattractive. The medium to large positive correlations between these variables and expressions of

anger, suggest that these dimensions reflect hostility toward fat persons, and that the reaction variables employed by attitude and attribution researchers are comparable.

The second aim of this research explored the well-established relationship between perceptions of fatness as controllable and hostility toward fat persons. The relationship between control attributions and affective reactions forms a part of Weiner's (1993) attribution-emotion-helping judgement model. Similarly, the relationship between controllability beliefs and fat prejudice is an important aspect of Crandall et al.'s (2001) attribution-value model of prejudice. Both models propose that negative reactions to fat persons (i.e. anger and hostile attitudes) can be predicted from beliefs or attributions that fat persons caused their fatness or had personal control over the causes of their fatness. The results of the current research were consistent with these models. Individuals who believe that fat persons are responsible for causing their fatness reported stronger hostile reactions to fat persons (i.e., greater anger, negative evaluation, desire for social distance, and perceptions of fat persons as unattractive). This finding is consistent with Crandall and colleagues (Crandall, 1994; Crandall & Biernat, 1990; Crandall & Martinez, 1996) proposition that prejudice towards fat persons, akin to symbolic racism, results from a blame ideology, which they describe as a "tendency to hold an individual responsible for all of the outcomes in his or her life" (Crandall & Martinez, 1996, p. 1165).

14.3.2 Controllability Beliefs and Changeability Beliefs

The current research project extended on previous attitude research by differentiating between controllability and changeability beliefs, and examining the relative importance of these variables for understanding anti-fat attitudes. Although attribution research examining reactions to stigmas has explored both control over onset, and changeability of stigma (i.e., control over offset), as determinants of affective reactions, attitude research has not specifically explored the role of changeability beliefs in predicting anti-fat attitudes. In fact, some belief measures employed by anti-fat attitude researchers seem to confound these types of belief. A review of attribution research examining reactions to stigmas suggests that attributions or beliefs about the stability or changeability of fatness may be especially important to understanding reactions to fat persons.

The levels of controllability and changeability beliefs reported in this research suggest strong endorsement of controllability beliefs (approximately 70% of

sample tending to endorse controllability beliefs), but less (although still substantial) agreement with changeability beliefs (50 to 58% of sample tending to espouse changeability beliefs). These results suggest that many participants tended to believe that fat people are responsible for becoming fat, or fat persons can change their weight status, or both. Such beliefs were common despite research showing that fatness is a complex condition influenced by genetic, physiological, environmental, and socio-cultural factors (Faith, et al., 2000; Gard & Wright, 2005), and despite much research showing limited long-term maintenance of weight loss (e.g., Gard & Wright, 2005; Ikeda, et al., 1999).

As expected, changeability and controllability beliefs were positively related in the current research. Although the correlations between these variables reflected large effect sizes, they were not so large that they could be considered redundant. The importance of examining both changeability and controllability beliefs was evident when these variables were used to predict anti-fat attitudes. Like controllability beliefs, changeability beliefs were positively correlated with hostile anti-fat attitudes and anger. Believing that fatness is changeable or curable, relates to greater expression of anger toward fat persons and greater hostile anti-fat attitudes. For both studies, changeability beliefs predicted unique variance in unattractiveness (hostile) attitudes in addition to the variance already explained by controllability beliefs. Changeability beliefs also predicted additional variance in the other hostile attitude variables (i.e., negative evaluation and social distance) in the student sample only. Changeability beliefs seem to have been more important to predicting the hostile anti-fat attitudes of the student sample than the community sample.

The importance of changeability beliefs was more clearly demonstrated by the relationship between changeability beliefs and paternalistic anti-fat attitudes. In both studies changeability beliefs predicted significant unique variance in paternalistic attitudes in addition to the variance already explained by controllability beliefs. Overall the findings of this research highlight the importance of examining changeability beliefs as well as controllability beliefs when predicting attitudes toward fat persons, particularly unattractiveness (hostile) attitudes and paternalistic attitudes. The relationship between changeability beliefs and paternalistic attitudes will be discussed further in the following section.

14.3.3 Paternalistic Anti-Fat Attitudes

A principal achievement of this research project has been to broaden research on anti-fat attitudes by conceptualising, measuring, and exploring paternalistic anti-fat attitudes and related beliefs. Prejudice toward social out-groups has traditionally been conceptualised as socially undesirable stereotypic perceptions, and antipathy or hostility. Previous anti-fat attitude research is consistent with this approach (e.g., Crandall, 1994). Fiske and colleagues (1999; 2002) have proposed that prejudice toward many out-groups includes both hostile stereotypes and attitudes, and subjectively positive stereotypes and attitudes (e.g., pity and paternalism). Reactions such as pity and paternalism are described as subjectively positive as they are viewed as positive by the individual espousing the attitude, but are based on undesirable stereotypic beliefs, such as the assumption that the target is incompetent, inferior, needy, and weak.

Based on a review of research evidence and academic and popular discourse on reactions to fat persons and the experiences of fat persons, the researcher proposed that attitudes toward fat persons are subjectively positive as well as hostile. In particular, it was proposed that reactions to fat persons include pity and paternalism. Unlike attitude research, attribution research has examined both subjectively positive (i.e., pity) and negative (i.e., anger) affective reactions to fat persons. In fact, Weiner et al. (1988) found that obese persons elicited greater pity than anger. In the current research participants also expressed significantly greater pity and sympathy than anger toward fat persons. An additional form of subjectively positive reaction to fat persons, paternalistic anti-fat attitudes, was also explored in the current research. The conceptualisation of paternalistic anti-fat attitudes was based on Fiske et al.'s (1999; 2002) stereotype content model of prejudice, and bioethical definitions of paternalism. Paternalistic anti-fat attitudes were defined as the degree to which an individual espouses that fat persons should be helped to lose weight in the interests of benefiting fat persons (e.g., in terms of happiness and health), regardless of the beliefs and wishes of fat persons. Paternalistic attitudes were generally positively correlated with expressions of pity in the current research.

In this research project it was demonstrated that reactions to fat persons are both hostile and paternalistic. In both studies, approximately 40% of respondents tended to agree with statements designed to capture paternalistic anti-fat attitudes.

Similar levels of endorsement of unattractiveness (hostile) attitudes were reported. In contrast, low levels of negative evaluation and social distance (hostile) attitudes were reported. In fact, less than 5% of participants had negative evaluation scores greater than the neutral mid-point of the scale. Previous researchers have also found low levels of explicit hostile anti-fat attitudes (e.g., Perez-Lopez, et al., 2001; Teachman, et al., 2003). Endorsement of paternalistic attitudes was significantly greater than endorsement of negative evaluation and social distance (hostile) attitudes, but not unattractiveness (hostile) attitudes. These results suggest that attitudes regarding the unattractiveness of fat persons and paternalistic anti-fat attitudes may be more prevalent than negative evaluations of fat persons or desire for social distance from fat persons. Alternatively, people may be less willing to report negative evaluation or social distance than unattractiveness or paternalistic anti-fat attitudes. Although the lack of correlation between the social desirability measure and all of the attitude variables in both studies does not support this explanation, recent critiques (Kuncel & Tellegen, 2009; Uziel, 2010) question the validity of the widespread practice of examining correlations between items or variables and social desirability measures to detect social desirability bias. These authors do not discount that social desirability bias exists and can distort survey responses; rather they suggest that the complex nature of impression management cannot be captured using current methods. It is also possible that hostile anti-fat attitudes were not adequately captured in the current research as hostility toward fat persons may only be elicited in specific contexts, or directed at particular subtypes of fat persons. This issue will be discussed further in section 14.4 as an important area for future research.

Fiske et al. proposed that subjectively positive and negative reactions are complementary and maintain inequality between social groups (Glick & Fiske, 2001a, 2001b). The current research demonstrated that paternalistic attitudes and hostile orientations toward fat persons (i.e. hostile attitudes and anger) are positively correlated. Participants who reported greater paternalism also tended to report greater hostility toward fat persons. Hostile and paternalistic reactions toward fat persons do seem to be complementary ideologies like hostile and benevolent sexism (Glick & Fiske, 2001a, 2001b).

Fiske et al.'s (1999; 2002) stereotype content model of prejudice proposes that the degree to which out-group stereotype content is characterised as warm and competent is predictive of affective reactions and attitudes toward out-group

members. A review of stereotyping research suggested that fat persons are perceived to be incompetent (e.g., stupid, sick, weak, lacking self-control) however, the extent to which fat persons are viewed as warm was less clear. Past stereotyping research found that the fat stereotype included characteristics suggesting that fat persons are viewed as warm (e.g., kind, warm, friendly) and others suggesting lack of warmth (e.g., mean, dishonest, selfish). Although Fiske et al. (2002) proposed that only groups with paternalistic stereotypes (i.e., high-warmth-low-competence; e.g., disabled persons, elderly) would elicit subjectively positive reactions, these researchers found that out-groups perceived as low on competence elicited paternalistic reactions, regardless of perceptions of warmth. Stereotypes of out-groups that elicited subjectively positive reactions were similar in that such out-groups were rated as significantly more warm than competent.

Consistent with Fiske et al.'s (2002) findings it was predicted that fat persons would be rated as more warm than competent. Contrary to prediction, fat persons were rated as significantly more competent than warm in both studies. Fiske and colleagues described this pattern of stereotypes as envious stereotypes and found that out-groups with envious stereotypes (e.g., rich people, feminists, Asians, Jews) were not liked due to their perceived coldness, but envied for their perceived competence. Such out-groups did not elicit pity from others. On the basis of literature reviewed in chapters 1 to 5, it seems unlikely that fat persons are envied. Following these unexpected results, the researcher reviewed the methodology used by Fiske et al. (1999; 2002), and found that these researchers had compared the consensual stereotypes of out-groups rather than participants' personal stereotypes. Additionally, Fiske et al.'s methodology may have elicited comparative ratings of stereotypes of various outgroups. In contrast, the current research measured personal stereotypes about a single group. In hindsight, the warmth and competence measures employed in the current study were not comparable to the variables captured by Fiske et al. Additionally, another important aspect of the stereotype content model was overlooked in the current research. Fiske et al.'s model focuses on the stereotypes of out-group members in predicting reactions to social groups. In the current research, no attempt was made to differentiate between respondents who identified themselves as fat (i.e., in-group members) and those that didn't (i.e., out-group members), and the inclusion of both out-group and in-group members may have contributed to the unexpected finding that fat persons were rated as more

competent than warm in the current research. This limitation will be discussed further in section 14.3.5.3. Further research capturing cultural stereotypes of fat persons by non-fat persons would be required to ascertain the degree to which fat persons are viewed as warm and competent by society, in order to evaluate the degree to which Fiske et al.'s stereotype content model of prejudice predicts reactions to fat persons.

The current research has provided preliminary evidence that reactions to fat persons are both hostile and subjectively positive. As such it seems that fat persons are both disliked and disrespected. Crandall et al. (2009) have also suggested that the stereotype content model of prejudice may be useful in understanding anti-fat attitudes. Interestingly, Crandall et al. suggest that stereotypic perceptions of fat persons are only negative and reactions to fat persons are likely to consist of disgust and contempt. Research and discourse reviewed in chapter 5 suggests that stereotypic perceptions of fat persons contain both positively and negatively evaluated characteristics, and fat persons are both disliked and disrespected/patronised. The results of the current research project are not consistent with Crandall et al.'s predictions. For example, participants expressed significantly greater pity and sympathy than anger toward fat persons, and evidence that attitudes toward fat persons are both paternalistic and hostile (particularly in terms of unattractiveness attitudes) was found. In fact, paternalistic anti-fat attitudes were more prevalent than negative evaluations of fat persons or desire for social distance from fat persons. The existence of paternalistic anti-fat attitudes (and related behaviour) was highlighted by two qualitative comments provided by Study 1 participants:

There are many health conditions that affect weight and can make weight loss almost impossible (and I have 2 of them!) which means when strangers walk up in the street to tell me of a weight loss gimmick it can be quite damaging to confidence. If its socially unacceptable to walk up to a stranger and tell them they are too thin or their hair is the wrong length, then why is it ok for them to approach over average weight people and say "you're fat"?

It's not socially acceptable to walk up and tell a stranger to "get rid of your grey hair no one likes it" or to "get some shoes that make you

taller for gods sake". So why do people feel it is socially acceptable to tell a stranger they need to lose weight? I've had comments from many strangers and even several stop me to promote their weight loss business. I feel it is unacceptable and hurtful and damages self esteem the media already attacks.

These comments poignantly express the affect that paternalistic orientations can have on fat persons. Potential consequences of paternalistic anti-fat attitudes and related beliefs will be discussed in section 14.5. Future research could examine the degree to which paternalistic attitudes and related beliefs predict actual paternalistic behaviours. An extension of the stereotype content model, the BIAS Map (Cuddy, Fiske, & Glick, 2007), may be useful in predicting behavioural reactions to fat persons. This model predicts intergroup behaviour from affective reactions and stereotypic perceptions of out-groups. Intergroup emotions theory (see Crandall, et al., 2009 for discussion of application to anti-fat attitudes) may also be useful in understanding behaviours toward fat persons.

Further research is also needed to clarify the conceptualisation of paternalistic attitudes toward fat persons. In hindsight the conceptualisation of paternalistic attitudes used in the current research may confound two types of paternalism. In relation to ambivalent sexism, Glick and Fiske (1996, 1997) describe two aspects of the ideology of paternalism. These researchers suggest that there is a hostile aspect of paternalism categorised by domination and control, and a benevolent aspect of paternalism reflecting care-taking and protectiveness. In the current research, paternalistic anti-fat attitudes were defined as the degree to which an individual espouses the belief that fat persons should be helped to lose weight in the interests of benefiting the fat person (e.g., in terms of happiness and health), regardless of the beliefs and wishes of the fat person. Six elements of paternalistic anti-fat attitudes were proposed (see chapter 5). The researcher had intended paternalistic anti-fat attitudes to reflect a subjectively positive orientation consistent with protective paternalism. However, in hindsight, items designed to capture one of the proposed elements (i.e. it is acceptable to use coercion to get fat people to lose weight), may reflect dominant paternalism rather than protective paternalism (e.g., "Sometimes it is acceptable to push a fat person to lose weight"). Such items may reflect attitudes and beliefs that fat people should be forced to lose weight rather than helped to lose

weight. Overall the PAFAS does seem to principally capture protective paternalism as the two highest loading items for both studies reflected that fat persons should be helped to lose weight in the interests of benefiting the fat person, and helping someone lose weight is due to caring about him or her. Additionally, it was encouraging that all of the proposed elements of paternalism were represented by items in the final PAFAS scale. It may be useful to conduct qualitative research to clarify the definition of paternalism with respect to fat persons.

14.3.4 Predicting Paternalistic Attitudes from Fat-Related Beliefs

In order to further explore the beliefs underlying paternalistic anti-fat attitudes, several original belief variables were conceptualised and measured in the current research. It was proposed that paternalistic attitudes would be related to changeability, benefits, and desire to change beliefs. It seems logical that persons who espouse paternalistic attitudes (i.e., fat persons should be helped to lose weight in order to benefit fat persons) would also believe that fatness is changeable and that weight loss benefits fat persons (e.g., improved appearance, health, psychosocial well-being). Furthermore, as paternalistic anti-fat attitudes are conceptualised as subjectively positive, such attitudes may reflect a desire to help others. As such, it may be important to persons who hold paternalistic attitudes to believe that fat persons want to be helped and desire to change their fatness and become non-fat (i.e., desire to change beliefs). Together these new belief variables and controllability beliefs predicted substantial (mostly shared) variance in paternalistic attitudes. Changeability and benefits beliefs uniquely predicted paternalistic attitudes in both studies, and desire to change and controllability beliefs were also unique predictors in Study 2 only. The findings of the current research suggest that changeability and benefits beliefs (and perhaps also desire to change and controllability beliefs) may be important for understanding paternalistic reactions to fat persons. Disrespecting and patronising orientations toward fat persons may seem justified on the basis of beliefs that fatness is changeable and that weight loss benefits fat persons.

14.3.5 Respondent Variables and Reactions to Fat Persons

The relationships of respondent age, gender, and weight, with the affective reaction, attitude, and belief variables were also explored in the current research. This section will focus on findings related to specific hypotheses, and exploratory

results consistently found in both samples. Further research is required to examine whether relationships found only for Study 2 can be replicated.

14.3.5.1 Age

Greater benefits and desire to change beliefs were reported by older participants in both studies. The relationship between age and weight did not account for the correlations of age with these belief variables. Perhaps older persons report greater desire to change and benefits beliefs due to greater awareness of the affect of fatness on physical health and mobility through personal experiences and those of other older persons they know.

14.3.5.2 Gender

The relationships between gender and hostile anti-fat attitudes were mixed in the current research. Males consistently reported greater social distance attitudes than females. Additionally, males reported greater levels of all hostile attitude variables for Study 2 only (i.e., negative evaluation, social distance, and unattractiveness). For Study 1, negative evaluation and unattractiveness were not related to gender. Generally, previous research employing measures of negative affective reactions has found that males dislike fat persons more than females do (Brochu & Morrison, 2007; Crandall, 1994; Glenn & Chow, 2002; Morrison & O' Connor, 1999; Perez-Lopez, et al., 2001). However, consistent with the current research some research has found that gender is not significantly related to hostile attitudes. For example, using the same attitude measure as Crandall (1994), Crandall and Martinez (1996) did not find a relationship between gender and dislike of fat persons.

Controllability beliefs were unrelated to gender in the current research. Previous research has also shown that gender and controllability beliefs are not correlated (Allison, et al., 1991; Crandall, 1994; Crandall & Martinez, 1996). Although Australian research by Crawford and Campbell (1998) suggested that females would report greater benefits beliefs than males, in the current research males reported greater benefits beliefs than females (Study 2), or gender and benefits beliefs were unrelated (Study 1).

14.3.5.3 Weight

Most previous research has found no or minimal relationship between respondent weight and anti-fat attitudes (e.g., Allison, et al., 1991; Brochu & Morrison, 2007; Crandall, 1994; Crandall, et al., 2001; Glenn & Chow, 2002; Perez-Lopez, et al., 2001). Crandall suggested that this lack of in-group bias suggests that prejudice toward fat persons is not influenced by self-interest. Although Crandall's assertions have generally been supported by past research, two studies found that fatter persons reported less anti-fat attitudes (Morrison & O' Connor, 1999; Robinson, et al., 1993). In-group bias was also found in the current research. Fatter respondents reported lower levels of hostile and paternalistic anti-fat attitudes, and anger toward fat persons. These results suggest that fat persons may espouse more favourable (or at least less unfavourable) attitudes toward fat persons.

Respondent weight was also inversely related to controllability and changeability beliefs in the current research, with fatter participants reporting less of these beliefs. The inverse relationship between weight and controllability beliefs was inconsistent with Allison et al.'s (1991) finding that controllability beliefs were unrelated to respondent weight. It was proposed in chapters 9 and 13 that fatter respondents may espouse lower levels of controllability and changeability beliefs as their personal experiences of the onset of their fatness and attempts to lose weight may have led them to believe that fatness is less controllable and changeable. Alternatively, fat people may reject beliefs that fatness is controllable and changeable as such beliefs may be damaging to their self-esteem. Benefits beliefs were consistently unrelated to respondent weight in this research.

As stated in section 14.3.3, a limitation of the current research project is that in-group (i.e., respondents who identify themselves as fat) and out-group (i.e., respondents that don't identify themselves as fat) members were not differentiated. In contrast, Fiske et al.'s (1999; 2002) stereotype content model examines stereotypes of out-groups; that is, Fiske et al. obtained perceptions of social out-groups from respondents who didn't identify as members of the out-groups in question. In hindsight, it would have been valuable to ask respondents to indicate whether they identify as fat, in order to distinguish between in-group and out-group members. There is indirect evidence suggesting that there was an in-group bias in the current research. As discussed above, fatter respondents reported less hostile and

paternalistic anti-fat attitudes and anger toward fat persons, and less controllability and changeability beliefs. Therefore, fatter persons reported more favourable attitudes and beliefs toward fat persons. This may reflect an in-group bias, however, it is impossible to ascertain from the current research whether fatter participants identified themselves as members of a fat out-group. Future research should ascertain whether respondents identify themselves as fat out-group members in order to explore the impact of group membership on reactions to fat persons.

14.4 Limitations and Future Research

14.4.1 Limitations and Future Research Highlighted by Qualitative Survey Feedback

Major limitations identified by respondents via qualitative survey feedback will be discussed in this section. Some of the feedback reflected limitations inherent in the methodology used. For example, some participants expressed that they would have liked the opportunity to clarify their rating scale responses with written responses. This is a limitation of employing forced-choice survey items as opposed to an open-ended format. Participants also noted that weight or a weight-height ratio (e.g., BMI) may not accurately reflect body fatness. The use of BMI to measure respondent fatness is a limitation of the current research as BMI is an indirect index of fatness that can under- or over-estimate degree of body fat (Prentice & Jebb, 2001). As the data was collected using self-report instruments, only an indirect index of respondent fatness could be obtained in the present research.

14.4.1.1 Using the Term Fat

In the current research, the term fat was used to describe people in higher weight ranges. Although using this term was not ideal, as it is often used as an insult toward fat persons (Bovey, 1994; Wadden & Didie, 2003), it aptly describes “the construct of interest ... the stigmatized social category of fatness” (Harrison, 2000, p. 638). Qualitative responses from Study 1 indicated that some participants were offended by use of the word fat. As a result of this feedback, a brief rationale for using this terminology was provided to participants in the cover letter for Study 2. This rationale appears to have been effective in reducing participant concerns about the terminology, as no participants in Study 2 indicated that they were offended by

use of the word fat, or expressed that they thought the researcher was negatively biased towards fat persons.

14.4.1.2 Definitions of Fat

Participants in both studies noted that the term fat could encompass varying body sizes. Some participants clarified their personal definition of fatness, for example, as opposed to overweight. Several Study 2 participants also commented that they felt that the researcher should have provided definitions of fat and thin. The current research explored reactions to fat persons in general. A specific operational definition of fatness was not provided to participants. It was assumed that the social category of fatness is culturally and socially constructed and that there is a shared social perception of who is perceived as fat. The validity of this assumption was explored in the current research by ascertaining the range of body sizes considered to be included in the social category of fat persons, and the homogeneity of this definition. In both studies, over 86% of participants selected fat thresholds (i.e., smallest figures perceived as fat) represented by one of three silhouette drawings for both males and females. Therefore, in both studies definitions of fat persons were quite homogenous. However, differences between Studies 1 and 2 did not support the existence of a shared social perception of fatness. Overall the student sample rated smaller male and female figures as indicative of fatness compared to the community sample.

Although these findings may reflect actual differences in fat definitions, they could also be due to methodological limitations. For example, a few Study 2 participants reported that they experienced difficulties responding to the silhouette scales, as the pictures were unclear. Additionally, the rationale provided in Study 2 to reduce the potential offensiveness of the term fat may have influenced the definitions of fat used by community participants when completing the survey. For example, the phrase, “*The word ‘fat’ is used in this study to describe people in higher weight ranges*”, may have primed participants to think of fatter persons when responding to the survey. Study 1 participants were simply asked to express their reactions to fat persons in general. Results of the current research also suggest that respondent characteristics may influence definitions of fatness. It was found that older and fatter participants selected larger figures as defining fat women. Future

research could further explore the range of body sizes that people consider indicative of the social category of fat persons.

Survey feedback also highlighted that respondents' personal definitions of fatness may have affected survey responses. Consistent with this suggestion, it was found that respondents who indicated smaller drawings as indicative of fat people (both male and female definitions) tended to report greater anger, hostile and paternalistic attitudes, and controllability, changeability, desire to change and benefits beliefs. The relationships between participants' definitions of fatness and reactions to fat persons could be investigated in future research using clearer and more realistic representations of persons of various degrees of fatness. Alternatively, it may be useful to determine how reactions to fat persons differ depending on the target's degree of fatness (e.g., mildly fat versus extremely fat).

A few Study 2 participants also commented that their attitudes varied depending on who they were thinking about (e.g., friend versus family; self versus other person). This is a further limitation of examining reactions to fat persons in general. These comments suggest several avenues for further research. For example, do fat persons' attitudes toward themselves differ from their attitudes toward other fat people? Do reactions to family members who are fat differ to reactions to friends who are fat? How are these reactions different to hypothetical fat persons (as surveyed in the current research)?

14.4.2 Other Limitations and Future Research

Various limitations of the current research and suggestions for future research have been noted throughout this thesis. This section will focus on issues that have not been addressed previously. Several general methodological limitations may have influenced the results of the current research. First, all data was obtained via self-report measures. It is acknowledged that the responses obtained may not accurately reflect participant's reactions to fat persons. Secondly, it is important to remember that the current research examined correlational relationships, not causal effects. For example, although attributions of controllability and changeability correlated with hostile and paternalistic anti-fat attitudes, it cannot be assumed that these beliefs cause prejudicial reactions to fat persons. In fact, these attributions may be generated in response to prejudicial responses to fat persons, as cognitive justifications for such reactions. Other psychological mechanisms may

underlie initial reactions to fat persons. For example, Park et al. (2007) proposed that attitudes toward fat persons may be explained by pathogen-avoidance mechanisms elicited by visual perception of fat bodies which significantly deviate from morphological norms. These researchers suggest that fatness may act as a bodily cue which suggests the presence of disease, resulting in aversive reactions toward, and avoidance of, fat persons. Park et al. found preliminary evidence suggesting that pathogen-avoidance mechanisms may contribute to reactions to fat persons.

Thirdly, the samples recruited for both studies were not representative, but samples of convenience. Although a more diverse community sample was recruited for Study 2 to increase the generalisability of the findings of this research, this sample was not representative. For example, although a greater proportion of the Study 2 sample could be classified as overweight or obese compared to the Study 1 sample (see Table 12.3), the percentage of respondents who were overweight or obese in both studies was less than that of the Australian population. According to the 2007-2008 National Health Survey (Australian Bureau of Statistics, 2009), over half of the adults (62%) surveyed were classified as overweight or obese, whereas only 53.8% of the sample recruited for Study 2 were classified as overweight or obese. Therefore, the results of the current research may not generalise to the general Australian population. Further research with representative samples would be useful to ascertain the generalisability of the findings of the current research; however, recruitment of a representative sample may be difficult due to ethical considerations arising due to the nature of the topic. For example, randomly telephoning respondents or posting surveys to individuals on reactions to fat persons could offend or cause distress to some individuals.

Additionally, due to the voluntary nature of the samples, the results of both studies may be subject to a self-selection bias, as individuals who completed the surveys decided whether or not to participate (Birnbaum, 2004). Participants' reasons for agreeing to participate in the research may have influenced the results and generalisability of the research findings. For example, individuals with a particular interest in weight-related issues or fatness may be overrepresented in the samples obtained.

It is also important to consider the impact of the different survey methodology used in the two studies. Whereas Study 1 data was collected using web-administered surveys, Study 2 data was collected via paper surveys. The greater

anonymity inherent in web-based responding may have resulted in respondents feeling more able to be truthful in their responses. Although the use of different survey formats may have influenced the findings of this research, studies comparing the results of web-based and laboratory-based administration suggest that comparable results are usually obtained (Birnbaum, 2004).

The qualitative findings in the present research should be viewed as exploratory and descriptive, as the qualitative research was not conducted in a rigorous manner (e.g., lack of depth, voluntary/not representative, influence of survey content, single coder) (Fossey, et al., 2002; Green, 2004; Mayring, 2000; Mays & Pope, 1995). The qualitative data was generated in response to an open-ended question at the end of the surveys for both studies which invited respondents to provide survey feedback and comments about weight and fatness. The amount of qualitative data generated was both unexpected and substantial, however, it is noted that the depth of the data collected was not adequate to conduct thorough qualitative research on participants' attitudes and beliefs about weight and fatness. In order to conduct rigorous qualitative research "sufficient depth of information needs to be gathered to fully describe the phenomena being studied" (Fossey, et al., 2002, p. 726). Despite this limitation, analysis of qualitative comments about weight and fatness provided useful preliminary results (as discussed in section 13.4.2). Qualitative results were especially useful in providing additional evidence of paternalistic anti-fat attitudes and related beliefs. The emergence of themes reflecting changeability, desire to change, and benefits beliefs, and paternalistic anti-fat attitudes provided further validation for these constructs. Survey items were developed on the basis of literature and past research. In hindsight, it would have been beneficial to conduct qualitative research to inform item development for the original variables. In future, rigorous qualitative research on anti-fat attitudes and beliefs could be conducted to overcome this limitation, and to enable greater understanding of participants' attitudes and beliefs about weight and fatness.

As stated previously, the current research focused on exploring reactions to fat persons in general. Future research could explore reactions to fat persons in particular contexts, or particular types of fat persons. It was noted previously that low levels of hostility were reported in the current research. Hostility toward fat persons may only be elicited in specific contexts. For example, fat persons may be

reacted to with hostility when they engage in behaviours perceived as causing fatness. In support of this suggestion, one participant commented that:

“It frustrates me when I see overweight people indulging in fatty fast foods!!”

Furthermore, whether fat persons are reacted to with hostility or paternalism may depend on whether or not they are trying to change their fatness. Two comments illustrate this possibility:

“I do not discriminate against fat people or dislike them because they're fat. I do get angry with them or unsympathetic for them when they whinge about being fat but then they continue to eat bad food and lots of it and without exercising. Fat people who do try to lose weight but are unsuccessful, I do feel sorry for and would be willing to help them.”

“My attitude regarding people who claim they can't lose weight - We never saw anyone coming out of the concentration camps that could have been called FAT.”

These comments suggest that fat persons who accept beliefs that fatness is changeable and attempt to reduce their fatness deserve to be patronised and disrespected rather than being reacted to with hostility and contempt. Fat people who accept the view that they are responsible for their fatness and becoming non-fat may elicit paternalistic anti-fat attitudes whereas fat persons who challenge such beliefs and do not apologise for their fatness may be reacted to with hostility. Fat persons who are perceived as trying to do the right thing (i.e., lose weight) may be viewed as deserving of help, whereas those who do not may be “viewed as parasites in the system” who “are rejected for their apparent negative intent toward the rest of society (i.e., not warm)” (Fiske, et al., 2002, p. 881). Therefore, it may be useful to examine reactions to subtypes of fat persons (e.g., those who are trying to change and those who are not). Furthermore, some subtypes previously identified by Ryckman and colleagues (1997) may elicit paternalistic attitudes (e.g., Clown, Santa Claus, Mother), whereas others may be reacted to with hostility (e.g., Couch Potatoes, Slobs, Bullies).

The present research explored attitudes and beliefs toward fat persons in general rather than toward fat males and fat females. The decision to focus on attitudes toward fat persons was made on the basis of the stereotyping and attitude research reviewed in chapter 3. Overall, the research reviewed did not suggest that

weight-related stereotypes, attitudes and beliefs were more negative toward females than males. Most of the stereotyping research (see section 3.1) which examined target gender did not find more negative stereotypes for female targets compared to male targets. Similarly, Brochu and Morrison (2007) generally found that attitudes toward male and female targets did not differ significantly. Other research exploring hostile anti-fat attitudes predominantly explored attitudes and beliefs toward fat persons in general, rather than toward fat males and fat females (see section 3.2). However, substantial research suggests that fatness has greater negative psychological, social and economic consequences (e.g., psychological health, socio-economic status, employment, education, income, marriage, perceptions of attractiveness) for fat females compared to fat males (see chapter 2). As such, it is acknowledged that attitudes and beliefs toward fat females and fat males may be different, and that the examination of “fat persons” is a limitation of the current research. The degree to which target gender affects hostile and paternalistic reactions could be investigated in future research. This may be especially important for paternalistic anti-fat attitudes and related beliefs. For example, individuals may believe that it is more acceptable to “help” fat women lose weight (i.e., paternalistic anti-fat attitudes) than fat men.

The current research was a preliminary exploration into paternalistic anti-fat attitudes and related beliefs. The preceding discussion has identified ways in which this research could be improved and extended. It is hoped that the findings of the current research will be evaluated and extended upon in future research in order to increase understanding of social reactions to fat persons.

14.5 Implications

As the unique contribution of the current research was the conceptualisation and exploration of paternalistic anti-fat attitudes and related beliefs (i.e., changeability, desire to change, benefits beliefs), the following discussion of implications will focus on these issues. Although people might view paternalistic anti-fat attitudes as helpful in assisting fat persons to become healthier and happier, expression of such attitudes and related beliefs, and associated social pressure to lose weight, may actually contribute to fat persons being less healthy and less happy. The following discussion proposes a number of ways in which paternalistic anti-fat attitudes and related beliefs may contribute to poorer physical and psychological

health of fat persons, and people in general. Future research could explore whether fat persons internalise paternalistic anti-fat attitudes and related beliefs, and the degree to which such attitudes and beliefs predict weight-related behaviours. It would also be valuable to explore the degree to which paternalistic anti-fat attitudes and beliefs of significant others affect an individual's attitudes/beliefs, weight-related behaviours, and physical/psychological health.

14.5.1 Negative Consequences of Weight Reduction Behaviour

Paternalistic anti-fat attitudes may contribute to fat persons feeling that they must lose weight, and subsequent weight loss behaviour. Although weight loss is generally viewed as having only positive consequences (Blaine, et al., 2002), weight loss can also have negative consequences. As discussed in chapter 4, research shows limited long-term maintenance of weight loss for various types of weight reduction programmes (Faith, et al., 2000; Jeffery, et al., 2000; Mann, et al., 2007). As a result of repeatedly trying to become non-fat, fat persons may experience repeated cycles of weight loss and subsequent regain (i.e., weight cycling or yo-yo dieting). As discussed in chapter 3, fat persons report more frequent dieting and weight fluctuation than non-fat persons (e.g., Crawford & Campbell, 1998; Foreyt, et al., 1995), and research has shown that weight fluctuation is correlated with greater health risks (Ikeda, et al., 1999; Mann, et al., 2007). Intentions to benefit fat persons by encouraging them to lose weight to reduce the health risks associated with fatness may actually contribute to increased health risks and mortality (Aphramor, 2009).

It has also been suggested that weight loss attempts can lead to increased fatness in some individuals through weight cycling. Research shows that previous dieting can result in biological resistance to further weight loss (Brownell, 1991b; Brownell & Wadden, 1991). Additionally, unsuccessful weight loss attempts often lead to gaining of weight such that the person weighs more than prior to the weight loss attempt. Wooley and Wooley (1979) note that “for most, obesity is a gradually progressive condition in which weight losses and gains are alternated” (p. 73). Long-term major weight gain has been found to be associated with prior weight-loss attempts (Korkeila, Rissanen, Kaprio, Sorensen, & Koskenvuo, 1999). Therefore, intentions to benefit fat persons by encouraging them to lose weight may contribute to fat persons becoming fatter than prior to weight loss attempts, and therefore at greater risk of health problems.

Paternalistic anti-fat attitudes may also have an effect on the psychological health of fat persons, as weight cycling has been shown to be related to greater psychopathology. Friedman and colleagues (1998) suggest the perceptions of degree of weight cycling rather than actual history of weight cycling may be related to poorer psychological outcomes. Perceptions of oneself as a weight cyclist were found to be related to lower self-esteem, life satisfaction, well-being, and eating self-efficacy, and greater body image dissatisfaction and stress (Foreyt, et al., 1995; Friedman, et al., 1998). In contrast, measures of weight cycling history have not been found to be related to psychological functioning (Bartlett, Wadden, & Vogt, 1996; Foster, Wadden, Kendall, Stunkard, & Vogt, 1996; Venditti, et al., 1996). Interestingly, one such study found that obese women reported that regaining a large amount of weight after losing it was very adverse experience (Bartlett, et al., 1996). Additionally, French, Story, Downes, Resnick, and Blum (1995) found that greater frequency of dieting was related to poorer body image in male and female adolescents. Small amounts of weight regain have also been related to more negative body image (Foster, et al., 1996). Therefore, intentions to benefit fat persons by encouraging them to lose weight may contribute to impaired psychological health for fat persons.

14.5.2 Negative Influence of Anti-Fat Beliefs on Health and Health Behaviours

As weight loss is generally perceived to be an avenue to health improvement, repeated failure at improving health by losing weight may lead fat persons to feel that they are helpless to improve their health in general; and a sense of lack of control over their health may discourage them from engaging in health promoting activities such as exercise. This may be particularly true for females, as females are more likely to report weight control as a reason for exercising than males (Silberstein, Striegel-Moore, Timko, & Rodin, 1988). Additionally, Cash, Novy and Grant (1994) found that frequency of exercise for women was related to appearance and weight management motives. Paternalistic anti-fat attitudes may contribute to perceptions that health and happiness are contingent upon achieving normal weight, and as a result, fat persons may feel that they cannot be healthy or happy until they become non-fat. Research suggests that fat persons do perceive themselves as unhealthy irrespective of their physical health status and functional impairments. Ferraro and Yu (1995) found that body weight predicted self-rated health status, even

when physical health status (e.g., serious illness) and functional limitations (e.g., difficulty walking) were controlled. Ferraro and Yu suggest that fatter persons may feel pessimistic about their weight as a result of awareness of health risks associated with excess weight. These authors also note that self-appraisals of health status are predictive of health care service use.

14.5.3 Negative Influence of Anti-Fat Beliefs on Self-Esteem

Expression of paternalistic anti-fat attitudes may encourage and reinforce beliefs that fatness is changeable. If fat persons believe that fatness is changeable, repeated failure to achieve and maintain weight loss (which is believed to be under personal control) may lead fat persons to blame themselves for their failures, and result in lowered self-esteem (Harris, et al., 1990; Tenzer, 1989; Thomas, Hyde, Karunaratne, Kausman, et al., 2008; Willmuth, 1986). Jeffery, French, and Schmid (1990) found that participants of weight loss treatment programs were more likely to attribute difficulties adhering to diet to internal factors, such as character defect and emotional states, compared to participants assigned to non-weight-loss diet groups. Tiggemann and Rothblum (1997) found that fat women who strongly believed that their weight was under their personal control tended to have lower self-esteem than fat women who did not believe that they could control their weight. In contrast, internal locus of control for weight was related to higher self-esteem in non-fat women. Similarly, Crandall and Biernat (1990) found that the self-esteem of fat women was related to the degree to which they expressed anti-fat attitudes. Crandall and Biernat's measure of anti-fat attitudes contained items measuring control over fatness. No associations between attitudes and self-esteem were found for men, or thin and average weight women. For women who are fat, believing that they can become non-fat may actually be detrimental to their self-esteem.

14.5.4 Unrealistic Goals

Paternalistic anti-fat attitudes may contribute to fat persons having unrealistic weight loss goals. Although traditional recommended weight loss goals focused on achieving ideal weight for height (Foster, Wadden, Vogt, & Brewer, 1997; Sarwer & Wadden, 1999), more recently health organisations and researchers have suggested that obese persons should seek to lose 5% to 10% of their body weight (Wadden, et al., 2003; World Health Organization, 2000). Modest weight reductions have been

suggested in response to the limited long-term success of weight loss treatment (Jeffery, Wing, & Mayer, 1998) and evidence that weight fluctuation is related to negative health outcomes (Blackburn & Borrazzo, 1995). Such reductions have been found to be associated with improved health and well-being, and reduced health risks (Brownell & Wadden, 1992; Foster, et al., 1997; Jeffery, et al., 1998; Wadden, et al., 2002; Wadden, et al., 2003). Despite these recommendations, fat persons have been found to expect or desire to lose 22% to 32% of their body mass (Foster, et al., 1997; Jeffery, et al., 1998; Wadden, et al., 2003). Female obese weight-loss patients indicated that a 17 kg weight loss would be disappointing and unsuccessful (Foster, et al., 1997), however, almost half of these women did not even achieve this *disappointing* weight goal. Foster and colleagues reported that weight-loss goals were related to desire for improved physical appearance and reduced discomfort. Provision of information about typical weight losses achieved through treatment (i.e., 10-15%) does not seem to reduce unrealistic pre-treatment weight loss goals (Wadden, et al., 2003). Being unable to attain and/or maintain ideal weight and discrepancies between unrealistic weight loss goals and actual weight loss may lead to feelings of failure, frustration, and disappointment, and body dissatisfaction, and may increase the likelihood of weight regain (Foster, et al., 1997; Sarwer & Wadden, 1999; Wadden, et al., 2003). Paternalistic anti-fat attitudes may also contribute to fat people having unrealistic exercise goals, which are not easy to sustain.

14.5.5 Resorting to Drastic Weight Loss Measures

Paternalistic anti-fat attitudes may contribute to fat persons engaging in more drastic and risky measures to lose weight or prevent further weight gain. In response to paternalistic anti-fat attitudes, fat persons may resort to unhealthy practices to achieve weight loss or prevent further weight gain. For example, initiation and maintenance of smoking has been reported as a means of weight control, particularly for females (Filozof, Fernandez Pinilla, & Fernandez-Cruz, 2004; Ogden & Fox, 1994). Paternalistic anti-fat attitudes may also influence the treatments that health professionals prescribe to fat persons to reduce weight. For example, despite the risk of side-effects associated with surgical treatment of obesity (e.g., intractable vomiting, nutrient deficiency, gastric outlet obstructions, Ernsberger, 1987; Wooley & Wooley, 1979), such drastic measures are deemed necessary for very fat persons by health professionals (Wadden, et al., 2002). Mongero, Beck, Charette, and

Stewart (2006) note that up to 20% of patients who undergo bariatric surgery need further surgery to fix complications. Additionally, phenylpropanolamine, a common ingredient of appetite suppressants, has been found to increase risk of hemorrhagic stroke (Kernan et al., 2000).

14.5.6 Negative Consequences of Unsolicited Help and Sympathy

Research has shown that unrequested help and expressions of sympathy can have negative consequences for recipients. Recipients of unsolicited help and expressions of sympathy may view these behaviours as evidence that others perceive them as low in ability, and this can affect self-esteem. Schneider, Major, Luhtanen, and Crocker (1996) found that assumptive help (i.e., "unsolicited help provided without any evidence of personal need or inferiority on the part of the recipient"; p. 201) resulted in decreased competence self-esteem in stigmatised individuals, when the help was provided by a non-stigmatised other and the type of help provided was in a domain in which the stigmatised group was thought to be inferior. Schneider et al. suggest that "stigmatized individuals are vulnerable to a 'suspicion of inferiority' that can be implied by assumptive help" (p. 207). Therefore, unsolicited help with weight loss and expressions of pity (which are related to paternalistic anti-fat attitudes) may lead fat persons to view themselves as incompetent at losing weight, especially when the giver of help or sympathy is non-fat.

14.5.7 Consequences for Fat Person's Self-Acceptance

Paternalistic attitudes may undermine fat persons' self-acceptance. Such attitudes suggest that fat persons are not acceptable as they are and must *reduce* to become acceptable. Such attitudes undermine a fat person's right to be fat and to accept themselves as fat (Bovey, 1994). Social beliefs that weight control is easily achievable, and that happiness and health are contingent on normal weight, may make it difficult for fat people to feel that self-acceptance is socially acceptable, and not an indication of failure, and a decision to live a less happy, healthy and successful life (Barron & Lear, 1989; Brown & Rothblum, 1989; Lyons, 1989). Self-acceptance for a fat person may take the form of grieving for the loss of an important life goal or dream, that is, becoming normal weight (Lyons, 1989; Melcher & Bostwick, 1998).

14.5.8 Consequences for Both Fat and Non-Fat Persons

Anti-fat attitudes, including paternalistic anti-fat attitudes, affect the lives of both fat and non-fat persons. Social idolatry of thinness (especially in women), and condemnation of fatness, results in fear of fat for both fat and non-fat persons. Increased rates of body dissatisfaction and eating disorders have been linked to fear of fat (Ikeda, et al., 1999). In fact, fear of fat can lead to very dire consequences. Pugliese, Lifshitz, Grad, Fort, and Marks-Katz (1983) reported cases of children and adolescents who so severely restricted their caloric intake that they did not grow normally (i.e., underweight, short stature, delayed puberty). These children and adolescents indicated that they severely restricted their intake because they were afraid of becoming obese.

More generally, the focus on achieving and/or maintaining ideal weight, particularly for fat persons, rather than focusing on healthy behaviours, may have negative consequences. The perceived association between thinness and healthiness may mean that the lifestyle choices of non-fat persons are assumed to be healthy, when in fact they may not be. Just as it is erroneous to assume that all fat persons lack exercise and/or overeat (Brownell & Wadden, 1991), it is just as erroneous to assume that all average weight persons eat healthy, appropriate portions of food, and regularly engage in exercise. The focus on the association between fatness and unhealthiness may result in the detrimental health-related behaviours of non-fat persons being overlooked, because they appear healthy. Therefore, a focus on curing fatness may overshadow health risk behaviours in those who are not fat.

In this section the researcher has proposed some potential ways that paternalistic anti-fat attitudes and related beliefs may have an effect on the physical and psychological health of fat persons, and people in general.

14.6 Conclusion

The current research has shed further light on social reactions to fat persons. In particular, the current research has highlighted the importance of exploring more subtle, subjectively positive attitudes and beliefs, as well as hostile reactions and perceptions of personal responsibility for fatness. It is important to understand fat-related attitudes and beliefs, as such social reactions and representations can have very real consequences for fat persons, which may include discrimination in many

aspects of life (e.g., health care, education, employment), lower socioeconomic status, difficulties in interpersonal relationships and social interactions, and poorer psychological well-being. Therefore, the overarching aim of the current research was to further explore attitudes and affective reactions to fat persons and the beliefs that underlie such reactions. Little can be done to improve the experience of fat persons if reactions to fat persons are not well understood.

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APPENDIX A:
Demographic Characteristics of Student Sample (Study 1)

Table A

Demographic Characteristics of Student Sample (N = 215)

Characteristic	<i>n</i>	%
Marital status ^a		
Never married	89	41.4
Married	65	30.2
De Facto	26	12.1
Divorced	12	5.6
Separated	7	3.3
Same-sex partnership	3	1.4
Combination of categories	12	5.6
Cultural or ethnic identification ^b		
Anglo/Caucasian (white)	198	92.1
Asian	5	2.3
Pacific Islander, Papua New Guinean or Maori	2	0.9
North American	2	0.9
Aboriginal Australian or Torres Strait Islander	1	0.5
Central or South American	1	0.5
Combination of categories	1 ^c	0.5
Other	4 ^d	1.9
Employment status		
Full-time student	70	32.6
Full-time employment	36	16.7
Part-time student	14	6.5
Part-time or casual employment	10	4.7
Homemaker	3	1.4
Unemployed	1	0.5
Retired	1	0.5
Combination of categories	80	37.2

Table A (continued).

Demographic Characteristics of Student Sample (N = 215)

Characteristic	<i>n</i>	%
Highest level of educational achievement		
High school grade 12	84	39.1
University undergraduate degree	57	26.5
TAFE or technical or trade	38	17.7
Some high school	14	6.5
University postgraduate degree	8	3.7
Other	14	6.5
Location of current residence ^e		
Queensland	190	88.4
New South Wales	11	5.1
Victoria	7	3.3
South Australia	2	0.9
Western Australia	2	0.9
Australian Capital Territory	1	0.5
Northern Territory	1	0.5
Tasmania	1	0.5

^aOne participant did not report marital status. ^bOne participant did not report cultural or ethnic identification. ^cThis participant described herself as Anglo/Caucasian and Aboriginal. ^dParticipants who selected 'Other' described themselves as Australian ($n = 2$), Eurasian ($n = 1$), and Celtic ($n = 1$). ^eThis information is based on postcode of current residence.

APPENDIX B:

Weight-Related Beliefs and Attitudes Web Survey (Study 1)

**DEPARTMENT OF PSYCHOLOGY
FACULTY OF SCIENCES
UNIVERSITY OF SOUTHERN QUEENSLAND**

Before starting the survey, close down any menu bars or other programs that may be reducing your screen size.
You should be able to read the information on the screen without having to scroll from left to right.

Informed Consent Sheet for Weight-Related Beliefs and Attitudes Study

You are being invited to participate in social psychological research investigating weight-related beliefs and attitudes. This study is part of Doctor of Philosophy (PhD) research being conducted by Michelle Parry [BSc(Hons)], under the supervision of Dr Nola Passmore at the University of Southern Queensland. If you agree to participate you will be asked to complete a survey that examines your weight-related beliefs and attitudes. You will be asked to respond to questions regarding your thoughts and feelings about your own weight and your weight-related behaviours. You will also be asked to respond to belief and attitude statements about fatness and people who are fat (e.g., beliefs about why some people are fat), and will be asked to provide some general information about yourself. It is anticipated that this study will enable greater understanding of societal beliefs and attitudes regarding weight. Participation will provide you with an opportunity to reflect upon your weight-related attitudes and beliefs, and express your particular views.

Your responses are anonymous and confidential. We are interested in examining overall patterns of responses obtained from all participants, rather than participants' individual responses. As such, your individual responses to the questionnaire will be obtained in a completely anonymous manner (i.e., there will be no way of linking your responses with you personally as you will not be asked to provide any identifying information, e.g., name). Furthermore, your responses will not be handled in any way that would threaten your anonymity. Any personally identifying information obtained (e.g., you may supply your email address to obtain feedback) will be processed and stored separately from your questionnaire data to protect your confidentiality.

Your participation is completely voluntary. You are under no obligation to participate and may withdraw from this study now or at any time, without any consequences.

The survey usually takes less than 45 minutes to complete. There are instructions at the top of each section. Please read these instructions carefully before you begin answering the questions. There are NO "right" or "wrong" answers to the questions. We simply want to know your views on issues raised in this survey. Please don't talk to others while completing the survey. We are interested in your individual opinions. Please try to answer every question.

If you have any questions about the study you may contact the principal researcher, Michelle Parry on (07) 4631 1730 or email at parrym@usq.edu.au. The USQ Human Research Ethics Committee has assessed this research project and provided ethical clearance for its conduct. If you have a concern regarding the implementation of the project, you should contact The Secretary, USQ Human Research Ethics Committee on (07) 4631 2956.

If you would like a copy of this information to keep for future reference, click on the **PRINT** button below.

After reading the above information, if you wish to participate in this research please fill the Consent ID box with the number in the bottom left corner and click "Next" to start the questionnaires.

I declare that I am at least 18 years of age and I hereby give my consent to participate in this study by inserting the number from the bottom left-hand corner of the survey into the Consent ID box below.

Consent ID

THANK YOU FOR YOUR PARTICIPATION

General Information Progress

Please answer the following questions by typing your answer in the space provided or clicking on the appropriate circle

Age

years

Gender

Male Female

In the spaces below please indicate your current height and weight using either metric or imperial measurements. If you are unsure of your exact height and/or weight, if possible, please measure these before responding; if not possible, please provide an estimate of your height and/or weight. You may be able to obtain your height from your Driver's License .

Current Height

centimeters (cm)/metres(m) OR feet(ft)/inches(in)

Current Weight

kilograms (kg) OR stones/pounds

Marital status?

<input type="checkbox"/> Never Married <input type="checkbox"/> Married <input type="checkbox"/> De Facto <input type="checkbox"/> Same-sex partnership	<input type="checkbox"/> Divorced <input type="checkbox"/> Separated <input type="checkbox"/> Widowed <input type="checkbox"/> Combination of above (e.g., divorced and now remarried) <input type="checkbox"/> (please specify) <input style="width: 150px;" type="text"/>
------------------------------------------------------------------------------------------------------------------------------------------------------------------	-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

To which of the following cultural/ethnic groups do you belong?

<input type="checkbox"/> Anglo/Caucasian (White) <input type="checkbox"/> Aboriginal or Torres Strait Islander <input type="checkbox"/> Pacific Islander/Papua New Guinean/Maori <input type="checkbox"/> Central or South American <input type="checkbox"/> Combination of above (please specify) <input style="width: 150px;" type="text"/>	<input type="checkbox"/> Asian <input type="checkbox"/> Middle-Eastern <input type="checkbox"/> African <input type="checkbox"/> North American <input type="checkbox"/> Other (please specify) <input style="width: 150px;" type="text"/>
-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

What is your employment status?

<input type="checkbox"/> Employed full-time <input type="checkbox"/> Employed part-time or casual <input type="checkbox"/> Unemployed <input type="checkbox"/> Homemaker	<input type="checkbox"/> Student full-time <input type="checkbox"/> Student part-time <input type="checkbox"/> Retired <input type="checkbox"/> Combination of the above (e.g., full-time student and working part-time). (please specify) <input style="width: 150px;" type="text"/>
-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

What is your main occupation? If you are retired, what was your main occupation?

Briefly note the main tasks you do (or did) in your main occupation:

Progress

General Information

Please answer the following questions by typing your answer in the space provided or clicking on the appropriate circle

What is the highest level of education you have achieved?

<input type="radio"/> Primary school	<input type="radio"/> TAFE/technical or trade
<input type="radio"/> Some High school	<input type="radio"/> University undergraduate degree
<input type="radio"/> High school Grade 12	<input type="radio"/> University postgraduate degree
<input type="radio"/> Other: Please specify: <input type="text"/>	

Do you currently reside in Australia

Yes No

Progress

General Information

Please answer the following questions by typing your answer in the space provided or clicking on the appropriate circle

Please provide your Australian postcode.

Progress

General Information

Please answer the following questions by typing your answer in the space provided or clicking on the appropriate circle

In which country do you reside?

Progress

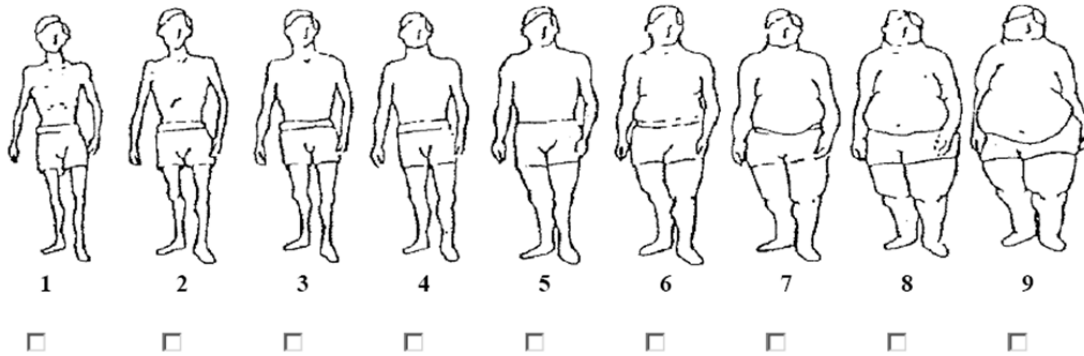
General Information

Listed below are a number of statements concerning personal attitudes and traits. Read each item and decide whether the statement is true or false as it pertains to you. Select either True or False for each statement.

	True	False
It is sometimes hard for me to go on with my work if I am not encouraged	<input type="radio"/>	<input type="radio"/>
I sometimes feel resentful when I don't get my way.	<input type="radio"/>	<input type="radio"/>
On a few occasions, I have given up doing something because I thought too little of my ability.	<input type="radio"/>	<input type="radio"/>
There have been times when I felt like rebelling against people in authority even though I knew they were right.	<input type="radio"/>	<input type="radio"/>
No matter who I'm talking to, I'm always a good listener	<input type="radio"/>	<input type="radio"/>
There have been occasions when I took advantage of someone	<input type="radio"/>	<input type="radio"/>
I'm always willing to admit it when I make a mistake.	<input type="radio"/>	<input type="radio"/>
I sometimes try to get even, rather than forgive and forget.	<input type="radio"/>	<input type="radio"/>
I am always courteous, even to people who are disagreeable.	<input type="radio"/>	<input type="radio"/>
I have never been irked when people expressed ideas very different from my own.	<input type="radio"/>	<input type="radio"/>
There have been times when I was quite jealous of the good fortune of others.	<input type="radio"/>	<input type="radio"/>
I am sometimes irritated by people who ask favours of me.	<input type="radio"/>	<input type="radio"/>
I have never deliberately said something that hurt someone's feelings.	<input type="radio"/>	<input type="radio"/>

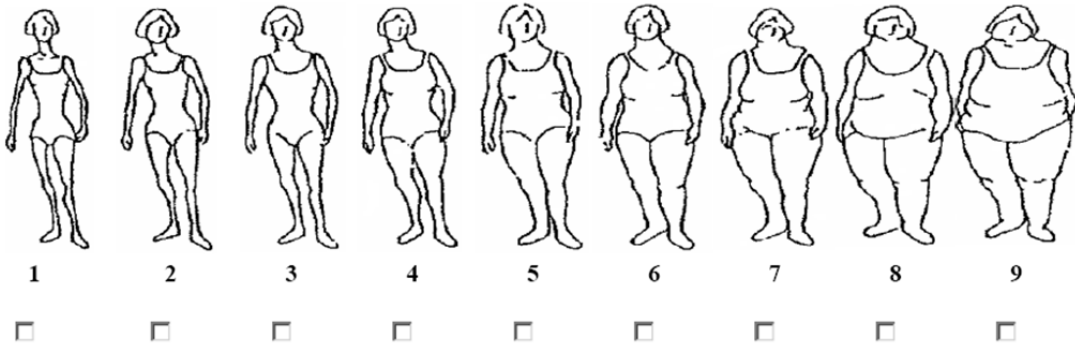
Defining Fat Progress

Below are silhouette drawings of males of various body weights. We are interested in finding out what you consider to be fat. Please indicate **all** of the male drawings which you consider to be fat. To do this, select the box underneath each drawing you consider to be fat:



Defining Fat Progress

Below are silhouette drawings of females of various body weights. We are interested in finding out what you consider to be fat. Please indicate **all** of the female drawings which you consider to be fat. To do this, select the box underneath each drawing you consider to be fat:



Comments Progress

The following question gives you an opportunity to share with us any other thoughts and/or feelings you have regarding weight or fatness (or this study). This question is optional. If you do not wish to make any further comments, please select the "Next" button at the bottom of the page.

Do you have any other comments about weight or fatness (or survey) that you would like to share with us?

APPENDIX C:
Weight-Related Beliefs and Attitudes Questionnaire Scales for
Studies 1 and 2

Table C1

Marlowe-Crowne Social Desirability Scale Form C

1. It is sometimes hard for me to go on with my work if I am not encouraged. (-)
 2. I sometimes feel resentful when I don't get my way. (-)
 3. On a few occasions, I have given up doing something because I thought too little of my ability. (-)
 4. There have been times when I felt like rebelling against people in authority even though I knew they were right. (-)
 5. No matter who I'm talking to, I'm always a good listener.
 6. There have been occasions when I took advantage of someone. (-)
 7. I'm always willing to admit it when I make a mistake.
 8. I sometimes try to get even, rather than forgive and forget. (-)
 9. I am always courteous, even to people who are disagreeable.
 10. I have never been irked when people expressed ideas very different from my own.
 11. There have been times when I was quite jealous of the good fortune of others. (-)
 12. I am sometimes irritated by people who ask favours of me. (-)
 13. I have never deliberately said something that hurt someone's feelings.
-

Note. Developed by Reynolds (1982). Items followed by a minus sign were reverse scored.

Table C2.1

Affective Reactions to Fat Persons Scale for Study 1

-
1. I feel pity for fat persons.^a
 2. I feel much anger toward fat persons.^{bc}
 3. I feel disgust toward fat persons.^{bc}
 4. I do not feel much sympathy for fat persons.^a (-)
 5. I do not feel any resentment towards fat persons.^b (-)
-

Note. Items followed by a minus sign were reverse scored.

^aThese items form the proposed Pity subscale for Study 1. ^bThese items form the proposed Anger subscale for Study 1. ^cThese items form the final Anger subscale for Study 1.

Table C2.2

Affective Reactions to Fat Persons Scale for Study 2

-
1. I feel pity for fat persons.^a
 2. I feel much anger toward fat persons.^b
 3. I feel disgust toward fat persons.^b
 4. I feel sympathy for fat persons.^a
 5. I feel frustration toward fat persons.^b
 6. I feel sorry for people who are fat.^a
-

^aThese items form the Pity subscale for Study 2. ^bThese items form the Anger subscale-Revised for Study 2.

Table C3

Dislike scale

-
1. I really don't like fat people much.^a
 2. I tend to think that people who are overweight are a little untrustworthy.^a
 3. Although some fat people are surely smart, I think they tend not to be quite as bright as normal weight people.^a
 4. I have a hard time taking fat people too seriously.^a
 5. I don't have many friends who are fat.^b
 6. Fat people make me feel somewhat uncomfortable.^b
 7. If I were an employer looking to hire, I might avoid hiring a fat person.^b
-

Note. Developed by Crandall (1994).

^aThese items formed the final Negative Evaluation subscale for Studies 1 and 2. ^bThese items formed the final Social Distance subscale for Studies 1 and 2.

Table C4

Anti-fat Attitudes Scale (AFAS)

-
1. Fat people are less sexually attractive than thin people. ^a
 2. I would never date a fat person. ^a
 3. On average, fat people are lazier than thin people. ^a
 4. Fat people have only themselves to blame for their weight. ^b
 5. It is disgusting when a fat person wears a bathing suit at the beach. ^a
-

Note. Developed by Morrison and O'Connor (1999).

^aThese items formed the final Unattractiveness Scale for Studies 1 and 2. ^bThis item was included in the Controllability Scale for Study 1 and the Controllability Scale-Revised for Study 2 (see Table C6 also).

Table C5

Paternalistic Anti-Fat Attitudes Scale (PAFAS)

-
1. Fat people who do not desire weight loss should be respected and not be encouraged to lose weight. ^{ac} (-)
 2. If someone truly cares about a fat person they will persuade him or her to diet and exercise to lose weight. ^c
 3. As fat people are incapable of maintaining normal weight, they should be helped to lose weight. ^c
 4. All fat people should be put on a diet for their own good. ^{bc}
 5. Fat people require dietary and weight loss advice more than persons who are not fat. ^c
 6. Due to the health risks associated with excess weight, fat people should be encouraged to lose weight. ^{ac}
 7. Fat persons who try to lose weight are more deserving of medical treatment than fat persons who do not try to lose weight. ^c
 8. Being fat is not a serious problem unless it causes or aggravates a person's medical condition. ^a (-)
 9. A fat person's opinions about their weight and weight loss should be taken into account by those trying to help them. (-)
 10. Another person's weight is not my concern. ^a (-)
 11. Health intervention should focus on health at any weight, rather than weight reduction. (-)
 12. Sometimes it is acceptable to push a fat person to lose weight. ^c
 13. Friends and family of fat persons should not encourage them to reduce weight. (-)
 14. Health professionals should provide fat persons with advice on diet and exercise, regardless of whether they are seeking such advice. ^c
 15. Health professionals should be able to withhold medical treatment from fat persons who are not prepared to improve their health by losing weight. ^c
-

Table C5 (continued).

Paternalistic Anti-Fat Attitudes Scale (PAFAS)

-
16. As fat people have difficulty losing weight through their own efforts, their eating may need to be supervised by someone else.^c
 17. Health professionals urge fat people to lose weight because they care about fat peoples' health.
 18. Fat people should be encouraged to lose weight so they could have more of a place in society.^c
 19. To help fat people lose weight it is often necessary to make them realise that they are fat as a result of their own behaviour.^c
 20. It is never acceptable for health professionals to use scare tactics to get fat persons to lose weight.^b (-)
 21. In order to help fat people lose weight, it is often necessary to disregard their opinions about their weight, as they find it difficult to be truthful about how much they eat and exercise.^c
-

Note. Items followed by a minus sign were reverse scored.

^aItems adapted from Kristeller and Hoerr's (1997) Management of Obesity Scale.

^bItems adapted from Bagley et al.'s (1989) Attitudes Toward Obese Adult Patients scale. ^cThese items formed the final PAFAS for Studies 1 and 2.

Table C6

Beliefs About Fat Persons Scale (BFAP)

Studies 1 and 2

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

Study 2 Only

-
9. Some people are fat because they have no willpower.^b
 10. Fat people tend to be fat pretty much through their own fault.^b
-

Note. Items followed by a minus sign were reverse scored. First eight items adapted from Allison et al.'s (1991) BAOP Scale.

^aThese items were included in the Controllability Scale for Study 1 (see also Table C4).

^bThese items were included in the Controllability Scale-Revised for Study 2 (see also Table C4).

Table C7

Changeability Scale

Studies 1 and 2
1. Fat people fail to lose weight because they don't stick with their diets. ^e
2. Some people continue to be fat because they have no willpower. ^{ae}
3. Fatness is readily changed if one chooses. ^e
4. Most fat people can lose weight if they change their eating habits. ^{be}
5. Fat people can lose weight if only they try hard enough. ^e
6. It is hard to lose a large amount of weight. ^{ce} (-)
7. People who weigh too much could lose at least part of their weight through a little exercise. ^e
8. It is not easy for a fat person to lose weight. ^e (-)
9. Many people who lose weight will regain it. ^e (-)
10. It is impossible for many fat people to become normal weight. (-)
Study 2 Only
11. Weight loss is only a matter of changing one's lifestyle. ^b
12. Diets simply do not work in the longer term. (-)

Note. Items followed by a minus sign were reverse scored.

^aAdapted from Crandall's (1994) Willpower scale. ^bAdapted from Bagley et al.'s (1989) Attitudes Toward Obese Adult Patients scale. ^cAdapted from a factual question used by Crandall (1994). ^dItem from Crandall's (1994) Willpower scale. ^eThese items were included in the final Changeability Scale for Studies 1 and 2.

Table C8

Desire to Change Scale

Studies 1 and 2
1. Most fat people are dissatisfied with themselves. ^{ab}
2. Very few people are ashamed of being fat. ^{ab} (-)
3. Many fat people are happy with their weight. ^b (-)
4. No one wants to be fat. ^b
5. Inside every fat person is a thin person trying to emerge. ^b
6. Fat people are distressed by their weight and the shape of their bodies. ^b
7. Fat people want to become normal weight. ^b

Study 1 Only

-
- | |
|----------------------------------------------------|
| 8. Some fat people do not wish to lose weight. (-) |
|----------------------------------------------------|
-

Note. Items followed by a minus sign were reverse scored.

^aAdapted from Allison et al.'s (1991) ATOP. ^bThese items were included in the final Desire to Change Scale for Studies 1 and 2.

Table C9

Benefits Scale

Studies 1 and 2
1. Weight loss is not necessarily evidence of improved health. ^a (-)
2. Weight reduction may make fat persons more acceptable to others. ^a
3. If a fat person loses weight, he/she is more likely to succeed in life. ^a
4. Weight loss may not improve an individual's quality of life. ^a (-)
5. Although I am accepting of people regardless of their body size and shape, I think that fat people would enjoy life more if they lost weight. ^a
6. Fat people would feel better about themselves if they lost weight. ^a
7. A fat person would become more attractive to others if he/she lost weight. ^a
8. Fat people would have more satisfying relationships if they lost weight. ^a

Study 2 Only

-
- | |
|-------------------------------------------------------|
| 9. Fat people would be healthier if they lost weight. |
|-------------------------------------------------------|
-

Note. Items followed by a minus sign were reverse scored.

^aThese items were included in the final Benefits Scale for Studies 1 and 2.

Table C10.1

Warmth Scale for Study 1

-
1. Non-fat people tend to be more tolerant than fat people. (-)
 2. Fat people are usually sociable.
 3. Most fat people tend to be good-natured.^{a c}
 4. Fat people tend to be warm and friendly towards others.^c
 5. I tend to think that people who are overweight are a little untrustworthy.^b (-)
-

Note. Items followed by a minus sign were reverse scored.

^aThis item was adapted from Allison et al.'s (1991) ATOP. ^bThis item is from Crandall's (1994) Dislike scale. ^cThese items comprised final Warmth Scale for Study 1.

Table C10.2

Warmth Scale-Revised for Study 2

-
1. Non-fat people tend to be more tolerant than fat people. (-)
 2. Fat people are usually sociable.^b
 3. Most fat people tend to be good-natured.^{a b}
 4. Fat people tend to be warm and friendly towards others.^b
 5. Fat people are generally pleasant to talk to.^b
-

Note. Items followed by a minus sign were reverse scored.

^aThis item was adapted from Allison et al.'s (1991) ATOP. ^bThese items comprised the final Warmth Scale-Revised for Study 2.

Table C11.1

Competence Scale for Study 1

-
1. Fat people tend to be more dependent than other people.^c (-)
 2. Although some fat people are surely smart, I think they tend not to be quite as bright as normal weight people.^{a c} (-)
 3. Fat people are more competitive than other people.
 4. Fat people are just as self-confident as other people.^b
-

Note. Items followed by a minus sign were reverse scored.

^aItem from Crandall's (1994) Dislike scale. ^bThis item was adapted from Allison et al.'s (1991) ATOP. ^cThese items comprised final Competence Scale for Study 1.

Table C11.2

Competence Scale-Revised for Study 2

1. Fat people tend to be less independent than other people.^b (-)
 2. I find that fat people are less intelligent than non-fat people.^b (-)
 3. Fat people are less driven to succeed than other people.^b (-)
 4. Fat people are just as confident as other people.^a
-

Note. Items followed by a minus sign were reverse scored.

^aThis item was adapted from Allison et al.'s (1991) ATOP. ^bThese items comprised the final Competence Scale-Revised for Study 2.

APPENDIX D: Study 1 Scale Analyses

D.1 Exploratory Factor Analysis and Reliability Analysis

Exploratory factor analyses and reliability analyses were used to explore the dimensionality and internal consistency of scores from multi-item weight attitudes and weight beliefs measures. The results of these analyses were used to refine these measures in order to generate reliable scale and subscale scores.

D.1.1 Extraction, Rotation, and Interpretation

All exploratory factor analyses were performed using principal axis factor (PAF) extraction. When multiple factors were extracted, Promax rotation was used to enhance the interpretability of solutions. Gorsuch (2003) suggests that Promax rotation produces reliable factor solutions for both correlated and uncorrelated factors.

As recommended by Fabrigar, Wegener, MacCallum, and Strahan (1999), and Gorsuch (2003), multiple methods were used to determine the number of factors for each solution. In particular, eigenvalues, scree tests, and parallel analyses were used to determine the number of factors to extract. Fabrigar et al. (1999), Gorsuch (2003), and O'Connor (2000) discuss and recommend parallel analysis for determining the number of factors to extract. Syntax provided by O'Connor was used to perform parallel analyses through SPSS. In addition to the criteria discussed above, non-statistical considerations were also taken into account in determining the number of factors to retain. As recommended by Fabrigar et al. and Gorsuch, the interpretability and theoretical plausibility of the factor solutions were considered in deciding on the most appropriate number of factors. Although several factor solutions were examined for most scales, only the final solutions are reported.

For most factor analyses, items with factor loadings less than .40 were not considered in the interpretation of a factor, and were not retained in the final scale or subscales. In one instance, an item loading .39 on a factor was retained, as it aided interpretation of the factor (see section D.1.4.1). Tabachnick and Fidell (1996) note that factor interpretability can be taken into account when determining the factor loading cut-off for a particular factor solution. Items that had complex factor

loadings of similar magnitude on more than one factor were not retained, in order to enhance interpretability of factor solution (Tabachnick & Fidell, 1996). For solutions with correlated factors, the pattern matrix was interpreted. Factors were deemed to be substantially correlated if the correlation was equal to or greater than .32 (Tabachnick & Fidell, 1996).

Following factor analysis, Cronbach's coefficient alpha was calculated as an estimate of the reliability of scores from each scale or subscale suggested by factor solutions. Prior to presenting the results of exploratory factor analyses and reliability estimates, the assumptions of multicollinearity and singularity, and the factorability of the correlation matrices for factor analysis will be discussed.

D.1.2 Evaluation of Assumptions of Exploratory Factor Analysis

D.1.2.1 Multicollinearity and Singularity

Multicollinearity and singularity were assessed by examining the determinant of the correlation matrix for each factor analysis. Tabachnick and Fidell (1996) suggest that multicollinearity may be present when the determinant is zero to several decimal places. For most of the factor analyses, the determinant did not approach zero, so multicollinearity and singularity did not appear to be present. For analyses where the determinant was zero to two decimal places, the squared multiple correlations (SMCs) between items were examined. The highest SMC for items in these analyses was .77, and therefore, multicollinearity did not seem to be present.

D.1.2.2 Factorability of Correlation Matrices

The factorability of the correlation matrices was assessed by examining bivariate correlations, the anti-image correlation matrix (AIC), and the Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy. All correlation matrices had several bivariate correlations exceeding .30. Correlation matrices for all factor analyses are provided in this appendix. These correlation tables are provided for reference only and will not be referred to in the below discussion of scale analyses. Measures of sampling adequacy (MSA) contained in the AIC were greater than .5 for all items in all factor analyses. In addition, the KMO measure of sampling adequacy for each analysis was equal to or greater than .6. These results

suggest that the correlation matrices for scale items were suitable for factor analysing for all factor analyses conducted.

D.1.3 Weight Attitudes Measures

D.1.3.1 Affective Reactions to Fat Persons Scale

An initial factor analysis was conducted on the combined Pity and Anger subscale items to examine the communalities and determine the utility of factor analysing the combined items. Both Pity subscale items and one of the Anger subscale items (item 5) had very low SMCs with other items (SMCs < .16). Additionally, one Pity item (item 4) had a MSA of less than .5. Coakes and Steed (1997) suggest that items with MSAs of less than .5 should be excluded from factor analysis. Therefore, most of the items did not have strong relationships with other items. As such, Pity and Anger subscale items were considered separately.

D.1.3.1.1 Pity measures

There was a statistically significant correlation between the two Pity subscale items ($r = .23, p < .01$). The reliability estimate for the Pity subscale scores was poor ($\alpha = .39$). Although both items were developed to reflect the same construct, pity may reflect a more judgemental feeling (i.e., as in pitiable or pathetic), and sympathy may reflect compassion and benevolent concern. Additionally, the negative wording of the sympathy item (i.e., “I do not feel much sympathy for fat persons”) may have affected participants’ interpretation of the item. Due to the poor reliability of scores from the Pity subscale, both items were retained as single-item measures. Item 1 will be referred to as Pity and item 4 will be referred to as Sympathy.

D.1.3.1.2 Anger subscale

One factor was extracted explaining 47.36% of the variance in the three Anger subscale items. Factor loadings ranged from .41 to .89 (see Table D2). Cronbach’s alpha for a scale including all three items was .66. Removal of item 3 would have increased alpha to .74. Although item 3 loaded greater than .40 on the Anger factor, this item had poor initial and extraction communalities (SMC < .17), and was removed to increase the reliability of Anger subscale scores. The final Anger subscale consisted of two items with an alpha of .74 (see Table C2.1 in Appendix C). The negative wording of item 3 (“I do not feel any resentment towards

fat persons”) may have contributed to this item’s poorer relationships with other Anger items.

Table D1

Inter-correlations between Anger Subscale Items (N = 215)

Items	2	3	5
Item 2	–		
Item 3	.61**	–	
Item 5	.37**	.28**	–

Note. Item number reflects item position of item in Affective Reactions to Fat Persons Scale. KMO = .60.

** $p < .01$.

Table D2

Factor Loadings of Anger Subscale Items for One-Factor Solution (N = 215)

Item	Factor Loadings
2. I feel much anger toward fat persons.	.89
3. I feel disgust toward fat persons.	.68
5. I do not feel any resentment towards fat persons. (-)	.41

Note. Item number reflects position of item in Affective Reactions to Fat Persons Scale. Item followed by a minus sign was reverse scored.

D.1.3.2 Dislike Scale

Two correlated factors ($r = .56$) were extracted that accounted for 62.5% of the variance in the seven Dislike scale items. Items 1, 2, 3, and 4 loaded on the first factor with factor loadings ranging from .60 to .97 (see Table D4). These items reflected dislike of fat persons, difficulty taking fat persons seriously, and evaluations of fat persons as untrustworthy and unintelligent, so the first factor was labelled Negative Evaluation. Cronbach’s alpha estimate for the Negative Evaluation subscale scores was .90. Items 5, 6, and 7 loaded on the second factor with factor loadings ranging from .55 to .69 (see Table D4). These items related to feeling uncomfortable around fat persons, not having fat friends, and avoidance of employing fat persons, and so the second factor was labelled Social Distance.

Table D3

Inter-correlations between Dislike Scale Items (N = 215)

Items	1	2	3	4	5	6
Item 1	–					
Item 2	.67**	–				
Item 3	.59**	.79**	–			
Item 4	.61**	.78**	.82**	–		
Item 5	.27**	.23**	.26**	.32**	–	
Item 6	.56**	.51**	.54**	.63**	.44**	–
Item 7	.39**	.33**	.34**	.40**	.43**	.48**

Note. KMO = .86.

** $p < .01$.

Table D4

Factor Loadings of Dislike Scale Items for Two-Factor Solution (N = 215)

Item	Factor Loadings	
	Negative Evaluation	Social Distance
1. I really don't like fat people much.	.60	.19
2. I tend to think that people who are overweight are a little untrustworthy.	.97	-.13
3. Although some fat people are surely smart, I think they tend not to be quite as bright as normal weight people.	.93	-.08
4. I have a hard time taking fat people too seriously.	.85	.08
5. I don't have many friends who are fat.	-.12	.69
6. Fat people make me feel somewhat uncomfortable.	.31	.55
7. If I were an employer looking to hire, I might avoid hiring a fat person.	.00	.67

Note. Factor loadings over .40 appear in bold.

Cronbach's alpha estimate for the Social Distance subscale scores was .69. The items included in the Negative Evaluation and Social Distance subscales are shown in Table C3 in Appendix C. The pattern of loadings for the Dislike scale items for the present study was consistent with loadings of the Dislike scale items reported by Morrison and O'Connor (1999) for principal components analysis of combined Dislike scale and AFAS items.

D.1.3.3 Anti-Fat Attitudes Scale (AFAS)

Two correlated factors ($r = .65$) were extracted accounting for 51.6% of the variance in AFAS items. All items loaded on Factor 1, except for item 4, which loaded on Factor 2. Factor loadings for Factor 1 ranged from .41 to .77, and item 4 had a loading of .87 on Factor 2 (see Table D6). This two-factor solution does not support Morrison and O'Connor's (1999) findings that the AFAS was unidimensional.

Items that loaded on Factor 1 regarded sexual attractiveness, dating, disgust at fat bodies, and laziness. Three of the items that loaded on Factor 1 seemed to reflect attitudes toward the physical appearance or attractiveness of fat persons, so Factor 1 was labelled Unattractiveness. Cronbach's alpha for this scale was .76. These four AFAS items will be used in the present study as an Unattractiveness Scale (see Table C4 in Appendix C).

The item that loaded on Factor 2, item 4 ("Fat people have only themselves to blame for their weight"), seems to measure beliefs about the degree to which fat persons have control over their weight. In the present study, a Beliefs About Fat Persons Scale (BFAP) was employed to measure such controllability beliefs. Item 4 was analysed with Beliefs About Fat Persons items when developing a measure of controllability beliefs (see section D.1.4.1).

Table D5
Inter-correlations between AFAS Items (N = 215)

Items	1	2	3	4
Item 1	–			
Item 2	.50**	–		
Item 3	.46**	.54**	–	
Item 4	.27**	.34**	.53**	–
Item 5	.35**	.40**	.42**	.35**

Note. KMO = .79.

** $p < .01$.

Table D6
Factor Loadings of AFAS Items for Two-Factor Solution (N = 215)

Item	Factor Loadings	
	Unattractiveness	Controllability
1. Fat people are less sexually attractive than thin people.	.73	-.10
2. I would never date a fat person.	.77	-.03
3. On average, fat people are lazier than thin people.	.47	.38
4. Fat people have only themselves to blame for their weight.	-.09	.87
5. It is disgusting when a fat person wears a bathing suit at the beach.	.41	.19

Note. Factor loadings over .40 appear in bold.

D.1.3.4 Paternalistic Anti-Fat Attitudes Scale (PAFAS)

One factor was extracted accounting for 22% of the variance in the 21 PAFAS items. Fourteen of the 21 items loaded greater than .40 on the factor, with factor loadings ranging from .41 to .70 (see Table D8). Items 8, 9, 10, 11, 13, 17, 20 did not load on the factor and were not retained in the PAFAS. Cronbach's alpha for a scale consisting of these 14 items was .84.

Table D7
Inter-correlations between PAFAS Items (N = 215)

Item	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
1	-																			
2	.39**	-																		
3	.30**	.40**	-																	
4	.39**	.45**	.42**	-																
5	.12	.26**	.25**	.31**	-															
6	.35**	.34**	.28**	.26**	.29**	-														
7	.14*	.23**	.10	.36**	.22**	.24**	-													
8	.36**	.20**	.20**	.23**	.04	.11	.01	-												
9	.19**	.22**	.21**	.30**	.13	-.12	.11	.19**	-											
10	.31**	.25**	.18**	.25**	.14*	.13*	.10	.31**	.22**	-										
11	.25**	.07	-.01	.23**	.22**	.04	.14*	.24**	.24**	.22**	-									
12	.27**	.32**	.24**	.27**	.16*	.18**	.22**	.06	.22**	.15*	.17*	-								
13	.33**	.33**	.15*	.19**	.05	.29**	.11	.30**	.13	.21**	.23**	.14*	-							
14	.38**	.40**	.29**	.42**	.18**	.30**	.25**	.16*	.07	.23**	.18*	.26**	.17*	-						
15	.24**	.29**	.12	.43**	.15*	.10	.47**	.05	.26**	.19**	.17*	.26**	.02	.34**	-					
16	.18**	.22**	.25**	.33**	.24**	.14*	.25**	.07	-.01	.18**	.10	.18**	.05	.37**	.25**	-				
17	.16*	.18**	.05	.17*	.14*	.28**	.27**	.02	-.02	.14*	.03	.22**	.03	.29**	.20**	.17*	-			
18	.15*	.21**	.26**	.40**	.25**	.22**	.40**	.14*	.20**	.24**	.21**	.12	.20**	.24**	.37**	.38**	.20**	-		
19	.14*	.33**	.19**	.35**	.31**	.32**	.27**	.16*	.00	.10	.18**	.23**	.15*	.34**	.36**	.38**	.30**	.31**	-	
20	.20**	.20**	.14*	.08	.07	.09	.06	.11	.10	.21**	.13	.22**	.22**	.03	.05	-.01	.04	.08	.18**	-
21	.17*	.27**	.27**	.29**	.23**	.22**	.29**	.10	.11	.10	.14*	.21**	.15*	.31**	.26**	.41**	.16*	.28**	.45**	.19**

Note. KMO = .83. * $p < .05$. ** $p < .01$.

Table D8

Factor Loadings of PAFAS Items for One-Factor Solution (N = 215)

Item	Factor Loadings
1. Fat people who do not desire weight loss should be respected and not be encouraged to lose weight. (-)	.53
2. If someone truly cares about a fat person they will persuade him or her to diet and exercise to lose weight.	.62
3. As fat people are incapable of maintaining normal weight, they should be helped to lose weight.	.48
4. All fat people should be put on a diet for their own good.	.70
5. Fat people require dietary and weight loss advice more than persons who are not fat.	.41
6. Due to the health risks associated with excess weight, fat people should be encouraged to lose weight.	.45
7. Fat persons who try to lose weight are more deserving of medical treatment than fat persons who do not try to lose weight.	.48
8. Being fat is not a serious problem unless it causes or aggravates a person's medical condition. (-)	.32
9. A fat person's opinions about their weight and weight loss should be taken into account by those trying to help them. (-)	.29
10. Another person's weight is not my concern. (-)	.39
11. Health intervention should focus on health at any weight, rather than weight reduction. (-)	.32
12. Sometimes it is acceptable to push a fat person to lose weight.	.44
13. Friends and family of fat persons should not encourage them to reduce weight. (-)	.34
14. Health professionals should provide fat persons with advice on diet and exercise, regardless of whether they are seeking such advice.	.59
15. Health professionals should be able to withhold medical treatment from fat persons who are not prepared to improve their health by losing weight.	.52
16. As fat people have difficulty losing weight through their own efforts, their eating may need to be supervised by someone else.	.48
17. Health professionals urge fat people to lose weight because they care about fat peoples' health.	.34
18. Fat people should be encouraged to lose weight so they could have more of a place in society.	.53

Table D8 (continued).

Factor Loadings of PAFAS Items for One-Factor Solution (N = 215)

Item	Factor Loadings
19. To help fat people lose weight it is often necessary to make them realise that they are fat as a result of their own behaviour.	.56
20. It is never acceptable for health professionals to use scare tactics to get fat persons to lose weight. (-)	.24
21. In order to help fat people lose weight, it is often necessary to disregard their opinions about their weight, as they find it difficult to be truthful about how much they eat and exercise.	.51

Note. Items followed by a minus sign were reverse scored. Factor loadings over .40 appear in bold.

D.1.4 Weight Beliefs Measures

D.1.4.1 Controllability of fatness

Factor analyses were conducted on eight Beliefs About Fat Persons Scale (BAFP) items and AFAS item 4. BAFP item 2 (“In many cases, fatness is the result of a biological disorder”) was included in the initial analyses, but was removed after SPSS was unable to converge on a solution. BAFP item 2 had no substantial univariate correlations with other items ($r \leq .30$), and a low SMC with other items (SMC = .19). Additionally, reliability analysis of scores on a scale containing all items indicated that removal of item 2 would increase coefficient alpha.

Two correlated factors ($r = .35$) were extracted explaining 43.4% of the variance in the items. BAFP items 3, 4, 5, and 6 loaded on the first factor with AFAS item 4, and BAFP item 8 loaded .88 on the second factor. BAFP item 7 loaded .39 on the first factor which was marginally below the cut-off criterion (see Table D10). This item was retained as it aided interpretation of the factor. Items that loaded highest on Factor 1 (labelled as Controllability) related to fatness due to eating and exercise habits, which may be assumed to be perceived as controllable. The item that loaded on Factor 2, item 8 (“People can be addicted to food, just as others are addicted to drugs and these people usually become fat”), seemed to measure the degree to which fat people are believed to have a food addiction which

led to fatness, however, this factor was uninterpretable with only one item loading on it. Only the six items that loaded on the Controllability factor (including item 7) were retained in the final Controllability Scale (see Tables C4 and C6 in Appendix C) for Study 1. The Cronbach's alpha estimate for this six-item scale was .80.

Table D9

Inter-correlations between Controllability Items (N = 215)

Items	1	2	3	4	5	6	7	8
1. BAFP 1	–							
2. BAFP 2	.13*	–						
3. BAFP 3	.30**	.14*	–					
4. BAFP 4	.22**	.11	.58**	–				
5. BAFP 5	.22**	.19**	.49**	.44**	–			
6. BAFP 6	.29**	.23**	.52**	.52**	.58**	–		
7. BAFP 7	.11	.12	.36**	.26**	.25**	.32**	–	
8. BAFP 8	.24**	.07	.25**	.15*	.27**	.22**	.16*	–
9. AFAS 4	.14*	.33**	.36**	.34**	.43**	.42**	.20**	.17*

Note. KMO = .83. BAFP = Beliefs About Fat Persons Scale; AFAS = Anti-fat Attitudes Scale.

* $p < .05$. ** $p < .01$.

D.1.4.2 Changeability Scale

Initial factor analyses indicated that item 10 (“It is impossible for many fat people to become normal weight”), was an outlier among the items (see Tabachnick & Fidell, 1996). This item had a low SMC with other items (SMC = .19) and loaded on a factor by itself for factor solutions for all Changeability Scale items. This item was removed from the Changeability Scale.

Table D10

Factor Loadings of Beliefs About Fat Persons Scale Items and AFAS Item 4 for Two-Factor Solution (N = 215)

Item	Factor Loadings	
	Controllability	Factor 2
Beliefs About Fat Persons Scale Items		
1. Fatness often occurs when eating is used as a form of compensation for lack of love or attention.	.28	.17
3. Fatness is usually caused by overeating.	.74	.03
4. Most fat people cause their problem by not getting enough exercise.	.72	-.08
5. Most fat people eat more than non-fat people.	.68	.06
6. The majority of fat people have poor eating habits that lead to their fatness.	.78	-.02
7. Fatness is rarely caused by lack of willpower. (-)	.39	.04
8. People can be addicted to food, just as others are addicted to drugs, and these people usually become fat.	.01	.88
AFAS Item		
4. Fat people have only themselves to blame for their weight.	.52	.00

Note. Beliefs About Fat Persons Scale Item 2 was not included in analysis. Item followed by a minus sign was reverse scored. Factor loadings over .40 appear in bold.

For the remaining nine Changeability Scale items, two factors were extracted explaining 49.1% of the variance. The correlation between the factors was not substantial ($r = .31$). All positively-worded items loaded on Factor 1 (labelled Changeability), with loadings ranging from .61 to .77. All negatively-worded items loaded on the second factor (labelled Difficulty), with loadings ranging from .44 to .77 (see Table D12). It was assumed that this two-factor solution was an artifact of the wording of the items. Spector, Van Katwyk, Brannick, and Chen (1997) noted that artifactual factors can occur when responses to items worded in the same

direction (i.e., positive or negative) show greater consistency than responses across these types of items. This results in stronger correlations between items with same wording direction, but lower correlations between items worded in different directions. Spector et al. note that item distributions tend to be skewed when artifactual factors are present. The conclusion that the two-factor solution for the Changeability Scale was artifactual was supported by substantial skewness for all items except items 1 and 3 ($z = -3.89$ to -7.53).

It is noted that the two-factor solution could be substantive rather than artifactual as negatively-worded items loading on the Difficulty factor did not seem to be merely the opposite of Changeability factor items (i.e., unable to change) but reflected beliefs about how difficult it is to change weight. In order to explore the validity of a separate Difficulty factor, additional items will be added to the Changeability Scale for Study 2. However, a single Changeability Scale consisting of nine items will be used in the present study (see Table C7 in Appendix C). This scale had an alpha of .79.

Table D11

Inter-correlations between Changeability Scale Items (N = 215)

Items	1	2	3	4	5	6	7	8	9
Item 1	–								
Item 2	.67**	–							
Item 3	.48**	.45**	–						
Item 4	.54**	.42**	.64**	–					
Item 5	.49**	.47**	.60**	.62**	–				
Item 6	.13	.13	.27**	.13	.07	–			
Item 7	.38**	.36**	.32**	.43**	.41**	-.15*	–		
Item 8	.18**	.28**	.34**	.21**	.22**	.58**	.06	–	
Item 9	-.02	.05	.17*	.07	.09	.27**	-.07	.36**	–
Item 10	.10	.18*	.25**	.21**	.14*	.00	.30**	.16*	.23**

Note. KMO = .79.

* $p < .05$. ** $p < .01$.

Table D12

Factor Loadings of Changeability Scale Items for Two-Factor Solution (N = 215)

Item	Factor Loadings	
	Changeability	Difficulty
1. Fat people fail to lose weight because they don't stick with their diets.	.75	-.04
2. Some people continue to be fat because they have no willpower.	.67	.04
3. Fatness is readily changed if one chooses.	.66	.22
4. Most fat people can lose weight if they change their eating habits.	.77	.01
5. Fat people can lose weight if only they try hard enough.	.75	-.01
6. It is hard to lose a large amount of weight. (-)	-.09	.77
7. People who weigh too much could lose at least part of their weight through a little exercise.	.61	-.25
8. It is not easy for a fat person to lose weight. (-)	.08	.75
9. Many people who lose weight will regain it. (-)	-.06	.44

Note. Item 10 was not included in analysis. Item followed by a minus sign was reverse scored. Factor loadings over .40 appear in bold.

D.1.4.3 Desire to Change Scale

Initial factor analyses indicated that item 8 (“Some fat people do not wish to lose weight”), was an outlier among the items (see Tabachnick & Fidell, 1996). This item had a low SMC with other items (SMC = .14) and did not load substantially on any factor. This item was removed from the Desire to Change Scale.

For the remaining items, one factor was extracted explaining 43.2% of the variance in the seven Desire to Change Scale items. All items loaded on this factor, with factor loadings ranging from .44 to .87 (see Table D14). The Cronbach's alpha for a scale comprised of these seven items (see Table C8 in Appendix C) was .83.

Table D13

Inter-correlations between Desire to Change Scale Items (N = 215)

Items	1	2	3	4	5	6	7
Item 1	–						
Item 2	.37**	–					
Item 3	.37**	.34**	–				
Item 4	.38**	.26**	.38**	–			
Item 5	.42**	.11	.31**	.46**	–		
Item 6	.59**	.38**	.47**	.46**	.52**	–	
Item 7	.51**	.36**	.32**	.46**	.45**	.73**	–
Item 8	.18**	.12	.27**	.22**	.30**	.27**	.27**

Note. KMO = .84.

* $p < .05$. ** $p < .01$.

Table D14

Factor Loadings of Desire to Change Scale Items for One-Factor Solution (N = 215)

Item	Factor Loadings
1. Most fat people are dissatisfied with themselves.	.69
2. Very few people are ashamed of being fat. (-)	.44
3. Many fat people are happy with their weight. (-)	.54
4. No one wants to be fat.	.61
5. Inside every fat person is a thin person trying to emerge.	.59
6. Fat people are distressed by their weight and the shape of their bodies.	.87
7. Fat people want to become normal weight.	.76

Note. Item 8 was not included in analysis. Items followed by a minus sign were reverse scored.

D.1.4.4 Benefits Scale

Two correlated factors ($r = .43$) were extracted accounting for 45.9% of the variance in the eight Benefits Scale items. All positively-worded items loaded on Factor 1 (labelled Benefits) and both negatively-worded items loaded on Factor 2 (see Table D16). It was assumed that this two-factor solution was an artifact of the wording of the items. Artifactual factors were discussed earlier with regard to the Changeability Scale (see section D.1.4.2). Spector et al. (1997) note that item distributions tend to be skewed when artifactual factors are present. The conclusion that the two-factor solution for the Benefits Scale was artifactual was supported by substantial skewness for all items except items 3 and 8 ($z = -3.19$ to -8.93).

It is noted that the two-factor solution could be substantive rather than artifactual as negatively-worded items loading on Factor 2 related to improved health and quality of life, whereas items loading on Factor 1 related to psychological and social benefits. In order to explore the validity of a separate Health Benefits factor, an additional item will be added to the Benefits Scale for Study 2. However, a single Benefits Scale consisting of eight items will be used in the present study (see Table C9 in Appendix C), with an alpha of .77.

Table D15

Inter-correlations between Benefits Scale Items (N = 215)

Items	1	2	3	4	5	6	7
Item 1	–						
Item 2	-.01	–					
Item 3	.14*	.39**	–				
Item 4	.39**	.01	.14*	–			
Item 5	.09	.23**	.38**	.26**	–		
Item 6	.07	.21**	.33**	.27**	.71**	–	
Item 7	.03	.50**	.49**	.10	.52**	.53**	–
Item 8	.22**	.22**	.43**	.35**	.53**	.50**	.50**

Note. KMO = .79.

* $p < .05$. ** $p < .01$.

Table D16

Factor Loadings of Benefits Scale Items for Two-Factor Solution (N = 215)

Item	Factor Loadings	
	Benefits	Health Benefits
1. Weight loss is not necessarily evidence of improved health. (-)	-.11	.51
2. Weight reduction may make fat persons more acceptable to others.	.59	-.26
3. If a fat person loses weight, he/she is more likely to succeed in life.	.59	-.01
4. Weight loss may not improve an individual's quality of life. (-)	-.07	.74
5. Although I am accepting of people regardless of their body size and shape, I think that fat people would enjoy life more if they lost weight.	.65	.19
6. Fat people would feel better about themselves if they lost weight.	.62	.18
7. A fat person would become more attractive to others if he/she lost weight.	.92	-.21
8. Fat people would have more satisfying relationships if they lost weight.	.53	.32

Note. Items followed by a minus sign were reverse scored. Factor loadings over .40 appear in bold.

D.1.4.5 Stereotypes of fat persons

D.1.4.5.1 Warmth Scale

One factor was extracted explaining 39.1% of the variance in the five Warmth Scale items. Only items 3 and 4 loaded substantially on this factor (see Table D18). These two items (see Table C10.1 in Appendix C) were retained as the final Warmth Scale, with a reliability of .95 for scores on this scale. Item overlap between the Dislike and Warmth scales was no longer present as item 5 was not included in the final Warmth Scale (see Table C10.1 in Appendix C).

Table D17

Inter-correlations between Warmth and Competence Scale Items (N = 215)

Items	1	2	3	4	5	6	7	8
1. Warmth 1	–							
2. Warmth 2	.02	–						
3. Warmth 3	-.09	.34**	–					
4. Warmth 4	-.06	.32**	.91**	–				
5. Warmth 5	.42**	.05	.10	.10	–			
6. Competence 1	.39**	-.04	-.13	-.11	.38**	–		
7. Competence 2	.47**	.01	-.01	-.04	.64**	.46**	–	
8. Competence 3	-.33**	-.06	.09	.05	-.32**	-.22**	-.35**	–
9. Competence 4	.03	.15*	.16*	.13	.00	.08	.00	.17*

Note. KMO = .60 for both Warmth and Competence Scales items.

* $p < .05$. ** $p < .01$.

Table D18

Factor Loadings of Warmth Scale Items for One-Factor Solution (N = 215)

Item	Factor Loadings
1. Non-fat people tend to be more tolerant than fat people. (-)	-.05
2. Fat people are usually sociable.	.34
3. Most fat people tend to be good-natured.	.98
4. Fat people tend to be warm and friendly towards others.	.93
5. I tend to think that people who are overweight are a little untrustworthy. (-)	.10

Note. Items followed by a minus sign were reverse scored. Factor loadings over .40 appear in bold.

D.1.4.5.2 Competence Scale

Initial factor analyses indicated that Competence Scale item 4 (“Fat people are just as self-confident as other people”), was an outlier among the items (see Tabachnick & Fidell, 1996). This item had a very low SMC with other items (SMC = .04), and was removed from the Competence Scale. For the remaining three Competence Scale items, one factor was extracted accounting for 39.6% of the variance. Items 1 and 2 loaded positively on this factor (both reverse-scored), and item 3 loaded negatively on the factor (see Table D19). Item 3 had negative correlations with both item 1 and 2, and therefore, Cronbach’s alpha for these three items was unable to be generated. When item 3 was removed from the scale, the two remaining items formed the final Competence Scale (see Table C11.1 in Appendix C) with a reliability of .63 for scores on this scale. Competence Scale item 2 was included in both the Negative Evaluation subscale and final Competence Scale (see Tables C3 and C11.1 in Appendix C).

Table D19

Factor Loadings of Competence Scale Items for One-Factor Solution (N = 215)

Item	Factor Loadings
1. Fat people tend to be more dependent than other people. (-)	.54
2. Although some fat people are surely smart, I think they tend not to be quite as bright as normal weight people. (-)	.86
3. Fat people are more competitive than other people.	-.40

Note. Item 4 was not included in analysis. Items followed by a minus sign were reverse scored.

D.1.5 Summary of Scale Analyses

Table 8.1 in chapter 8 provides a comparison of the initial scales measured for this study with the final scales used in the analyses presented in chapter 8.

D.2 Exploratory Factor Analysis of Combined Dislike scale and AFAS items

An exploratory factor analysis examining the underlying structure of the hostile anti-fat attitude items measured for the current study (i.e., Dislike scale and AFAS items) was also conducted. The results of this analysis are provided in section 8.2.8.1 of chapter 8 in relation to Hypothesis 1a. The below tables provide the correlations among items (see also Tables D5 and D7) and factors, and the factor loadings for a three factor solution.

Table D20

Correlations between AFAS and Dislike Scale Items (N = 215)

Dislike Items	AFAS Items				
	1	2	3	4	5
1	.20**	.38**	.38**	.32**	.42**
2	.08	.28**	.34**	.23**	.36**
3	.08	.26**	.29**	.22**	.30**
4	.17*	.29**	.35**	.31**	.31**
5	.27**	.33**	.29**	.13	.27**
6	.24**	.30**	.36**	.26**	.28**
7	.32**	.42**	.42**	.39**	.36**

* $p < .05$. ** $p < .01$.

Table D21

Inter-correlations between Hostile Anti-Fat Attitude Factors for Three-Factor Solution (N = 215)

Factors	1	2	3
1. Negative Evaluation	–		
2. Unattractiveness	.41	–	
3. Social Distance	.60	.60	–

Table D22
Factor Loadings of Hostile Anti-fat Attitude Variable Items for Three-Factor Solution (N = 215)

Item	Factor Loadings		
	Neg Eval	Unattract	Soc Dis
Unattractiveness scale items			
1. Fat people are less sexually attractive than thin people.	-.21	.69	.10
2. I would never date a fat person.	.02	.72	.02
3. On average, fat people are lazier than thin people.	.11	.68	-.02
4. It is disgusting when a fat person wears a bathing suit at the beach.	.21	.51	-.04
Negative Evaluation subscale			
1. I really don't like fat people much.	.62	.19	.03
2. I tend to think that people who are overweight are a little untrustworthy.	1.00	.04	-.18
3. Although some fat people are surely smart, I think they tend not to be quite as bright as normal weight people.	.90	-.08	.01
4. I have a hard time taking fat people too seriously.	.82	-.07	.17
Social Distance subscale			
5. I don't have many friends who are fat.	-.10	.07	.63
6. Fat people make me feel somewhat uncomfortable.	.31	-.10	.62
7. If I were an employer looking to hire, I might avoid hiring a fat person.	.03	.25	.49

Note. Neg Eval = Negative Evaluation; Unattract = Unattractiveness; Soc Dis = Social Distance. Factor loadings over .40 appear in bold.

APPENDIX E:

Study 1 Qualitative Data Analysis

E.1 Aims and Rationale

At the end of the web survey, participants were invited to provide feedback regarding the survey and further comments about weight and fatness. Responses to this open-ended item contained feedback about the survey, comments about fatness and weight, or both. The primary purposes of examining the qualitative comments relate to the two types of qualitative data obtained:

1. To ascertain difficulties that participants experienced when completing the survey, in order to improve the survey and/or understand limitations of the survey and, more generally, the limitations of utilising survey methodology to understand attitudes and beliefs.
2. To develop greater understanding of participants' attitudes and beliefs about weight and fatness by:
 - a. describing salient aspects of participants' self-generated attitudes and beliefs,
 - b. providing examples of participants' attitudes and beliefs in their own words,
 - c. exploring the degree to which self-generated comments were consistent with constructs measured using quantitative methods, and
 - d. determining if there are other aspects of fat attitudes and beliefs that were not measured in this study (this was considered particularly important as survey items were developed on the basis of literature and past research, without initial qualitative research being conducted).

These aims are consistent with the purposes for combining qualitative and quantitative methods discussed by Fossey, Harvey, McDermott, and Davidson (2002), Green (2004), Joffe and Yardley (2004), and Kelle (2001). Qualitative analysis was used to explore the available data consistent with the exploratory aims discussed above.

E.2 Data Preparation

The qualitative comments were taken from the surveys of the entire sample ($N = 215$). Eighty-eight participants (40.9%) typed analysable comments at the end of the web-survey. Comments indicating that participants did not wish to comment further (e.g., “no thanks”), wishing the researcher well with the research (e.g., “good luck”), and providing general positive feedback about the survey (e.g., “good survey”) were not analysed. Qualitative comments were categorised as survey feedback or comments about weight and fatness, and data in each category were analysed separately. With one exception, all comments containing both methodological and weight themes were divided into non-overlapping statements while retaining their original meaning. The indivisible comment was divided between the two comment categories with some overlapping content.

E.3 Thematic Analysis

Thematic analysis was used to analyse the qualitative data. Thematic analysis involves identifying patterns of content and meaning relevant to phenomena of interest (i.e., themes) within text, and coding (i.e., categorising) data on the basis of such themes (Fereday & Muir-Cochrane, 2006; Joffe & Yardley, 2004). Due to time and resource constraints the data was analysed by a single-coder (i.e., the researcher). The data were coded inductively; that is, the themes to be coded were identified from the data (Fossey, et al., 2002). It is noted, however, that the process was not purely inductive as coding focused on themes relevant to the purposes of the analysis (i.e., obtaining methodological feedback and understanding fat attitudes and beliefs), and was influenced by the researcher’s prior knowledge (Green, 2004). The ‘cut and paste’ method of thematic analysis described by Green was applied in the current analysis. Qualitative responses commenting on more than one theme were divided into multiple statements. These statements were then sorted into relevant thematic categories based on a combination of manifest content (i.e., specific words) and latent or implicit meaning of text (Joffe & Yardley, 2004). These processes were performed using Microsoft™ Office Word, with data excerpts being placed in different document sections under headings reflecting the emerging common theme in the data (i.e., codes or theme labels). As the results of this content analysis were not intended to be analysed further (i.e., statistical analysis), comments were not

necessarily mutually exclusive but could be allocated to more than one category (see Weber, 1990). A constant comparative method was used, which involved “a progressive process of classifying, comparing, grouping and refining groupings of text segments to create and then clarify the definition of categories, or themes, within the data” (Fossey, et al., 2002, p. 728-729, see also Green, 2004, Joffe & Yardley, 2004). This process included examining the similarities among, and differences between, themes to ascertain whether some were similar enough to be organised into overarching categories, or the appropriateness of dividing some themes into sub-themes (Fereday & Muir-Cochrane, 2006; Joffe & Yardley, 2004).

Although some researchers advocate combining aspects of content analysis with thematic analysis, such as providing frequency counts for themes (e.g., Mayring, 2000; Mays & Pope, 1995), theme frequencies were not reported in this analysis because:

1. the aims of this analysis were descriptive in nature; that is, the aims were to understand ‘what’ participants commented rather than ‘how many’ made such comments (Green, 2004)
2. frequencies may imply that some themes were more important to participants. This interpretation would be misleading because:
 - a. comments were volunteered by participants and may not be necessarily representative of the entire sample;
 - b. responses were unstructured and spontaneously generated. If participants were specifically interviewed about different aspects of their beliefs and attitudes, additional information would likely be elicited;
 - c. participants’ unstructured responses were provided at the end of the web survey and were likely to have been cued by the content of the survey. Therefore some responses may be less frequent than others as they were not prompted by the content of the survey.

Instead of providing frequencies, descriptive terms such as ‘a few’, ‘some’, and ‘most’ will be used to indicate the commonness of each theme as suggested by Joffe and Yardley (2004).

E.4 Presentation of Qualitative Analyses

Survey feedback will be discussed first followed by comments about fatness and weight. Each theme will be described and excerpts from participants’ qualitative

responses will be provided to illustrate each theme. In order to enhance authenticity, participants' comments are provided verbatim, including spelling and grammatical errors (Fossey, et al., 2002).

E.5 Thematic Analysis of Survey Feedback

Five major themes were identified from comments providing survey feedback. These themes relate to terminology, survey items, response formats, and indices of weight.

E.5.1 Major Themes from Survey Feedback

Research is biased and offensive

A few participants commented that they found various aspects of the research (e.g., using the term fat, survey questions) biased and potentially offensive to fat persons. All of these comments are presented below:

“Found your survey naive and bigoted, replace fat person with crippled person in your surveys and you may see what is meant by that. It would not seem that you have a great understanding of your subject ...”

“Some 'larger' participants could be offended by some question which are asked”

“I think the description of obese people as FAT could be evidence of bias on the part of the researchers or may subconsciously affect the answers some people give.”

Fat encompasses range of weights

A few participants commented about the range of weights suggested by the term fat. These comments clarified the respondent's definition of fat (e.g., as compared to overweight) or suggested that fat encompasses a range of weights. A participant also noted that individuals' definitions of fatness may affect survey responses. Both of these comments are presented below:

“Although 'fat' is an appropriate word for this survey for a definite distinction between people of different size, my personal definition of 'fat' in this survey relates to those more weightier than simply 'overweight' people”

“'Fat' and overweight ranges extensively from slightly to grossly - answers may have varied depending on the concept of 'how' fat.”

Asked to make stereotypic judgements and broad generalisations

A few respondents commented that they felt that some of the survey items required them to make broad judgements about fat persons and people in general. For example:

“Some of the questions were very difficult to answer as they were far too general. The stereotypes assumed in the questions were sometimes frustrating.”

Would like opportunity to clarify responses

In a related theme, a few respondents indicated that they would have appreciated an opportunity to clarify their rating scale responses with written responses. For example:

“Sometimes I found it hard to be accurate in picking answers as I would like to have been able to clarify reason for choosing a particular response.”

Weight or weight-height ratio is a poor measure of fatness

A few participants commented that weight or a weight-height ratio may not accurately reflect a person's body fatness. For example:

“WHILST MANY PEOPLE GO OFF A AVERAGE HEIGHT WEGIHT SCHEME I ALSO STHINK ITS WRONG AS IVE BEEN 12ST YET IT WERENT FAT IT WAS DOWN TO STRNGTH TRAINING IN A GYM REGARDING FOOTBALL, HOWEVER IF I WASNT TO PUT THAT THE MAJORITY WOULD CONSIDER ME TO BE FAT IF THEY WAS JUST TO GO OFF MY HEIGHT AND WEIGHT!”

E.6 Thematic Analysis of Comments about Weight and Fatness

Initially comments about weight and fatness were coded into 39 specific themes. Related themes were then sorted into seven overarching categories. The seven super-ordinate themes related to attitudes and beliefs about fat persons, the experience of fat persons, weight loss, causes of fatness, and the relationship between weight and health.

E.6.1 Major Themes from Weight and Fatness Comments

E.6.1.1 Attitudes toward, and beliefs about, fat persons

Participants expressed a range of attitudes toward, and beliefs about, fat persons. These were both positive (e.g., non-stereotypical) and negative (e.g., disgust). Comments relating to these beliefs and attitudes were coded into the seven specific themes discussed below.

Concern about increasing fatness and related consequences

A few participants expressed concern about the increasing number of fat persons. For example:

“I am very pleased to see more research being done in this incredibly important area. I am quite dismayed by the levels of weight gain and obesity seen in various countries, and in particular here in Australia, and most importantly - in children.”

Others’ prejudice towards, and stereotypes about, fat persons

Some participants commented on others’ and society’s fat-related prejudice and stereotyping. Most of these comments also expressed dissatisfaction with such attitudes and beliefs. For example:

“I ... find some people's in society's attitudes in thinking that all fat people are pigs distressful.”

“I am appalled by the assumption (not made by the author of this survey) that "fat" people must eat a lot.”

“... most people do find fat people disgusting. ... most people assume that fat people eat too much and are lazy.”

Personal anti-fat attitudes, affective reactions, and beliefs

A few participants also expressed their personal anti-fat attitudes, affective reactions, and beliefs. Both of these comments are presented below:

“I am aware that I have biases against obesity, some are rational with respect to the health aspects of obesity and others are not. I try not to let these biases affect my dealings with individuals who are obese but am not sure how successful I am at concealing my feelings.”

“I don't discriminate against fat people or dislike them because they're fat. I do get angry with them or unsympathetic for them when they whinge about being fat but then they continue to eat bad food and lots of it and

wiyhout exercising. Fat people who do try to lose weight but are unsuccessful, I do feel sorry for and would be willing to help them.”

Positive attitudes toward fat persons

In contrast, some participants made comments reflecting positive attitudes toward fat persons. For example:

“BIG GIRLS ROCK”

“it does not make a person any less of a human if they are fat, and they should not be treated as though it does.”

“I believe "larger" people are just as smart, funny and beautiful inside as "smaller" people and can achieve their goals & dreams if they want to.”

It's what's on the inside that counts

Some participants expressed beliefs about valuing the importance of personality over outward appearance, and suggested that weight is not indicative of personality. For example:

“There is too much emphasis on weight. Perhaps we need to think about the person not size.”

“a persons weight and the way they look has nothing to do with their personality they could be a good person or a bad person you can not judge them unless you know them really well and even if you do know a person you don't know what they have been through in their life to make them the way they are, no matter if they are over weight or if they meet 'societies ideal weight'.”

Others' weight is not my concern

Similarly a few participants commented that others' weight is not their concern. For example:

“Frankly, my values dictate that whether a person is fat or thin is a matter of personal perception and really none of my business.”

Know fat persons who don't fit fat stereotype

Some participants commented that they are fat but do not fit stereotypical perceptions of fat persons or they know fat persons who do not. For example:

“I know fat people who eat very little and and healthy ...”

“I resent my weight being associated with laziness or lack of intelligence (especially as I have not been overweight all my life and my intelligence level and willingness to be involved in activity have not changed).”

“Being on the larger side of beautiful - its never stopped me from achieving OR participating in activities. I am a very active person, I work in a corporate job 55+hours per week, study, have a family, exercise etc.”

E.6.1.2 Factors that influence attitudes and beliefs

Some participants commented on factors that influence their (or others’) weight-related beliefs and attitudes. Comments relating to these factors were coded into the four specific themes discussed below.

Personal eating issues or weight may influence opinions

A few participants commented that their personal eating issues may influence their attitudes toward fat persons. For example:

“Because I have had an eating disorder for a little over a year, my oppinions of weight are usually a bit more extreme than others. I had anorexia and was hospitalised for it for 5 weeks.”

Thin societal preference

Some participants commented on their perceptions of the general societal view of weight. This included negative societal views of fatness as opposed to thinness, and the affect of such attitudes on persons’ body image and self-esteem. For example:

“i also believe that society dictates the way in which people view their self image. Currently it is better to be skinny than fat, 200 years ago fat was more acceptable.”

“Society has alot to do with the way people feel about themselves, people should ignore how people think they look and concentrate on being the person they want to be.”

“Society has a whole are really judgement about people's weight.”

Influence of media

Some participants identified media representations as influences on weight-related attitudes and beliefs, and body image and self-esteem. For example:

“The media is always focusing on weight related issues and the 'obseity' of people.”

“I believe there are lot of unhelpful stereotypes out in the media about weight/beauty - and it impacts very negatively on all parts of our society (especially young girls and boys 13-19).”

“The media doesn't help with the never ending portrayal of the attractive woman as being the "calista flockharts" of the world or the supermodels.”

Gender Issues

Several of the comments about societal representations and media influences referred to females specifically rather than people in general. Consistent with this emphasis, a few participants suggested that weight standards for females are more stringent than for males. For example:

“As a fat woman I find that seemingly obvious acceptance of grossley overweight men whilst deriding a woman for a few extra kilos just displays yet again another double standard in this world.”

E.6.1.3 The experience of fat persons

Some participants commented on the experience of fat persons, including the discomfort of being fat, difficulties fat persons experience in accepting themselves, unsolicited advice and comments from others, and employment discrimination. Comments relating to the experience of fat persons were coded into the four specific themes discussed below.

Being fat is uncomfortable

A few participants commented that being fat can be uncomfortable and can slow a person down. For example:

“I often find that these (usually thin) people have no conception of the difficulties to being overweight and getting enough exercise [i.e uncomfortable clothes, heat and chaff etc; from personal experience (grin!)].”

“... extra weight tends to slow you down ...”

It is hard for fat people to accept and love themselves and feel attractive

A few participants commented that fat persons find it difficult to accept and love themselves and feel attractive. These comments were made about fat persons generally or by respondents about their own experiences. For example:

“It is there own choice to be what size they wish but in a world of stereotypes it is very hard to believe your beautiful when your not a size 10.”

“... as a "larger" person I often feel inadequate and unattractive. At times I will not go food shopping or out somewhere because I believe I

look too fat. I also find it hard to believe my husband finds me attractive and truly loves me even though he reassures me he does."

Fat people receive comments about their weight and advice about weight loss

Some participants commented that they had received unsolicited comments from others regarding their weight and advice on how to lose weight. A few noted that this behaviour seems to be socially acceptable. For example:

"In the past year i have lost over 20 kg. However when i had more weight, people's comments on how big i was actually made me feel worse about myself and i would put on more weight."

"It's not socially acceptable to walk up and tell a stranger to "get rid of your grey hair no one likes it" or to "get some shoes that make you taller for gods sake". So why do people feel it is socially acceptable to tell a stranger they need to lose weight? I've had comments from many strangers and even several stop me to promote their weight loss business. I feel it is unacceptable and hurtful and damages self esteem the media already attacks."

"There are many health conditions that affect weight and can make weight loss almost impossible (and I have 2 of them!) which means when strangers walk up in the street to tell me of a weight loss gimmick it can be quite damaging to confidence. If its socially unacceptable to walk up to a stranger and tell them they are too thin or their hair is the wrong length, then why is it ok for them to approach over average weight people and say "you're fat"?"

A few participants advocated encouraging fat persons to lose weight as long as this was done in a supportive, non-judgemental manner. For example:

"I do think that relatives and friends should encourage substantially their loved ones to take care of their health by increasing exercise. So say, nagging and meanness will never help; it won't motivate them and many over-weight people are walking encyclopedias on diets, exercises and weight-loss programmes!!!! Maybe they should go walking with the person and help them buy comfortable clothes to exercise in!!!!"

"There is nothing worse than going to the doctor and being told to loose weight every time you go there. I think that fat people are sick of being put down by society and really cant loose weight untill they feel ready and have some encouraged/support from there family and friends without being pushed into doing it and made to feel wrong."

Employment discrimination

A few respondents indicated that they believed that people are discriminated against in terms of weight when seeking employment or expressed that they believe that fat persons are less efficient workers. For example:

“Given a choice between a slim person and an obese person, it is an unfortunate fact that obese people will find it harder to gain employment and succeed, especially when coupled with advanced age.”

“I am of the belief that very fat people get through less work than a fit healthy person, all else being equal”

E.6.1.4 The causes of fatness

Many participants commented on the causes of fatness. This super-ordinate category contained the largest number of comments. While some participants indicated that weight is under personal control, others reported that weight is caused by factors outside personal control. Additionally, some participants indicated that emotional or psychological issues lead to fatness. Comments relating to the causes of fatness were coded into the three specific themes discussed below.

Fatness (and weight) is due to lifestyle choices and controllable factors

Lifestyle choices (i.e., diet and exercise) were identified by some participants as causes of fatness. For example:

“I largely believe that some people are fat simply because they over indulge and don't understand that certain foods (ie. fast food) shouldn't be a regular part of a diet.”

“I believe that the greater majority of people who are obese are that way because of their lifestyle choices.”

“People who have been overweight since childhood may have bigger problems with weight loss than adults who gain weight later in life as they may never have learnt good eating and exercise habits.”

Fatness is influenced by factors outside personal control

The largest number of comments for an individual theme referred to factors that contribute to fatness that are not under volitional control. These factors included medical conditions, disability, medications, and genetics. For example:

“circumstances that mitigate a person's weight... - inability to exercise due to mobility problems, weight gain because of medical conditions ...”

“A huge number of people assume that if you are overweight, you must overeat. While that is true for some, others have medical conditions that can cause it, and in fact many medications can also cause metabolism to slow to zero.”

“Being a nurse we see people from many walks of life and in many shapes and forms. Although it is often easy to brand a person with a

lable, being overweight may not be a factor controlled by the individual, but genetics and medical conditions along with medication can cause someone to increase in weight and in body size.”

Fatness is due to emotional issues (e.g., eating in response to emotional issues)

Some participants indicated that emotional or psychological issues contribute to fatness. Generally these comments suggested that comfort eating in response to unresolved childhood or adult trauma, and stress, contributes to or causes fatness. For example:

“I have a firm belief that most obesity stems from an underlying psychological condition (eg abuse etc) that hasn't been dealt with and is therefore compensated for thought overeating”

“Often emotional stress triggers overeating, which is really similar to a smoker reaching for a cigarette or drinking etc. An overweight person could potentially benefit from learning ways to cope with stress or anxiety without involving food.”

“I think that peoples emotions and the stress that goes along with that has a lot to do with their weight. I feel a lot of people find comfort in food (like a drug) and they get in a bind that they can't get out of.”

E.6.1.5 The relationship between fatness and health

Some participants made comments indicating that fatness is unhealthy; other participants suggested that fat persons are not necessarily unhealthy. Additionally, some participants commented that greater emphasis should be placed on health and healthy behaviours rather than a person's weight. Comments relating to the relationship between fatness and health were coded into the three specific themes discussed below.

Being fat is unhealthy

Some participants commented that fatness is associated with greater risk of negative health outcomes. For example:

“... excessively overweight and obese individuals ... are at great risk of damaging their health.”

“From a health perspective, being substantially over-weight can exacerbate some cardiac conditions or diabetes for example ...”

“I am concerned about the health problems created by obesity...”

Being fat is not necessarily unhealthy

In contrast, some participants commented that fat persons are not necessarily unhealthy. For example:

“I believe that with the correct dietary habits and exercise routines, any person can live a healthy life, but that does not necessarily mean that they will be of average weight.”

“some fat people are still very healthy”

Health and exercise should be the focus, not weight (or appearance)

In a related theme, some participants suggested that there should be greater focus on health and health-related behaviours (e.g., exercise), than weight per se, or appearance. Some of these comments specifically stated that fat persons can be healthy, while others implied this. For example:

“I believe that society should be more concerned about how physically fit and healthy a person is, rather than how fat they are, as an overweight person can be physically 'fitter' (cardiovascular fitness) and eat healthier than an average weight person. Unfortunately many people make assumptions about others based on their initial physical impression.”

“I tend to worry for people's health more than their weight. If a "fat" person can climb stairs without any problems it doesn't concern me, but if they get to the top and are out of breath etc. I worry for them.”

“I believe it is other people's and society's focus on exaggerated thinness that is at the heart of a lot of issues people have with weight, not just perceived fatness but also problems such as anorexia and bulimia. If the focus were once again on health, regardless of size, we would see lovely curves on women again, and smiles.”

E.6.1.6 Can fat people lose weight? How?

Some participants commented that it is possible (even easy) for fat persons to lose weight, including suggestions on how to lose weight. Several comments indicated that high levels of motivation and commitment are necessary for weight loss to be successful. In addition to commenting on the changeability of fat persons' weight, a few participants noted that they are personally able to lose weight. In contrast to the view that fatness is easily changeable, a few participants commented that weight loss is difficult, and some participants commented on factors that may

impede weight loss. Comments relating to the changeability of weight and fatness were coded into the five specific themes discussed below.

Suggestions on how to lose weight (changeability)

Some participants commented that they believed that it is possible (even easy) for fat persons to lose weight. Some participants specifically stated changeability beliefs whereas other participants' changeability beliefs were implied through suggestions of how fat persons could lose weight or manage their weight. Suggestions for losing and maintaining weight primarily focused on dietary changes and increased exercise. For example:

"I think that the best way to loss weight is to eat right and get lots of exercise every single day. Sell your car and buy a bike"

"Unless you are effected in some way by a particular medical condition(s) (including psychological condition(s)) and associated medications, weight loss and management can often best be managed by a combination of 3 basic principles - 1. eat less (very rarely do we eat out of necessity anymore, we now eat more for pleasure, comfort, glutony, etc.); 2. Eat healthier foods (eg. more fresh/natural foods, as opposed to processed, high sugar/fat convenience foods and the like); and 3. do some exercise (we are clearly becoming a more lazy, anti-social, sedintary society)."

Fat people can (only) lose weight if they choose to and are committed

Several related comments suggested that weight loss is only possible and effective if persons really want to lose weight and are motivated and committed to losing weight. For example:

"Weightloss can only be achieved if the person wants to and is motivated to. Weightloss cannot happen if the person doesn't want to do it. It is a commitment that a person enters for themselves, making a decision to do it. No matter how much persuasion. If they don't want it to happen it won't be effective."

"Forcing someone to loose weight will only result in the weight being regained."

I can lose weight

Additionally a few participants commented that they personally were able to lose weight. For example:

"Until age 23 I believed I was always going to be at least 15 kilograms overweight, that I didn't have 'it' to lose it. Due to the encourag[e]ment of my partner I embarked on an exercise and diet program and after eight

months had a fantastic figure. Now I tend to yo yo between my ideal weight and up to 6 kilos over, but whenever I get to that point, experience has told me that I can lose it I apply myself, so I apply myself, and a few months later its gone again.”

It is hard to lose weight and weight loss is complex

In contrast to suggestions that weight loss is easily achievable, a few participants did note that it is difficult to lose weight and that a complex range of factors need to be considered when losing weight. For example:

“It is hard to loose weight...”

“... all aspects of a persons, health, (physical, mental and emotional) should be considered when ungergoing weightloss.”

Weight loss can be impeded by factors outside personal control

Additionally, some participants commented on uncontrollable factors that impede weight loss. These factors included medical conditions, disability, and genetics. For example:

“When one has a physical disability thrust upon them, and are unable to do physical exercise, it does make it that much harder, and disciplined to lose weight.”

“Sometimes, i person can a have a medical condition which prevents them from losing weight, and genetics also play a part in a persons weight.”

E.6.1.7 Should fat people lose weight? Why?

Participants also made comments regarding whether or not fat persons should lose weight. While some participants commented that fat people have the right to chose to be fat or to lose weight, other participants indicated that fat people should lose weight if it affects their health. This theme also includes comments suggesting reasons why fat persons should lose weight (e.g., fat persons are unhappy and would benefit from weight loss). Comments relating to beliefs about whether fat persons should lose weight and associated benefits were coded into the four specific themes discussed below.

Fat people have a right to chose to be fat or reduce

Some participants commented that fat persons have the right to lose weight or not. These comments generally suggested or implied that fat persons have a choice about whether they are fat (i.e., they can change their weight). For example:

“There is nothing wrong with overweight people and if they want to lose weight they should be encouraged! And if they chose not to then they should not be chastised”

“I think weightloss is a personal issues ... In the end it is person's own responsibility and descion whether to lose weight. People should repect their descion but encourage improvements of bad eating habits an lack of exercise.”

“i think that it is largely up to the individual as to what weight they would like to be.”

Fat people should lose weight if it affects their health

In a related theme, some participants commented that it is acceptable for persons to remain fat as long as their weight didn't negatively affect their health. Some of these comments suggested that fat persons should lose weight if their weight affects their health. For example:

“The weight of a person depends is completely up to their own discession, I would suggest that if someones health is at risk then that is when they need to loose weight, but if they are happy with themselves then so should everyone else be happy with them.”

“... but frankly I believe that if you are happy with who you are and your weight, and that your weight is not having a detrimental effect on your health (either because you are over or underweight) - who cares what anyone else thinks.”

“Weight should only be an an issue if it effects a person's health”

Losing weight improves life and benefits fat person

Several participants commented that losing weight improves the life of fat persons and benefits them. Benefits of losing weight included more energy, improved self-esteem, and better health. For example:

“Being fat affects every aspect of their lives in my opinion. Being healthy and active give you much more energy and pleasure in life.”

“Even losing a small amount of weight may improve a persons self esteem and confidence”

Fat people are unhappy with their weight and want to lose weight (regardless of what they say)

A few participants commented that they believe that fat people are unhappy with their weight, even if they do not say so themselves. For example:

“I think all overweight people want to lose weight, but because they don't think they can possibly do it, they try to convince themselves and others that they're happy with their weight.”

APPENDIX F:
Demographic Characteristics of Community Sample (Study 2)

Table F

Demographic characteristics of Community Sample (N = 364)

Characteristic	<i>n</i>	%
Marital status ^a		
Married	190	52.2
Never married	81	22.3
Divorced	27	7.4
De Facto	24	6.6
Widowed	14	3.8
Separated	8	2.2
Combination of categories	19	5.2
Cultural or ethnic identification		
Anglo/Caucasian (white)	348	95.6
Asian	8	2.2
North American	1	0.3
Aboriginal Australian or Torres Strait Islander	1	0.3
Central or South American	1	0.3
Other ^b	1	0.3
Combination of categories ^c	4	1.1
Employment status		
Full-time employment	144	39.6
Part-time or casual employment	61	16.8
Retired	52	14.3
Homemaker	28	7.7
Full-time student	25	6.9
Unemployed	9	2.5
Part-time student	2	0.5
Combination of categories	43	11.8

Table F (continued.)

Demographic characteristics of Community Sample (N = 364)

Characteristic	<i>n</i>	%
Highest level of educational achievement		
Primary school	10	2.7
Some high school	88	24.2
High school grade 12	51	14.0
TAFE or technical or trade	54	14.8
University undergraduate degree	92	25.3
University postgraduate degree	52	14.3
Other	17	4.7
Location of current residence ^d		
Queensland	337	95.6
New South Wales	2	0.6
South Australia	5	1.4
Northern Territory	4	1.1

^aOne participant did not report marital status. ^bThis participant described herself as European/Mediterranean. ^cParticipants who selected 'Combination' described themselves as Caucasian/European; Anglo/Caucasian and Asian; and Anglo/Caucasian and Aboriginal (*n* = 2). ^dThis information is based on postcode of current residence. Sixteen participants did not report their postcode.

APPENDIX G:

Weight-Related Beliefs and Attitudes Survey (Study 2)

Weight-Related Beliefs and Attitudes Survey

IMPORTANT: Before completing this survey please read the informed consent sheet. Below is the space to write your consent ID number as your indication that you consent to participate in this study. The number is located at the bottom of your Informed Consent Sheet. If you agree with the following statement, please write your ID number in the below space before beginning the survey:

I declare that I am at least 18 years of age and I hereby give my consent to participate in this study by inserting the Consent ID number from the Informed Consent Sheet into the Consent ID box below.

--	--	--	--

Thank you for agreeing to participate in this study. There are instructions at the top of each section. Please read these instructions carefully before you begin answering the questions. There are NO "right" or "wrong" answers to the questions. We simply want to know your views on issues raised in this survey. Please don't talk to others while completing the survey. We are interested in your individual opinions. Please try to answer every question. If you need any clarification regarding any of the instructions or questions please do not hesitate to contact the researcher. If you make a mistake please put a line or cross through your incorrect answer and then make another response.

For our records, could you please indicate how you found out about this study? (Please cross one option only)

- | | |
|------------------------------------------------------------------|-----------------------------------------|
| <input type="checkbox"/> Newspaper | <input type="checkbox"/> Poster or sign |
| <input type="checkbox"/> Friend or relative told you | <input type="checkbox"/> Radio |
| <input type="checkbox"/> Community group (please specify): _____ | |
| <input type="checkbox"/> Other (please specify): _____ | |

GENERAL INFORMATION

Please answer the following questions by writing your answer in the space provided or crossing the appropriate box.

Q1. Your age:

--	--

 years

Q2. Your gender: Female Male

In the spaces below please indicate your current height and weight using either metric or imperial measurements. If you are unsure of your exact height or weight, if possible, please measure these before responding, or please provide an estimate of your height or weight. You may be able to obtain your height from your Driver's License.

Q3. Your height:

--	--	--

 centimetres (cm) **OR**

--	--

 -

--	--

 feet/inches

Q4. Your weight:

--	--	--

 kilograms (kg) **OR**

--	--

 -

--	--

 stones/pounds

Q5. Marital status: (Please cross one option only)

- | | |
|---------------------------------------------------------------------------------|------------------------------------|
| <input type="checkbox"/> Never married | <input type="checkbox"/> Divorced |
| <input type="checkbox"/> Married | <input type="checkbox"/> Separated |
| <input type="checkbox"/> De Facto | <input type="checkbox"/> Widowed |
| <input type="checkbox"/> Same-sex partnership | |
| <input type="checkbox"/> Combination of above (e.g. divorced and now remarried) | |

Please specify: _____

Q6. To which of the following cultural/ethnic groups do you belong? (Please cross one option only)

- | | |
|----------------------------------------------------------------------|-----------------------------------------|
| <input type="checkbox"/> Anglo/Caucasian (white) | <input type="checkbox"/> Asian |
| <input type="checkbox"/> Aboriginal or Torres Strait Islander | <input type="checkbox"/> Middle Eastern |
| <input type="checkbox"/> Pacific Islander/Papua New Guinean/Maori | <input type="checkbox"/> African |
| <input type="checkbox"/> Central or South American | <input type="checkbox"/> North American |
| <input type="checkbox"/> Combination of above (please specify) _____ | |
| <input type="checkbox"/> Other (please specify) _____ | |

Q7. What is your employment status? (Please cross one option only)

- | | |
|----------------------------------------------------------------------------------------------|--------------------------------------------|
| <input type="checkbox"/> Employed full-time | <input type="checkbox"/> Student full-time |
| <input type="checkbox"/> Employed part-time or casual | <input type="checkbox"/> Student part-time |
| <input type="checkbox"/> Unemployed | <input type="checkbox"/> Retired |
| <input type="checkbox"/> Homemaker | |
| <input type="checkbox"/> Combination of above (e.g. full-time student and working part-time) | |
| Please specify: _____ | |

Q8. If you are employed, what is main your occupation? If you are retired, what was your main occupation?

Q9. If you are employed or retired, briefly note the main tasks you do (or did) in your main occupation:

Q10. What is the highest level of education you have achieved? (Please cross one option only)

- | | |
|-------------------------------------------------------|----------------------------------------------------------|
| <input type="checkbox"/> Primary school | <input type="checkbox"/> TAFE/technical or trade |
| <input type="checkbox"/> Some High School | <input type="checkbox"/> University undergraduate degree |
| <input type="checkbox"/> High School - Grade 12 | <input type="checkbox"/> University postgraduate degree |
| <input type="checkbox"/> Other (please specify) _____ | |

Q11. Do you currently reside in Australia? (Please cross yes or no and then complete the related question)

- | | | | | | |
|------------------------------|-----------------------------------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|
| <input type="checkbox"/> Yes | If yes, please provide your Australian postcode: | <input type="text" value=""/> | <input type="text" value=""/> | <input type="text" value=""/> | <input type="text" value=""/> |
| <input type="checkbox"/> No | If no, please indicate which country you reside in: _____ | | | | |

MCSD-C

3

Listed below are a number of statements concerning personal attitudes and traits. Read each item and decide whether the statement is true or false as it pertains to you. Cross either True or False for each statement.

- | | TRUE | FALSE |
|---------------------------------------------------------------------------------------------------------------------------|--------------------------|--------------------------|
| 1. It is sometimes hard for me to go on with my work if I am not encouraged. _____ | <input type="checkbox"/> | <input type="checkbox"/> |
| 2. I sometimes feel resentful when I don't get my way. _____ | <input type="checkbox"/> | <input type="checkbox"/> |
| 3. On a few occasions, I have given up doing something because I thought too little of my ability. _____ | <input type="checkbox"/> | <input type="checkbox"/> |
| 4. There have been times when I felt like rebelling against people in authority even though I knew they were right. _____ | <input type="checkbox"/> | <input type="checkbox"/> |
| 5. No matter who I'm talking to, I'm always a good listener. _____ | <input type="checkbox"/> | <input type="checkbox"/> |
| 6. There have been occasions when I took advantage of someone. _____ | <input type="checkbox"/> | <input type="checkbox"/> |
| 7. I'm always willing to admit it when I make a mistake. _____ | <input type="checkbox"/> | <input type="checkbox"/> |
| 8. I sometimes try to get even, rather than forgive and forget. _____ | <input type="checkbox"/> | <input type="checkbox"/> |
| 9. I am always courteous, even to people who are disagreeable. _____ | <input type="checkbox"/> | <input type="checkbox"/> |
| 10. I have never been irked when people expressed ideas very different from my own. _____ | <input type="checkbox"/> | <input type="checkbox"/> |
| 11. There have been times when I was quite jealous of the good fortune of others. _____ | <input type="checkbox"/> | <input type="checkbox"/> |
| 12. I am sometimes irritated by people who ask favours of me. _____ | <input type="checkbox"/> | <input type="checkbox"/> |
| 13. I have never deliberately said something that hurt someone's feelings. _____ | <input type="checkbox"/> | <input type="checkbox"/> |

PARTICIPANT WEIGHT INFORMATION

The following questions concern your thoughts and feelings about your own body weight and your weight-related behaviours. Please respond by writing your response in the space provided, or by crossing the response option that best describes your thoughts, feelings, and behaviours.

Q1. What is your ideal weight? kilograms (kg) **OR** - stones/pounds

Q2. What is the most you have ever weighed? (excluding pregnancy)
 kilograms (kg) **OR** - stones/pounds

Q3. How would you describe yourself? (Please cross the most appropriate response)

<input type="checkbox"/> extremely overweight	<input type="checkbox"/> moderately overweight	<input type="checkbox"/> slightly overweight	<input type="checkbox"/> average weight	<input type="checkbox"/> slightly underweight	<input type="checkbox"/> moderately underweight	<input type="checkbox"/> extremely underweight
-----------------------------------------------------	------------------------------------------------------	----------------------------------------------------	-----------------------------------------------	-----------------------------------------------------	-------------------------------------------------------	------------------------------------------------------

Q4. How satisfied are you with your current weight? (Please cross the most appropriate response)

<input type="checkbox"/> extremely satisfied	<input type="checkbox"/> satisfied	<input type="checkbox"/> slightly satisfied	<input type="checkbox"/> neither satisfied nor dissatisfied	<input type="checkbox"/> slightly dissatisfied	<input type="checkbox"/> dissatisfied	<input type="checkbox"/> extremely dissatisfied
----------------------------------------------------	---------------------------------------	---------------------------------------------------	----------------------------------------------------------------------	------------------------------------------------------	------------------------------------------	-------------------------------------------------------

Q5. How important is your appearance (the way you look) to you? (Please cross the most appropriate response)

<input type="checkbox"/> extremely important	<input type="checkbox"/> important	<input type="checkbox"/> slightly important	<input type="checkbox"/> neither important nor unimportant	<input type="checkbox"/> slightly unimportant	<input type="checkbox"/> unimportant	<input type="checkbox"/> extremely unimportant
----------------------------------------------------	---------------------------------------	---------------------------------------------------	---------------------------------------------------------------------	-----------------------------------------------------	-----------------------------------------	------------------------------------------------------

Q6. How important is your health to you? (Please cross the most appropriate response)

<input type="checkbox"/> extremely important	<input type="checkbox"/> important	<input type="checkbox"/> slightly important	<input type="checkbox"/> neither important nor unimportant	<input type="checkbox"/> slightly unimportant	<input type="checkbox"/> unimportant	<input type="checkbox"/> extremely unimportant
----------------------------------------------------	---------------------------------------	---------------------------------------------------	---------------------------------------------------------------------	-----------------------------------------------------	-----------------------------------------	------------------------------------------------------

FOF

4

The following statements regard your thoughts and feelings about your own body weight and weight-related behaviours. Please cross one response to indicate the degree to which you agree or disagree with each statement.

	Strongly disagree	Disagree	Slightly disagree	Neither agree nor disagree	Slightly agree	Agree	Strongly agree
1. I worry about becoming fat (or fatter). _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. I feel disgusted with myself when I gain weight. _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. One of the worst things that could happen to me would be if I gained 10 kilograms (or 25 pounds). _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

WLOC

The following statements regard your thoughts and feelings about your own body weight and weight-related behaviours. Please cross one response to indicate the degree to which you agree or disagree with each statement.

	Strongly disagree	Disagree	Slightly disagree	Neither agree nor disagree	Slightly agree	Agree	Strongly agree
1. Whether I gain, lose or maintain my weight is entirely up to me. _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. If I eat properly, and get enough exercise and rest, I can control my weight in the way I desire. _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. I am directly responsible for my weight. _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. My losing weight is simply a matter of me wanting to do it and applying myself. _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

WEIGHT ATTITUDES

ARTFP

The following statements regard your feelings toward fat persons in general. Please cross a response to indicate the degree to which you agree or disagree with each statement.

	Strongly disagree	Disagree	Slightly disagree	Neither agree nor disagree	Slightly agree	Agree	Strongly agree
1. I feel pity for fat persons. _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. I feel much anger toward fat persons. _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. I feel disgust toward fat persons. _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. I feel sympathy for fat persons. _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. I feel frustration toward fat persons. _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. I feel sorry for people who are fat. _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

AFAS

5

The following statements regard your attitudes and opinions about fatness and people who are fat. Please cross one response to indicate the degree to which you agree or disagree with each statement.

		Strongly disagree	Disagree	Slightly disagree	Neither agree nor disagree	Slightly agree	Agree	Strongly agree
1. Fat people are less sexually attractive than thin people. _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. I would never date a fat person. _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. On average, fat people are lazier than thin people. _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Fat people have only themselves to blame for their weight. _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. It is disgusting when a fat person wears a bathing suit at the beach. _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

DFPS

The following statements regard your attitudes and opinions about fatness and people who are fat. Please cross one response to indicate the degree to which you agree or disagree with each statement.

		Strongly disagree	Disagree	Slightly disagree	Neither agree nor disagree	Slightly agree	Agree	Strongly agree
1. I really don't like fat people much. _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. I tend to think that people who are overweight are a little untrustworthy. _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Although some fat people are surely smart, I think they tend not to be quite as bright as normal weight people. _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. I have a hard time taking fat people too seriously. _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. I don't have many friends who are fat. _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. Fat people make me feel somewhat uncomfortable. _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. If I were an employer looking to hire, I might avoid hiring a fat person. _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

PAFAS

6

The following statements regard your attitudes and opinions about fatness and people who are fat. Please cross one response to indicate the degree to which you agree or disagree with each statement.

	Strongly disagree	Disagree	Slightly disagree	Neither agree nor disagree	Slightly agree	Agree	Strongly agree
1. Fat people who do not desire weight loss should be respected and not be encouraged to lose weight. _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. If someone truly cares about a fat person they will persuade him or her to diet and exercise to lose weight. _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. As fat people are incapable of maintaining normal weight, they should be helped to lose weight. _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. All fat people should be put on a diet for their own good. _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. Fat people require dietary and weight loss advice more than persons who are not fat. _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. Due to the health risks associated with excess weight, fat people should be encouraged to lose weight. _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. Fat persons who try to lose weight are more deserving of medical treatment than fat persons who do not try to lose weight. _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. Being fat is not a serious problem unless it causes or aggravates a person's medical condition. _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. A fat person's opinions about their weight and weight loss should be taken into account by those trying to help them. _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10. Another person's weight is not my concern. _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11. Health intervention should focus on health at any weight, rather than weight reduction. _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12. Sometimes it is acceptable to push a fat person to lose weight. _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13. Friends and family of fat persons should not encourage them to reduce weight. _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14. Health professionals should provide fat persons with advice on diet and exercise, regardless of whether they are seeking such advice. _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15. Health professionals should be able to withhold medical treatment from fat persons who are not prepared to improve their health by losing weight. _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
16. As fat people have difficulty losing weight through their own efforts, their eating may need to be supervised by someone else. _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
17. Health professionals urge fat people to lose weight because they care about fat peoples' health. _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

PAFAS cont.

7

	Strongly disagree	Disagree	Slightly disagree	Neither agree nor disagree	Slightly agree	Agree	Strongly agree
18. Fat people should be encouraged to lose weight so they could have more of a place in society. _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
19. To help fat people lose weight it is often necessary to make them realise that they are fat as a result of their own behaviour. _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
20. It is never acceptable for health professionals to use scare tactics to get fat persons to lose weight. _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
21. In order to help fat people lose weight, it is often necessary to disregard their opinions about their weight, as they find it difficult to be truthful about how much they eat and exercise. _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

WEIGHT BELIEFS

BAOP

The following statements regard your beliefs about fatness and people who are fat. Please cross one response to indicate the degree to which you agree or disagree with each statement.

	Strongly disagree	Disagree	Slightly disagree	Neither agree nor disagree	Slightly agree	Agree	Strongly agree
1. Fatness often occurs when eating is used as a form of compensation for lack of love or attention. _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. In many cases, fatness is the result of a biological disorder. _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Fatness is usually caused by overeating. _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Most fat people cause their problem by not getting enough exercise. _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. Most fat people eat more than non-fat people. _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. The majority of fat people have poor eating habits that lead to their fatness. _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. Fatness is rarely caused by lack of willpower. _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. People can be addicted to food, just as others are addicted to drugs, and these people usually become fat. _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. Some people are fat because they have no willpower. _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10. Fat people tend to be fat pretty much through their own fault. _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

STAB

8

The following statements regard your beliefs about fatness and people who are fat. Please cross one response to indicate the degree to which you agree or disagree with each statement.

	Strongly disagree	Disagree	Slightly disagree	Neither agree nor disagree	Slightly agree	Agree	Strongly agree
1. Fat people fail to lose weight because they don't stick with their diets. _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Some people continue to be fat because they have no willpower. _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Fatness is readily changed if one chooses. _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Most fat people can lose weight if they change their eating habits. _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. Fat people can lose weight if only they try hard enough. _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. It is hard to lose a large amount of weight. _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. People who weigh too much could lose at least part of their weight through a little exercise. _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. It is not easy for a fat person to lose weight. _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. Many people who lose weight will regain it. _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10. It is impossible for many fat people to become normal weight. _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11. Weight loss is only a matter of changing one's lifestyle. _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12. Diets simply do not work in the longer term. _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

WNTCH

The following statements regard your beliefs about fatness and people who are fat. Please cross one response to indicate the degree to which you agree or disagree with each statement.

	Strongly disagree	Disagree	Slightly disagree	Neither agree nor disagree	Slightly agree	Agree	Strongly agree
1. Most fat people are dissatisfied with themselves. _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Very few people are ashamed of being fat. _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Many fat people are happy with their weight. _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. No one wants to be fat. _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. Inside every fat person is a thin person trying to emerge. _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. Fat people are distressed by their weight and the shape of their bodies. _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. Fat people want to become normal weight. _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

CHBENE

9

The following statements regard your beliefs about fatness and people who are fat. Please cross one response to indicate the degree to which you agree or disagree with each statement.

	Strongly disagree	Disagree	Slightly disagree	Neither agree nor disagree	Slightly agree	Agree	Strongly agree
1. Weight loss is not necessarily evidence of improved health. _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Weight reduction may make fat persons more acceptable to others. _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. If a fat person loses weight, he/she is more likely to succeed in life. _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Weight loss may not improve an individual's quality of life. _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. Although I am accepting of people regardless of their body size and shape, I think that fat people would enjoy life more if they lost weight. _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. Fat people would feel better about themselves if they lost weight. _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. A fat person would become more attractive to others if he/she lost weight. _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. Fat people would have more satisfying relationships if they lost weight. _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. Fat people would be healthier if they lost weight. _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

SOCCOMP

The following statements regard your beliefs about fatness and people who are fat. Please cross one response to indicate the degree to which you agree or disagree with each statement.

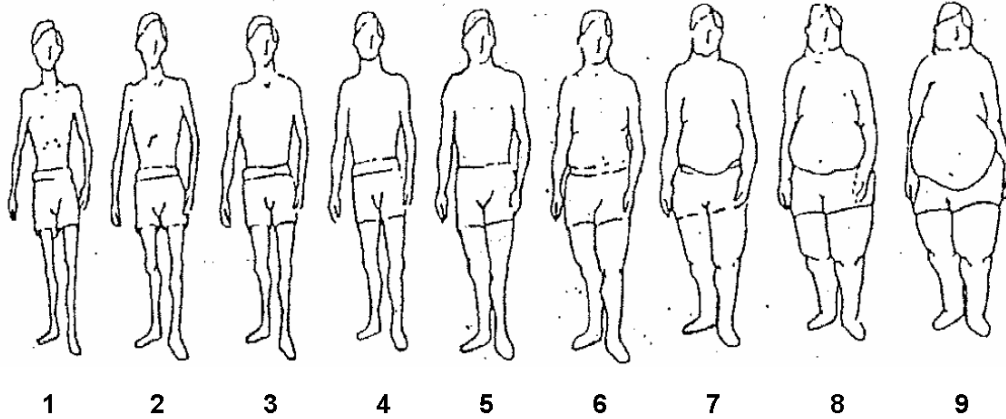
	Strongly disagree	Disagree	Slightly disagree	Neither agree nor disagree	Slightly agree	Agree	Strongly agree
1. Non-fat people tend to be more tolerant than fat people. _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Fat people are usually sociable. _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Fat people tend to be less independent than other people. _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. I find that fat people are less intelligent than non-fat people. _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. Fat people are less driven to succeed than other people. _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. Fat people are just as confident as other people. _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. Most fat people tend to be good-natured. _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. Fat people tend to be warm and friendly towards others. _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. Fat people are generally pleasant to talk to. _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

DEFINING FAT

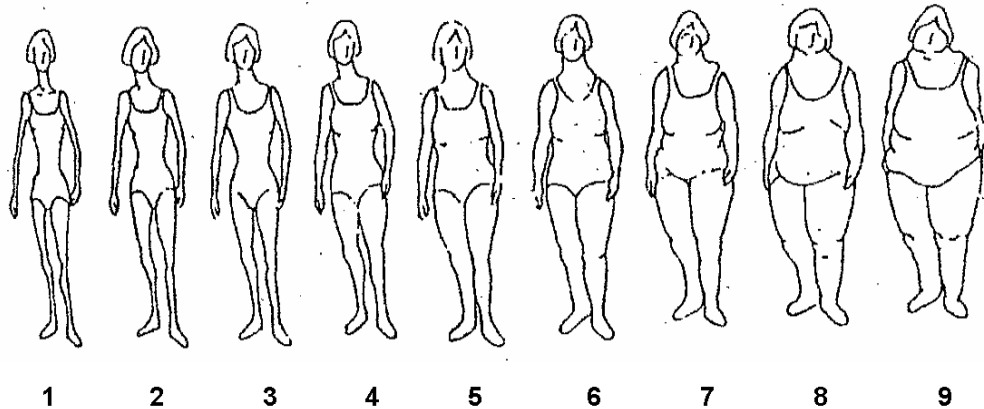
10

Below are silhouette drawings of males and females of various body weights. We are interested in finding out what you consider to be fat.

Please indicate ALL of the male drawings which you consider to be fat. To do this, circle the number underneath EACH drawing you consider to be fat:



Please indicate ALL of the female drawings which you consider to be fat. To do this, circle the number underneath EACH drawing you consider to be fat:



Do you have any other comments about weight or fatness (or the survey) that you would like to share with us?

Thank you for participating in this study. We appreciate your assistance.

APPENDIX H: Study 2 Letters and Forms

H.1 Cover Letter

Michelle Parry
Department of Psychology, Faculty of Sciences
University of Southern Queensland
Phone: 0417 004 019
Email: parrym@usq.edu.au

March 2005

Dear Participant,

Re: Participation in Weight-related Beliefs and Attitudes Research

Thank you for your interest in participating in my PhD (Doctor of Philosophy) research. Please find enclosed a copy of my *Weight-Related Beliefs and Attitudes Survey*. The survey takes about 20-30 minutes to complete. The yellow *Informed Consent Sheet for Weight-Related Beliefs and Attitudes Study* provides you with more information about the study. Please read this sheet prior to completing survey and follow consent instructions. If you don't provide consent I will not be able to use your survey responses.

Once you have completed the survey please post it using the reply paid envelope provided (no stamp required). If you decide not to complete the survey please return it also. Please return the survey within three weeks. I will still accept surveys after that time, but it would be helpful to receive some surveys early so I can begin data entry.

The word 'fat' is used in this study to describe people in higher weight ranges. It is not my intention to insult fat people or cause offense. I have chosen to use this word as it best describes the group of people I am interested in. Overweight and obese are medical terms used to describe people of particular degrees of overweight whereas fat is a social term which may be used to describe both overweight and obese people. I have not provided a definition of 'fat' – you are likely to have your own opinion about which people are fat. Please answer the survey questions based on your own definition of 'fat'.

To better understand weight-related attitudes I would like as many people to participate as possible. If you know of other people who would be willing to complete my survey please ask them to contact me. Anyone in Australia can participate as long as they are over 18 years.

If you have any queries at all before or whilst completing the survey, please do not hesitate to contact me on 0417 004 019, or via email at parrym@usq.edu.au.

The attached form provides you with an opportunity to receive feedback and enter a draw for cash prizes.

Thank you again for your participation.

Yours sincerely,



Michelle Parry [BSc (Hons)]

H.2 Feedback & Prize Draw Entry Form

In order to thank you for your participation, I would like to give you the opportunity to be entered into a draw for cash prizes, ranging from \$25 to \$100. These prizes are drawn at the end of each university semester and entry is available to all participants of research conducted by the Department of Psychology at the University of Southern Queensland.

Would you like to be entered in the draw for cash prizes? Yes No

If interested you can receive feedback about the results of study. This feedback will consist of more specific information about the aims of the study and summary of results of the study.

Would you like to receive feedback about study? Yes No

If you answered yes to either of the questions above, please write your name, address (and/or email address), and phone number in the space below.

PLEASE USE BLOCK LETTERS

Name: _____

Address: _____

Phone: _____

Email address: _____

Please detach this form and return it with survey.

The above details will be separated from your completed survey as soon as I receive them, and will be stored separately from your survey to protect your confidentiality.

H.3 Informed Consent Form

DEPARTMENT OF PSYCHOLOGY
FACULTY OF SCIENCES
UNIVERSITY OF SOUTHERN QUEENSLAND

Informed Consent Sheet for Weight-Related Beliefs and Attitudes Study

IMPORTANT: Please read this sheet before completing the survey.

You are being invited to participate in psychological research investigating weight-related beliefs and attitudes. This study is part of Doctor of Philosophy (PhD) research being conducted by Michelle Parry under supervision of Dr Nola Passmore and Dr Murray Thompson at the University of Southern Queensland (USQ). If you agree to participate you will be asked to complete a survey that examines your weight-related beliefs and attitudes. You will be asked about your thoughts and feelings about your weight and weight-related behaviours, and asked to provide general information about yourself. You will also be asked to respond to belief and attitude statements about fatness and people who are fat (e.g., beliefs about why some people are fat). It is anticipated that this study will enable greater understanding of societal beliefs and attitudes regarding weight. Participation will enable you to reflect upon your weight-related attitudes and beliefs, and express your views.

Your responses are anonymous and confidential: We are interested in examining overall patterns of responses obtained from all participants, rather than your individual responses. As such, your survey responses will be obtained in an anonymous manner - there will be no way of linking your responses with you personally as you will not be asked to provide identifying information on survey (e.g., name). Furthermore, your responses will not be handled in any way that would threaten your anonymity. Any personally identifying information obtained will be processed and stored separately from your survey data to protect your confidentiality (e.g., you may supply your name and address to obtain feedback).

Your participation is completely voluntary: You are under no obligation to participate and may withdraw from this study now or at any time, without any consequences.

The survey usually takes 20-30 minutes to complete. If you have any questions about the study you can contact the principal researcher, Michelle Parry on 0417 004 019 or email at parrym@usq.edu.au. The USQ Human Research Ethics Committee has assessed this research project and provided ethical clearance for its conduct. If you have concerns regarding implementation of this project, you can contact The Secretary, USQ Human Research Ethics Committee on (07) 4631 2956.

Feedback: If you would like to receive feedback on completion of this study please complete the *Feedback & Prize Draw Entry form* and return it with your completed survey. This feedback will consist of more specific information about the aims of the study and summary of results of the study. This feedback will be sent to interested participants before the end of 2005.

Take a moment now to consider your participation in this study. After reading the above information, if you consent to participate in this study, please write your Consent ID number (see below) onto the cover page of the survey (in boxes provided).

After consenting to participate you may begin survey. Please keep this sheet for future reference.

Consent ID number: **X X X X**

Thank you for your participation,

Michelle Parry [BSc (Hons)]

Dr Nola Passmore (PhD Supervisor, Lecturer, USQ)

Dr Murray Thompson (PhD Supervisor, Senior Lecturer, USQ)

H.4 Letter to Community Organisation Leader

Michelle Parry
 Department of Psychology, Faculty of Sciences
 University of Southern Queensland
 Phone: 0417 004 019
 Email: parrym@usq.edu.au

March 2005

<<Name>>

<<Address>>

<<Address>>

Dear <<Name>>

Re: Participation in Weight-related Beliefs and Attitudes Research

I am writing to ask if your community group would be interested in participating in my research study on weight-related beliefs and attitudes. This study is part of my Doctor of Philosophy (PhD) research being conducted under supervision of Dr Nola Passmore and Dr Murray Thompson at the University of Southern Queensland.

The study involves responding to a survey which takes 20-30 minutes to complete. The survey includes items asking about participants thoughts and feelings about their weight and weight-related behaviours, and belief and attitude statements about fatness and people who are fat (e.g., why some people are fat). Participants will also be asked to provide general information about themselves (e.g., age). It is anticipated that this study will enable greater understanding of social beliefs and attitudes regarding weight. Participation will enable participants to reflect upon their weight-related attitudes and beliefs, and express their views. In order to better understand our community's weight-related attitudes I would like as many people to participate as possible. Anyone can participate as long as they are over 18 years. All participants will be offered an opportunity to be entered into a draw for cash prizes of up to \$100.

There are several ways that your community group or organisation could participate. I can come along to group meeting/s, talk about the study and give people surveys which they can return later (reply paid). Alternatively I can provide you with surveys which you can distribute to your members. Since every organisation operates differently, I would be open to suggestions about how best to give your members an opportunity to participate in the study if they wish to do so.

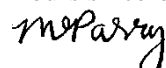
I have included survey, cover letter and informed consent sheet for your perusal. I am ethically bound to ensure participants know participation is voluntary and responses are anonymous. Where participants supply me with their details to receive feedback or enter prize draw, I ensure details and surveys are stored separately so survey responses remain confidential.

The word 'fat' is used in this study to describe people in higher weight ranges. It is not my intention to insult fat people or cause offense. I have chosen to use this word as it best describes the group of people I am interested in. I have discussed this issue in more detail in cover letter.

If your group is willing to participate I ask you to complete *Permission to Recruit Participants from Organisation* form attached. This form can be returned in the replied paid envelope enclosed along with survey. Regardless of whether or not members of your group participate in my study I would appreciate it if you would return survey – completed or not. Thank you.

If you would like any further information about the study, please contact me on 0417 004 019, or via email at parrym@usq.edu.au. I will contact you after you have had a chance to consider your participation. I look forward to discussing the project with you.

Yours sincerely,



Michelle Parry [BSc (Hons)]

H.5 Permission to Recruit Participants from Organisation

Michelle Parry
Department of Psychology, Faculty of Sciences
University of Southern Queensland
Phone: 0417 004 019
Email: parrym@usq.edu.au

Permission to Recruit Participants from Organisation

I certify that I am familiar with the Weight-Related Beliefs and Attitudes study being conducted by Michelle Parry (Department of Psychology, University of Southern Queensland) as part of her Doctor of Philosophy (PhD) research. I have read the *Informed Consent Sheet for Weight-Related Beliefs and Attitudes Study*. I understand that participation in this study is anonymous and voluntary, and that any personal details of participants will be handled in a confidential manner.

As the _____ (position) of _____
(organisation) I hereby give permission to Michelle Parry to recruit participants from the above stated organisation for the purposes of conducting her PhD research.

Signature

Date

APPENDIX I: Study 2 Scale Analyses

I.1 Exploratory Factor Analysis and Reliability Analysis

As for Study 1, exploratory factor analysis and reliability analysis were performed to explore the dimensionality and internal consistency of scores on the multi-item weight attitudes and weight beliefs measures. The results of these analyses were used to refine these measures in order to develop reliable scale and subscale scores. For measures revised for Study 2 (see chapter 11), factor analysis was used to explore the utility of the scale revisions. Additionally, for unrevised measures, these analyses were performed to examine the replicability of the factor solutions generated in Study 1. The results of the factor analyses are only reported for solutions that were inconsistent with the findings of Study 1, or for scales for which new items were developed for Study 2. The reliabilities of scale scores for which factor analytic results are not presented in this appendix are provided in Table 12.1 in chapter 12.

I.1.1 Extraction, Rotation, and Interpretation

All exploratory factor analyses were performed using principal axis factor (PAF) extraction. When multiple factors were extracted, Promax rotation was used to enhance the interpretability of solutions. Gorsuch (2003) suggests that Promax rotation produces reliable factor solutions for both correlated and uncorrelated factors. As discussed in Appendix D, eigenvalues, scree tests, and parallel analyses were used to determine the number of factors to extract, and interpretability and theoretical plausibility were considered in deciding on the most appropriate number of factors to retain.

Items with factor loadings less than .40 were not considered in the interpretation of factor solutions for Study 2; however, some items with loadings less than .40 were retained in the scales or subscales. This occurred when final Study 2 scales were based on factor analytic results from Study 1. Items that had complex factor loadings of similar magnitude on more than one factor were not retained, in order to enhance interpretability of the factor solution (Tabachnick & Fidell, 1996). For solutions with correlated factors, the pattern matrix was interpreted. Factors

were deemed to be substantially correlated if the correlation was equal to or greater than .32 (Tabachnick & Fidell, 1996).

Following factor analysis, Cronbach's coefficient alpha was calculated as an estimate of the reliability of scores on each scale or subscale. Prior to discussing the results of exploratory factor analyses and reliability estimates, the assumptions of multicollinearity and singularity, and the factorability of the correlation matrices for factor analysis will be discussed.

1.1.2 Evaluation of Assumptions of Exploratory Factor Analysis

1.1.2.1 Multicollinearity and Singularity

Multicollinearity and singularity were assessed by examining the determinant of the correlation matrix for each factor analysis. Tabachnick and Fidell (1996) suggest that multicollinearity may be present when the determinant is zero to several decimal places. For most of the factor analyses, the determinant did not approach zero, so multicollinearity and singularity did not appear to be present. For analyses where the determinant was zero to two decimal places, the squared multiple correlations (SMCs) between items were examined. The highest SMC for items in these analyses was .73, and therefore, multicollinearity did not seem to be present.

1.1.2.2 Factorability of Correlation Matrices

The factorability of the correlation matrices was assessed by examining bivariate correlations, the anti-image correlation matrix (AIC), and the Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy. All correlation matrices had several bivariate correlations exceeding .30. Correlation matrices for all reported factor analyses are provided in this appendix. These tables are provided for reference only and will not be referred to in the discussion of scale analyses. Measures of sampling adequacy (MSA) contained in the AIC were greater than .5 for all items in all factor analyses, except for one item in the Benefits Scale (see section I.1.4.3). In addition, the KMO measure of sampling adequacy for each analysis was equal to or greater than .6. These results suggest that the correlation matrices for scale items were suitable for factor analysing for the factor analyses conducted.

I.1.3 Weight Attitudes Measures

I.1.3.1 Affective Reactions to Fat Persons Scale

An initial factor analysis was conducted on the combined Pity and Anger subscale-Revised items (see Table C2.2 in Appendix C) to examine the communalities and determine the utility of factor analysing the combined items. In contrast to Study 1, all Pity and Anger subscale-Revised items had substantial SMCs with other items, ranging from .36 to .59. Two uncorrelated ($r = .15$) factors were extracted accounting for 61.7% of the variance in the six items. The three Pity items loaded on Factor 1, with loadings ranging from .73 to .88. Cronbach's alpha estimate for this 3-item Pity subscale was .84. The three Anger subscale-Revised items loaded on Factor 2, with loadings ranging from .63 to .84 (see Table I2). Cronbach's alpha for a scale including all three Anger subscale items was .78.

Table I1

Inter-correlations between Pity and Anger Subscale Items (N = 354)

Items	1	2	3	4	5
1. Pity 1	–				
2. Pity 2	.57**	–			
3. Pity 3	.66**	.69**	–		
4. Anger 1	.11*	-.03	.10	–	
5. Anger 2	.10	-.01	.11*	.65**	–
6. Anger 3	.16**	.14**	.22**	.54**	.51**

Note. KMO = .71.

* $p < .05$. ** $p < .01$.

Table I2
Factor Loadings of Pity and Anger Subscale Items for Two-Factor Solution
 (N = 354)

Item	Factor Loadings	
	Pity	Anger
Pity Subscale Items		
1. I feel much pity for fat persons.	.73	.05
2. I feel sympathy for fat persons.	.80	-.09
3. I feel sorry for people who are fat.	.88	.05
Anger Subscale Items		
1. I feel much anger toward fat persons.	-.06	.83
2. I feel disgust toward fat persons.	-.04	.77
3. I feel frustration toward fat persons.	.12	.63

Note. Factor loadings over .40 appear in bold.

1.1.3.2 Dislike Scale

As in Study 1, two correlated factors ($r = .70$) were extracted. These two factors accounted for 61.7% of the variance in the seven Dislike scale items, and were again interpreted as Negative Evaluation and Social Distance. The pattern of item loadings was consistent with Study 1 loadings for all items except item 1 (see Table I4). Although item 1 (“I really don’t like fat people much”) loaded on the Negative Evaluation factor for Study 1, item 1 loaded on the Social Distance factor for Study 2. The loading of item 1 did not greatly change the interpretation of either factor, as this item could reflect either social distance from fat persons or negative evaluation of fat persons. Despite the different pattern of loadings for item 1 in Study 2, Dislike subscales were constructed based on the two-factor structure found in Study 1 to maintain consistency across Studies 1 and 2. Cronbach’s alpha estimate for the 4-item Negative Evaluation subscale was .86, and Cronbach’s alpha for the 3-item Social Distance subscale was .73. The items included in the Negative Evaluation and Social Distance subscales are shown in Table C3 in Appendix C.

Table I3
Inter-correlations between Dislike Scale Items (N = 354)

Items	1	2	3	4	5	6
Item 1	–					
Item 2	.54**	–				
Item 3	.46**	.73**	–			
Item 4	.56**	.72**	.78**	–		
Item 5	.46**	.34**	.39**	.41**	–	
Item 6	.61**	.47**	.49**	.63**	.50**	–
Item 7	.50**	.37**	.38**	.45**	.46**	.53**

Note. KMO = .86.

** $p < .01$.

Table I4
Factor Loadings of Dislike Scale Items for Two-Factor Solution (N = 354)

Item	Factor Loadings	
	Negative Evaluation	Social Distance
1. I really don't like fat people much.	.15	.63
2. I tend to think that people who are overweight are a little untrustworthy.	.83	-.01
3. Although some fat people are surely smart, I think they tend not to be quite as bright as normal weight people.	.93	-.07
4. I have a hard time taking fat people too seriously.	.77	.16
5. I don't have many friends who are fat.	-.03	.66
6. Fat people make me feel somewhat uncomfortable.	.08	.75
7. If I were an employer looking to hire, I might avoid hiring a fat person.	-.06	.72

Note. Factor loadings over .40 appear in bold.

1.1.3.3 Paternalistic Anti-Fat Attitudes Scale (PAFAS)

One factor was extracted accounting for 24.7% of the variance in the 21 PAFAS items. Fourteen of the 21 items loaded greater than .40 on the factor, with factor loadings ranging from .46 to .70 (see Table I5). Items 8, 9, 10, 11, 15, 17, 20 did not load on the factor. The pattern of factor loadings was consistent across Studies 1 and 2, except that item 13 did not load on the Paternalistic factor in Study 1, but did so in Study 2, and item 15 loaded substantially on the Paternalistic factor in Study 1, but marginally below .40 in Study 2. As there was little difference between the factor solutions for Studies 1 and 2 and to maintain consistency across the studies, the PAFAS for Study 2 consisted of the 14 items that loaded on the Paternalistic factor in Study 1. Cronbach's alpha estimate for 14-item PAFAS was .87.

Table I5

Factor Loadings of PAFAS Items for One-Factor Solution (N = 354)

Item	Factor Loadings
1. Fat people who do not desire weight loss should be respected and not be encouraged to lose weight. (-)	.50
2. If someone truly cares about a fat person they will persuade him or her to diet and exercise to lose weight.	.70
3. As fat people are incapable of maintaining normal weight, they should be helped to lose weight.	.66
4. All fat people should be put on a diet for their own good.	.69
5. Fat people require dietary and weight loss advice more than persons who are not fat.	.55
6. Due to the health risks associated with excess weight, fat people should be encouraged to lose weight.	.51
7. Fat persons who try to lose weight are more deserving of medical treatment than fat persons who do not try to lose weight.	.49
8. Being fat is not a serious problem unless it causes or aggravates a person's medical condition. (-)	.22
9. A fat person's opinions about their weight and weight loss should be taken into account by those trying to help them. (-)	.18

Table I5 (continued).
Factor Loadings of PAFAS Items for One-Factor Solution (N = 354)

Item	Factor Loadings
10. Another person's weight is not my concern. (-)	.34
11. Health intervention should focus on health at any weight, rather than weight reduction. (-)	.12
12. Sometimes it is acceptable to push a fat person to lose weight.	.55
13. Friends and family of fat persons should not encourage them to reduce weight. (-)	.46
14. Health professionals should provide fat persons with advice on diet and exercise, regardless of whether they are seeking such advice.	.62
15. Health professionals should be able to withhold medical treatment from fat persons who are not prepared to improve their health by losing weight.	.39
16. As fat people have difficulty losing weight through their own efforts, their eating may need to be supervised by someone else.	.55
17. Health professionals urge fat people to lose weight because they care about fat peoples' health.	.33
18. Fat people should be encouraged to lose weight so they could have more of a place in society.	.58
19. To help fat people lose weight it is often necessary to make them realise that they are fat as a result of their own behaviour.	.62
20. It is never acceptable for health professionals to use scare tactics to get fat persons to lose weight. (-)	.25
21. In order to help fat people lose weight, it is often necessary to disregard their opinions about their weight, as they find it difficult to be truthful about how much they eat and exercise.	.55

Note. Items followed by a minus sign were reverse scored. Factor loadings over .40 appear in bold.

1.1.4 Weight Beliefs Measures

1.1.4.1 Controllability Scale-Revised

Factor analyses were conducted on the eight Beliefs About Fat Persons Scale (BAFP) items, AFAS item 4, and the two additional Controllability items developed for Study 2. Two correlated factors ($r = .45$) were extracted explaining 37.5% of the variance in the 11 items. BAFP items 3, 4, 5, and 6 loaded on Factor 1, with AFAS item 4 and both new Controllability items (BAFP items 9 and 10). The two new

Table I6
Inter-correlations between PAFAS Items (N = 354)

Item	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
1	-																			
2	.33**	-																		
3	.32**	.58**	-																	
4	.41**	.49**	.54**	-																
5	.21	.41**	.38**	.35**	-															
6	.29**	.44**	.43**	.30**	.28**	-														
7	.20**	.33**	.27**	.33**	.35**	.23**	-													
8	.27**	.17**	.04	.19**	.07	.20**	-.01	-												
9	.17**	.05	.07	.23**	.11*	-.10	.14**	.06	-											
10	.25**	.29**	.16**	.23**	.14*	.17**	.12*	.24**	.07	-										
11	.13*	.08	.07	.07	.13*	-.02	-.06	.21**	.25**	.12*	-									
12	.26**	.36**	.34**	.38**	.30**	.26**	.28**	-.03	.11*	.25**	.04	-								
13	.34**	.36**	.31**	.22**	.18**	.35**	.22**	.17**	-.03	.24**	-.05	.26**	-							
14	.30**	.36**	.35**	.45**	.34**	.31**	.29**	.22**	.11*	.29**	.10	.41**	.29**	-						
15	.20**	.19**	.18**	.27**	.16**	.21**	.38**	.05	.17**	.16**	.14**	.14**	.16**	.28**	-					
16	.22**	.39**	.40**	.37**	.24**	.28**	.29**	.07	.04	.15**	.02	.31**	.24**	.31**	.20**	-				
17	.13*	.21**	.20**	.22**	.14**	.31**	.20**	.09	-.12*	.14**	-.01	.20**	.20**	.14*	.09	.27**	-			
18	.23**	.41**	.43**	.39**	.46**	.23**	.36**	.08	.17**	.07	.05	.26**	.21**	.33**	.26**	.30**	.13*	-		
19	.29**	.37**	.35**	.39**	.34**	.26**	.29**	.17**	.11*	.14**	.03	.36**	.28**	.42**	.21**	.40**	.27**	.46**	-	
20	.12*	.13*	.04	.19**	.14**	.01	.14**	.09	.14**	.09	.14**	.24**	.08	.21**	.20**	.14	.19**	.05	.24**	-
21	.24**	.37**	.34**	.35**	.32**	.20**	.25**	.03	.20**	.10	.13*	.34**	.24**	.38**	.26**	.35**	.10	.34**	.42**	.09

Note. KMO = .87. * $p < .05$. ** $p < .01$.

Controllability items were included to clarify the interpretation of the Controllability factor. The loadings of BAFP items 9 and 10 on Factor 1, support interpretation of Factor 1 as reflecting general controllability of fatness, rather than control over eating as a specific cause of fatness. Indeed, item 10 (“Fat people tend to be fat pretty much through their own fault”) loaded highest on the Controllability factor for Study 2 (see Table I8).

BAFP items 1 and 8 loaded positively on Factor 2 and BAFP item 2 loaded negatively on Factor 2 (see Table I8). For Study 1, SPSS was unable to converge on a solution when BAFP item 2 was included in analyses, BAFP item 8 loaded by itself on the second factor, and BAFP item 1 did not load on either factor. For the present study, these items did not load on the main factor and were not retained. Additionally BAFP item 7 was not included in the measure used in the present study as it did not load substantially on either factor. Items that loaded on Factor 1 formed the Controllability Scale-Revised for Study 2. This scale had a Cronbach’s alpha of .84.

Table I7

Inter-correlations between Controllability Items (N = 354)

Items	1	2	3	4	5	6	7	8	9	10
1. BAFP 1	–									
2. BAFP 2	-.21**	–								
3. BAFP 3	.27**	.06	–							
4. BAFP 4	.21**	-.03	.60**	–						
5. BAFP 5	.16**	.09	.43**	.39**	–					
6. BAFP 6	.22**	.08	.53**	.48**	.54**	–				
7. BAFP 7	.09	.12*	.26**	.13*	.20**	.25**	–			
8. BAFP 8	.30**	-.11*	.30**	.34**	.22**	.29**	-.03	–		
9. BAFP 9	.26**	.04	.34**	.42**	.34**	.41**	.27**	.31**	–	
10. BAFP 10	.22**	.09	.40**	.51**	.44*	.55**	.16**	.29**	.57**	–
11. AFAS 4	.17**	.12*	.28**	.37**	.29**	.40**	.10	.15**	.38**	.53**

Note. KMO = .84. BAFP = Beliefs About Fat Persons Scale; AFAS = Anti-fat Attitudes Scale.

* $p < .05$. ** $p < .01$

Table I8
*Factor Loadings of Beliefs About Fat Persons Scale Items and AFAS Item 4 for
 Two-Factor Solution (N = 354)*

Item	Factor Loadings	
	Controllability	Factor 2
Beliefs About Fat Persons Scale Items		
1. Fatness often occurs when eating is used as a form of compensation for lack of love or attention.	.10	.48
2. In many cases, fatness is the result of a biological disorder. (-)	.36	-.55
3. Fatness is usually caused by overeating.	.61	.13
4. Most fat people cause their problem by not getting enough exercise.	.60	.19
5. Most fat people eat more than non-fat people.	.64	-.07
6. The majority of fat people have poor eating habits that lead to their fatness.	.77	-.03
7. Fatness is rarely caused by lack of willpower. (-)	.37	-.17
8. People can be addicted to food, just as others are addicted to drugs, and these people usually become fat.	.19	.45
9. Some people are fat because they have no willpower.	.60	.07
10. Fat people tend to be fat pretty much through their own fault	.77	-.03
AFAS Item		
4. Fat people have only themselves to blame for their weight.	.59	-.09

Note. Item followed by a minus sign was reverse scored. Factor loadings over .40 appear in bold.

1.1.4.2 Changeability Scale

The revised 12-item Changeability Scale consisted of the 10-item Changeability Scale employed in Study 1 plus two items [“Weight loss is only a matter of changing one’s lifestyle” (item 11) and “Diets simply do not work in the longer term” (item 12)]. As in Study 1, initial factor analyses indicated that item 10 (“It is impossible for many fat people to become normal weight”), was an outlier among the items (see Tabachnick & Fidell, 1996). As this item had a low SMC with other items (SMC = .08) and did not load substantially on any factor, it was not retained.

For the remaining 11 items, three factors were extracted explaining 50.6% of the variance. The correlations between the factors were not substantial. As in Study 1, positively-worded items 1, 2, 3, 4, 5, and 7 loaded on Factor 1 (labelled Changeability). The new positively-worded item (item 11) also loaded on Factor 1. Negatively-worded items 6 and 8 loaded on the second factor (labelled Difficulty). Negatively-worded item 9 did not load substantially on any factor and the new negatively-worded item 12, loaded by itself on Factor 3 (see Table I10).

Based on the loadings of items 11 and 12, the Difficulty factor was interpreted to be artifactual rather than substantive. Item 12 did not load on either of the main two factors. Although the positively-worded item 11 (“Weight loss is only a matter of changing one’s lifestyle”) seems to measure the degree to which weight loss is believed to be easily achieved (i.e., not difficult), this item did not load on the Difficulty factor, but loaded with other positively-worded items on the Changeability factor. As in Study 1, examination of the distributions of the items supported interpretation of the factor solution as artifactual. All items except items 3 and 12 showed substantial skewness ($z = -4.33$ to -12.85) (Spector, et al., 1997).

To maintain consistency across Studies 1 and 2, the 9-item Changeability Scale employed in Study 1 was also employed in Study 2. New items 11 and 12 were not included in the Changeability Scale for Study 2. The Cronbach’s alpha for the Changeability Scale for Study 2 was .73.

Table I9

Inter-correlations between Changeability Scale Items (N = 354)

Items	1	2	3	4	5	6	7	8	9	10	11
Item 1	–										
Item 2	.63**	–									
Item 3	.41**	.47**	–								
Item 4	.53**	.49**	.51**	–							
Item 5	.51**	.53**	.55**	.68**	–						
Item 6	-.04	.12*	.12*	-.09	-.08	–					
Item 7	.36**	.29**	.29**	.47**	.42**	-.13*	–				
Item 8	.11*	.30**	.30**	.08	.11*	.53**	-.06	–			
Item 9	-.06	.02	.02	-.13*	-.07	.25**	-.13*	.24**	–		
Item 10	-.01	.09	.09	.03	.05	.08	.03	.10	.21**	–	
Item 11	.40**	.50**	.50**	.49**	.50**	.07	.38**	.13*	-.05	.12*	–
Item 12	.11*	.08	.08	.03	.14**	.03	-.06	.11*	.28**	.15**	-.08

Note. KMO = .83.* $p < .05$. ** $p < .01$.

Table I10
Factor Loadings of Changeability Scale Items for Three-Factor Solution (N = 354)

Item	Factor Loadings		
	Changeability	Difficulty	Factor 3
1. Fat people fail to lose weight because they don't stick with their diets.	.69	-.03	.09
2. Some people continue to be fat because they have no willpower.	.70	-.02	.07
3. Fatness is readily changed if one chooses.	.66	.25	.00
4. Most fat people can lose weight if they change their eating habits.	.78	-.08	-.03
5. Fat people can lose weight if only they try hard enough.	.80	-.05	.10
6. It is hard to lose a large amount of weight. (-)	-.09	.74	-.06
7. People who weigh too much could lose at least part of their weight through a little exercise.	.56	-.16	-.10
8. It is not easy for a fat person to lose weight. (-)	.11	.73	.03
9. Many people who lose weight will regain it. (-)	-.13	.31	.29
11. Weight loss is only a matter of changing one's lifestyle.	.63	.12	-.16
12. Diets simply do not work in the longer term. (-)	.03	-.02	.86

Note. Item 10 was not included in analysis. Item followed by a minus sign was reverse scored. Factor loadings over .40 appear in bold.

1.1.4.3 Benefits Scale

Two uncorrelated factors ($r = .12$) were extracted accounting for 47% of the variance in the nine Benefits Scale items. As in Study 1, all positively-worded items loaded on Factor 1 (labelled Benefits). The new positively-worded item (item 9) also loaded on Factor 1. Negatively-worded items 1 and 4 loaded on the second factor, although item 4 did not load substantially (see Table I12).

The loading of item 9 on Factor 1 did not support interpreting Factor 2 as a substantive factor. Although the positively-worded item 9 (“Fat people would be healthier if they lost weight”) seems to measure beliefs about health benefits of weight loss, this item did not load on Factor 2, with items measuring health benefits and quality of life, but loaded with other positively-worded items on the Benefits factor. As in Study 1, examination of the distributions of the items supported interpretation of the factor solution as artifactual. All items except items 3 and 8 showed substantial skewness ($z = -3.63$ to -11.69) (Spector, et al., 1997).

To maintain consistency across Studies 1 and 2, the 8-item Benefits Scale employed in Study 1 was also employed in Study 2. It is noted that item 1 was retained despite having a MSA of .44, which was marginally below the exclusion criterion of .5 suggested by Coakes and Steed (1997), in order to maintain consistency with Study 1. New item 9 was not included in the Benefits Scale for Study 2. The Cronbach’s alpha for the Benefits Scale for Study 2 was .80.

Table I11

Inter-correlations between Benefits Scale Items (N = 354)

Items	1	2	3	4	5	6	7	8
Item 1	–							
Item 2	-.20**	–						
Item 3	-.02	.46**	–					
Item 4	.26**	.14*	.23**	–				
Item 5	.03	.36**	.41**	.25**	–			
Item 6	.01	.37**	.44**	.27**	.77**	–		
Item 7	.00	.49**	.53**	.27**	.60**	.65**	–	
Item 8	.04	.31**	.51**	.27**	.54**	.59**	.62**	–
Item 9	-.02	.25**	.21**	.25**	.50**	.50**	.46**	.35**

Note. KMO = .85.

* $p < .05$. ** $p < .01$.

Table I12

Factor Loadings of Benefits Scale Items for Two-Factor Solution (N = 354)

Item	Factor Loadings	
	Factor 1	Factor 2
1. Weight loss is not necessarily evidence of improved health. (-)	-.09	.66
2. Weight reduction may make fat persons more acceptable to others.	.57	-.30
3. If a fat person loses weight, he/she is more likely to succeed in life.	.62	-.09
4. Weight loss may not improve an individual's quality of life. (-)	.30	.35
5. Although I am accepting of people regardless of their body size and shape, I think that fat people would enjoy life more if they lost weight.	.77	.08
6. Fat people would feel better about themselves if they lost weight.	.83	.07
7. A fat person would become more attractive to others if he/she lost weight.	.83	-.03
8. Fat people would have more satisfying relationships if they lost weight.	.71	.07
9. Fat people would be healthier if they lost weight.	.54	.06

Note. Items followed by a minus sign were reverse scored. Factor loadings over .40 appear in bold.

1.1.4.4 Stereotypes of Fat Persons

1.1.4.4.1 Warmth Scale-Revised

One factor was extracted explaining 44.9% of the variance in the five Warmth-Revised Scale items and Dislike scale item 2. Warmth-Revised Scale items 2, 3, 4, and 5 loaded on this factor, with loadings ranging from .53 to .96 (see Table I14). These four items were retained as the final Warmth Scale-Revised, with a reliability of .87 for scores on this scale.

Table I13

Inter-correlations between Warmth Scale Items and Dislike Scale Item 2 (N = 354)

Items	1	2	3	4	5	6
1. Warmth 1	–					
2. Warmth 2	-.03	–				
3. Warmth 3	-.09	.48**	–			
4. Warmth 4	-.12*	.50**	.85**	–		
5. Warmth 5	-.08	.44**	.73**	.81	–	
6. Dislike 2	-.30**	.05	.08	.08	.08**	–

Note. KMO = .77.* $p < .05$. ** $p < .01$.

Table I14

Factor Loadings of Warmth Scale Items and Dislike Scale Item 2 for One-Factor Solution (N = 354)

Item	Factor Loadings
Warmth Scale Items	
1. Non-fat people tend to be more tolerant than fat people. (-)	-.09
2. Fat people are usually sociable.	.53
3. Most fat people tend to be good-natured.	.89
4. Fat people tend to be warm and friendly towards others.	.96
5. Fat people are generally pleasant to talk to.	.83
Dislike Scale Item	
2. I tend to think that people who are overweight are a little untrustworthy. (-)	.08

Note. Items followed by a minus sign were reverse scored. Factor loadings over .40 appear in bold.

1.1.4.4.2 Competence Scale-Revised

One factor was extracted accounting for 38.6% of the variance. Items 1, 2, and 3 loaded substantially on this factor (see Table I16). These three items were retained as the Competence Scale-Revised for Study 2, with a reliability of .71 for scores on this scale.

Table I15

Inter-correlations between Competence Scale Items (N = 354)

Items	1	2	3	4
1. Competence 1	–			
2. Competence 2	.38**	–		
3. Competence 3	.43**	.55**	–	
4. Competence 4	.21**	.17**	.34**	–

Note. KMO = .69.

* $p < .05$. ** $p < .01$.

Table I16

Factor Loadings of Competence Scale Items for One-Factor Solution (N = 354)

Item	Factor Loadings
1. Fat people tend to be less independent than non-fat people. (-)	.54
2. I find that fat people are less intelligent than non-fat people. (-)	.64
3. Fat people are less driven to succeed than other people. (-)	.84
4. Fat people are just as confident as other people.	.36

Note. Items followed by a minus sign were reverse scored. Factor loadings over .40 appear in bold.

1.1.5 Summary of Scale Analyses

Table 12.1 in chapter 12 provides a summary of the scales used in Studies 1 and 2, along with the number of items comprising each scale and the reliability of scores on measures for both studies. Additionally, Table 12.1 indicates the difference between measures used in Studies 1 and 2.

I.2 Exploratory Factor Analysis of Combined Dislike scale and AFAS items

An exploratory factor analysis examining the underlying structure of the hostile anti-fat attitude items measured for the current study (i.e., Dislike scale and AFAS items) was also conducted. The results of this analysis are provided in section 12.2.8.1 of chapter 12 in relation to Hypothesis 1a. The below tables provide the correlations among items (see also Table I3) and factors, and the factor loadings for a three factor solution.

Table I17

Correlations between AFAS and Dislike Scale Items & Inter-correlations between AFAS Items (N = 354)

Dislike Items	AFAS Items				
	1	2	3	4	5
1	.33**	.41**	.44**	.30**	.39**
2	.20**	.29**	.34**	.31**	.32**
3	.18**	.29**	.41**	.34**	.28**
4	.24**	.25**	.39**	.29**	.30**
5	.30**	.37**	.34**	.20**	.23**
6	.31**	.41**	.41**	.23**	.34**
7	.37**	.47**	.53**	.34**	.40**
AFAS Items					
1	–				
2	.51**	–			
3	.46**	.53**	–		
4	.34**	.40**	.43**	–	

** $p < .01$.

Table I18

Inter-correlations between Hostile Anti-Fat Attitude Factors for Three-Factor Solution (N = 344)

Factors	1	2	3
1	–		
2	.45	–	
3	.70	.67	–

Table I19

*Factor Loadings of Hostile Anti-fat Scales Items for Three-Factor Solution**(N = 344)*

Item	Factor Loadings		
	Negative Evaluation	AFAS	Social Distance
Unattractiveness Scale Items			
1. Fat people are less sexually attractive than thin people.	-.08	.67	.02
2. I would never date a fat person.	-.07	.81	.02
3. On average, fat people are lazier than thin people.	.13	.66	.01
4. It is disgusting when a fat person wears a bathing suit at the beach.	.12	.55	-.02
Negative Evaluation subscale Items			
1. I really don't like fat people much.	.16	.13	.53
2. I tend to think that people who are overweight are a little untrustworthy.	.85	.06	-.06
3. Although some fat people are surely smart, I think they tend not to be quite as bright as normal weight people.	.93	.04	-.09
4. I have a hard time taking fat people too seriously.	.74	-.13	.28
Social Distance subscale Items			
5. I don't have many friends who are fat.	-.02	.07	.59
6. Fat people make me feel somewhat uncomfortable.	.02	-.08	.86
7. If I were an employer looking to hire, I might avoid hiring a fat person.	-.03	.32	.49

Note. Factor loadings over .40 appear in bold.

APPENDIX J:

Study 2 Qualitative Data Analysis

J.1 Introduction

At the end of the survey, participants were invited to provide feedback regarding the survey and further comments about weight and fatness. Responses to this open-ended item contained feedback about the survey, comments expressing beliefs and attitudes about fatness and weight, or both. Comments written throughout the survey were also included as qualitative data. This qualitative data was analysed using thematic analysis as described for Study 1 (see Appendix E) in order to (a) ascertain difficulties that participants experienced when completing the survey and (b) achieve a more comprehensive understanding of anti-fat attitudes and beliefs (see Appendix E for detailed aims).

J.2 Data Preparation

The qualitative comments were taken from the surveys of the entire sample ($N = 364$). One hundred and eighteen participants (32.4%) wrote analysable comments on the survey. As for Study 1, comments indicating that participants did not wish to comment further (e.g., “no thanks”), wishing the researcher well with the research (e.g., “good luck”), and providing general positive feedback about the survey (e.g., “good survey”) were not analysed. Qualitative comments were categorised as survey feedback or comments about weight and fatness, and data in each category were analysed separately. Most comments containing both methodological and weight and fatness themes were able to be divided into non-overlapping statements while retaining their original meaning. Six comments were either allocated to both types of comments or were divided between types with some overlapping content.

J.3 Presentation of Qualitative Analyses

Survey feedback will be discussed first followed by comments about fatness and weight. Each theme will be described and excerpts from participants' qualitative responses will be provided to illustrate each theme. As for Study 1, in order to

enhance authenticity, participants' comments are provided verbatim, including spelling and grammatical errors.

J.4 Thematic Analysis of Survey Feedback

Ten major themes were identified from comments providing survey feedback. These themes relate to terminology, survey items, response formats, indices of weight, and breadth of content covered.

J.4.1 Major Themes from Survey Feedback

Researcher should provide definitions of fat and thin

A few participants commented that definitions of fat and thin should have been provided to participants. Both of these comments are provided below:

“You should define fat.”

“You ask people to use their own definition of 'fat'. You should also instruct respondents how to handle 'thin'. Questions are confusing asking to compare fat with thin as this could mean (because of lack of definition) Thin = not fat. Or it could mean thin = underweight/emaciated.”

Fat encompasses range of weights

As for Study 1, a few participants commented about the range of weights encompassed by the term fat. These comments provided clarification of respondents' definitions of fat (e.g., as compared to obesity). A participant also noted that individuals' definitions of fatness may affect survey responses. For example:

“There is a difference between being fat and obese. My comments have been made on the basis of fatness & NOT obesity. Some of my answers would change where people were considered to be obese.”

Asked respondents to make stereotypic judgements and broad generalisations

As for Study 1, some respondents commented that they felt that some of the survey items required them to make broad judgements about fat persons and people in general. For example:

“It is always difficult to make fair comment on other people in general.”

“The complexity of why people become fat and/or stay fat is so diverse that answering this questionnaire was, in some cases meaningless. The questionnaire, viewed as a whole may be of value.”

Weight or weight-height ratio is a poor measure of fatness

As for Study 1, a few participants commented that weight or a weight-height ratio may not accurately reflect a person's body fatness or size. For example:

“Weight is a terrible way of judging health or how fat an individual is. Rather I think more emphasis needs to be placed on the fat percentage of a person.”

Other issues could or should have been measured or weren't adequately covered

Some respondents indicated that there were important fat and weight-related issues that were not covered (or adequately covered) in the survey. These issues included opinions about fat children, the contribution of exercise to fatness, and other causes of fatness (e.g., emotional insecurities). For example:

“You haven't put drawings of children/adolescents here. They are a very important group in a survey on opinions on "fat" people”

“I feel this survey only touch 'surface' issues which effect peoples weight ie people can have emotional insecurities etc, health issues ie metabolic, thyroid etc. &/or lack of self confidence etc.”

“The survey reflects what I've observed in a cultural setting. There is much more emphasis on the link between eating & fat than there is between caloric expenditure (exercise) and fat.”

Suggestions for further research and applications

Some participants suggested that fat and weight-related issues not covered in the survey could or should be researched further. These suggestions included:

“Asking about where people get their beliefs & attitudes from may help to understand why people are the way they are etc.”

“It would be interesting to find out attitudes of people who were 'weight watching' when they filled survey in and those who had failed and given up and those who had succeeded and if this altered their responses”

Opinions depend on who you are asking about

A few participants commented that their attitudes varied depending on who they were thinking about (e.g., friend versus family; self versus other person). Both of these comments are presented below:

“Some answers would be somewhat different if the subject was family, a personal friend or a complete stranger.”

“I found my answers and opinions stronger when I was thinking of myself as fat, when asked for opinion of fat persons my attitude was 'another's weight is not my concern.’”

Difficult to respond to questions asking about fat persons' thoughts and feelings

A few participants indicated that they found it difficult to answer questions that asked them to comment on fat persons' thoughts and feelings about their weight. Both of these comments are presented below:

“I found WNTCH section difficult to answer as it is difficult to generalise re "fat" people's beliefs about themselves. Have you surveyed o'wt/obese/morbidly obese groups to obtain this sort of info? Or are you hoping to get some of this via this survey?”

“Many of the questions are of course generalised & based on today's thoughts about weight & peoples perceptions but not necessarily based on fact, how do we gauge other people's feelings about weight? Not an easy task.”

Difficulties with response categories or rating scales

Some participants commented that they experienced difficulties using the ratings scale and response categories provided in the survey. For example:

“I used the field (neither agree or disagree) as don't know OR do not have an opinion.”

“I find it hard to rate the statement. I'm unsure if disagree means opposite (agree to the opposite) or strength of feeling disagreement”

Difficulties with silhouette pictures

In a related theme, a few participants reported that they experienced difficulties responding to the Definition of Fat Man and Definition of Fat Woman scales, as the pictures were unclear. Both of these comments are presented below:

It's hard to decide if the number 6 male guy is fat. He seems to have a waist on one side, but not the other.

Sorry about the question mark but the pictures aren't very clear [Note: “?” under Mfat8 & Ffat8]

J.5 Thematic Analysis of Comments about Weight and Fatness

Initially comments about weight and fatness were coded into 37 specific themes. Related themes were then sorted into seven overarching categories. The seven super-ordinate themes related to attitudes and beliefs about fat persons, the

experience of fat persons, weight loss, causes of fatness, and the relationship between weight and health.

J.5.1 Major Themes from Weight and Fatness Comments

J.5.1.1 Attitudes toward, and beliefs about, fat persons

Participants expressed a range of attitudes toward, and beliefs about, fat persons. These were both positive (e.g., non-stereotypical) and negative (e.g., frustration). Comments relating to these beliefs and attitudes were coded into the seven specific themes discussed below. The major attitude and belief themes for Study 2 included the themes from Study 1 and an additional ‘Fat is unattractive’ theme.

Others’ prejudice towards, and stereotypes about, fat persons

Several participants commented on others’ and society’s fat-related prejudice and stereotyping. Most of these comments also expressed dissatisfaction with such attitudes and beliefs. For example:

“I am also aware of the stereotyping 'fat' people have placed on them”

“I think our society has an unfair view of people who are considered 'fat' or unattractive”

Personal anti-fat attitudes, affective reactions, and beliefs

A few participants also expressed their personal anti-fat attitudes, affective reactions, and beliefs. For example:

“I've found overweight people to be (most times) short tempered.”

“It frustrates me when I see overweight people indulging in fatty fast foods!!”

Positive attitudes toward fat persons

In contrast, some participants made comments reflecting positive attitudes toward fat persons. For example:

“I feel everyone deserves to be treated the same, no matter if they are fat, or skinny. I used to be fatter & I find now I'm skinny that people are more accepting of me, want to be my friend & also that I'm more outgoing. I must say, I do find this to be a shame, because this simply isn't how society should be. I think it is important for each individual to be healthy & happy.”

“I believe people who are overweight are just as important to society as people who are in the normal weight range.”

It's what's on the inside that counts

A few participants expressed beliefs about valuing the importance of personality over outward appearance, and suggested that weight is not indicative of personality. For example:

“A persons body size/shape is no reflection on their personality. Weight problems should be considered in a health issue context, not socially acceptable context.”

Others' weight is not my concern

Similarly a few participants commented that others' weight is not their concern. For example:

“I found my answers and opinions stronger when I was thinking of myself as fat, when asked for opinion of fat persons my attitude was 'another's weight is not my concern.’”

Know fat persons who don't fit fat stereotype

A few participants commented that they are fat but do not fit stereotypical perceptions of fat persons or they know fat persons who do not. For example:

“We are all individuals! I know people who can't 'gain' weight & who are unhealthy and I know overweight people who eat like sparrows but can't lose weight (medical or age)”

“It took me 61 years and thousands of \$\$s to finally accept my slightly overweight body but I am extremely health (blood tests confirm), enthusiastic, productive and positive with a fulfilling lifestyle and exercise moderately! My Shape! -->7”

Fat is unattractive

A few participants commented that they found fat persons unattractive, or that other people found fatness unattractive. For example:

“I guess 'fat' to me looks bad even when they've got clothes on...”

“I was once told to loose weight because I was unappealing this was from a doctor”

J.5.1.2 Factors that influence attitudes and beliefs

Some participants commented on factors that influence their (or others') weight-related beliefs and attitudes. Comments relating to these factors were coded

into the three specific themes discussed below. These themes were also found in Study 1, however, in contrast to Study 1, 'Gender Issues' was not a recurrent theme for Study 2.

Personal eating issues or weight may influence opinions

A few participants commented that their personal eating issues or weight may influence their attitudes toward fat persons. For example:

“Since I have never been fat - no one in my family is fat I do not have personal experience of problems associated with being fat.”

Thin societal preference

Some participants commented on their perceptions of the general societal view of weight. This included negative societal views of fatness as opposed to thinness, and the affect of such attitudes on persons' body image and self-esteem. For example:

“The way our culture/society portrays/refers to 'fat' people teaches all people to view fatness & fat people as ugly/unattractive etc. Even those of use who are full-figured/larger tend to think that way, even if we don't mean to e.g. negative judgement of larger-than-me person then I realise that's wrong & correct my thought.”

“There is too much pressure to have a 'perfect' body - we should allowed to be happy as we are (whether skinny -> fat)”

Influence of media

Several participants identified media representations as influences on weight-related attitudes and beliefs, and body image and self-esteem. For example:

“I believe that weight would not be such a problem if our "models" were a more average weight & the norm was more an average weight than thin.”

“Media & marketing & fashion have far too much power and influence over what society consider 'fat'.”

J.5.1.3 The experience of fat persons

Some participants commented on the experience of fat persons. While some comments suggested that it is difficult for fat persons to accept themselves, others commented that some people are happy being fat. Other participants reported being treated differently by others when weight is lost or gained. Comments relating to the

experience of fat persons were coded into the three specific themes discussed below. Of these themes, 'It is hard for fat people to accept and love themselves and feel attractive' was the only recurrent theme found in both Study 1 and 2. In contrast to Study 1, 'Being fat is uncomfortable', 'Fat people receive comments about their weight and advice about weight loss', and 'Employment discrimination' were not recurrent themes for Study 2.

It is hard for fat people to accept and love themselves and feel attractive

A few participants commented that fat persons find it difficult to accept and love themselves and feel attractive. These comments were made about fat persons generally or by respondents about their own experiences. For example:

"It can be difficult living in today's society, where skinny is portrayed as good/attractive & fat as bad. I think it is important for each individual to be healthy & happy. It is difficult, however, to be entirely happy with your body image, especially in today's image driven society (& living in college!)"

Fat and happy

In contrast, a few participants commented that they are happy being fat or that they know fat persons who are happy with their weight. Both of these comments are provided below:

"It took me 61 years and thousands of \$\$s to finally accept my slightly overweight body but I am extremely health (blood tests confirm), enthusiastic, productive and positive with a fulfilling lifestyle and exercise moderately! My Shape! -->7"

"Although I am very unhappy if I put on weight I know many overweight people who are more comfortable about themselves than I am."

Weight change affects how you are treated by others

A few participants commented that they had been treated differently when they became fat or more favourably when they lost weight. Both of these comments are provided below:

"I used to be fatter & I find now I'm skinny that people are more accepting of me, want to be my friend & also that I'm more outgoing."

"My weight increased dramatically through taking large doses of Prednisone (for LUPUS) in my 30s. Fat people are treated differently in shops etc."

J.5.1.4 The causes fatness

Participants made comments about the causes of fatness. While some participants indicated that weight is under personal control, others reported that weight is caused by factors outside personal control. Additionally, some participants indicated that emotional or psychological issues lead to fatness. Comments relating to the causes of fatness were coded into the three specific themes discussed below. These themes were the same as the related themes for Study 1.

Fatness (and weight) is due to lifestyle choices and controllable factors

Lifestyle choices (i.e., diet and exercise) were identified by some participants as causes of fatness. For example:

“I think parent's have a big influence on their childrens health. My mum fed us healthy food and no one in my family is overweight”

“Fat people eat far too much, they could lose weight by exercise, I have never been fat”

“Overweight people tend to be much less active than normal weight people.”

Fatness is influenced by factors outside personal control

The largest number of comments for an individual theme referred to factors that contribute to fatness that are not under volitional control. These factors included medical conditions, disability, medications, and genetics. For example:

“Weight or fatness is not always caused through overeating, it can sometimes be caused through genetic make-up or other health issues.”

“Eating is not the only way to gain weight. Medication plays a big part of weight gain etc. Insulin for Diabetic & lots of other tablets.”

“Metabolic disorders have so MUCH to do with weight! More education is needed.”

Fatness is due to emotional issues (e.g., eating in response to emotional issues)

Some participants indicated that emotional or psychological issues contribute to fatness. Generally these comments suggested that eating in response to stress or dissatisfaction contributes to or causes fatness. For example:

“I find that fat people, eat because of their dissatisfaction with life (theirs)”

“To me, it's not about being fat or not being fat. It's about being 'who you are'. I believe, and I could be wrong, that fat people are not being 'who they are'. They're looking for external happiness, rather than internal.”

“A persons weight (fat) can be influenced by lifes circumstances eg Ill health, fragmenting relationships, poverty, alcohol consumption, I think the battleground for the body is largely in the mind.”

J.5.1.5 The relationship between fatness and health

Some participants made comments indicating that fatness is unhealthy; other participants suggested that fat persons are not necessarily unhealthy. Additionally, some participants commented that greater emphasis should be placed on health and healthy behaviours rather than a person's weight or appearance. Comments relating to the relationship between fatness and health were coded into the three specific themes discussed below. These themes were the same as the related themes for Study 1.

Being fat is unhealthy

Some participants commented that fatness is associated with greater risk of negative health outcomes. For example:

“Weight problems should be considered in a health issue context, not socially acceptable context. Obesity seriously impedes on ones health status.”

“As a health professional I can see the health problems being 'fat' causes - rising cases of diabetes, high blood pressure, arthritis, etc. Chronic disease will cost the health system heaps, obesity is one major factor! Reduce weight for health, not for looks!”

Being fat is not necessarily unhealthy

In contrast, some participants commented that fat persons are not necessarily unhealthy. For example:

“There's ... healthy & unhealthy people no matter whether they are fat or thin.”

“A person's body size should not be the only factor we use to determine their wellness. Health is more holistic and includes considerations to mental state, attitudes towards self and others, eating habits and physical activity regardless of size.”

“Also being over-weight does not reflect your fitness levels - some skinny people can be less fit than bigger people.”

Health and exercise should be the focus, not weight (or appearance)

In a related theme, several participants suggested that there should be greater focus on health and health-related behaviours (e.g., exercise), than weight per se, or appearance. For example:

“I feel everyone deserves to be treated the same, no matter if they are fat, or skinny. I used to be fatter & I find now I'm skinny that people are more accepting of me, want to be my friend & also that I'm more outgoing. I must say, I do find this to be a shame, because this simply isn't how society should be. I think it is important for each individual to be healthy & happy.”

“Weight watchers meetings are full of people coming back after gaps of months or years because they have regained or exceeded their 'goal' weight. Although there is emphasis on healthy eating, meetings constantly promote WW products and like all diets ‘A New You!’”

J.5.1.6 Can fat people lose weight? How?

Many participants commented on the changeability of fatness. This super-ordinate category contained the largest number of comments. Some participants commented that it is possible for fat persons to lose weight, including suggestions on how to lose weight. Several comments indicated that high levels of motivation and commitment are necessary for weight loss to be successful. A few participants commented on approaches to help others lose weight. In addition to commenting on the changeability of fat persons' weight, a few participants noted that they are personally able to lose weight. In contrast to the view that fatness is easily changeable, some participants commented that weight loss is difficult, and some participants commented on factors that may impede weight loss. Comments relating to the changeability of weight and fatness were coded into the six specific themes discussed below. The changeability themes for Study 2 included the themes from Study 1 and an additional 'Helping fat people lose weight' theme.

Suggestions on how to lose weight (changeability)

Some participants commented that they believed that it is possible for fat persons to lose weight. Some participants specifically stated changeability beliefs whereas other participants' changeability beliefs were implied through suggestions of how fat persons could lose weight or manage their weight. Suggestions for losing and maintaining weight primarily focused on dietary changes and increased exercise. For example:

“To loose weight, a combination of health eating (not diet) & exercise is required.”

“I really think they need to help themselves exercise & stop eating fatty & cholesterol filled foods.”

“Fat people eat far too much, they could lose weight by exercise, I have never been fat”

“My attitude regarding people who claim they can't lose weight - We never saw anyone coming out of the concentration camps that could have been called FAT.”

Fat people can (only) lose weight if they chose to and are committed

Several related comments suggested that weight loss is only possible and effective if persons really want to lose weight and are motivated and committed to losing weight. For example:

“Motivation plays an important part in weight loss. I don't think people can be forced to lose weight. An individual must be motivated from within.”

Helping fat people lose weight

A few participants commented on how to approach helping fat people lose weight. These comments suggested a range of attitudes and approaches, including wanting to help others lose weight, helping without appearing to, and letting fat people ask for help if they want it. For example:

“If peole push you - you sometimes go and oppose them - so best to try and help without appearing to.”

I can lose weight

A few participants commented that they personally were able to lose weight. For example:

“Having gone from 78 -> 62 kg by eating healthily & walking, I believe anything is possible ...”

“After being 25 kgs overweight for 3 years, I am finally getting off my butt & losing weight. So far, 9 kgs lost!”

It is hard to lose weight and weight loss is complex

In contrast to suggestions that weight loss is easily achievable, some participants did note that it is difficult to lose weight and that a complex range of factors need to be considered when losing weight. For example:

“Weight watchers meetings are full of people coming back after gaps of months or years because they have regained or exceeded their 'goal' weight.”

“It is a very complex issue and for a lot of people it is not as easy as just changing eating habits or exercise routines. The pressures of work, family & life generally are influencing whether people have difficulties or not losing weight & maintaining that weight”

“There are many influences on weight - genetic, biological, social, psychological, environmental being some.”

Weight loss can be impeded by factors outside personal control

Additionally, some participants commented on uncontrollable factors that impede weight loss. These factors included medical conditions, age, and genetics. For example:

“... sometimes because of medical conditions it can be impossible for some people to lose weight. It doesn't matter how healthily they eat or how much exercise they get.”

“allot of weight problems come from forms of medication. I know a friend that went from 5.5 stone to 12 1/2 stone in six months due to Hormone medication. Healthy eater and exercises well but cannot lose weight”

“It is easier for some people to lose weight than others weight problems seem to have a heridity factor”

“Different age groups have different requirements for losing weight”

J.5.1.7 Should fat people lose weight? Why?

Participants also made comments regarding whether or not fat persons should lose weight. A few participants commented that fat people should lose weight, or fat people should lose weight if it affects their health. This super-ordinate theme also includes comments suggesting that a person's fatness affects other people. Comments relating to beliefs about whether fat persons should lose weight were coded into the three specific themes discussed below. Of these themes, 'Fat people

should lose weight if it affects their health’ was the only recurrent theme found in both Study 1 and 2. In contrast to Study 1, ‘Fat people have a right to chose to be fat or reduce’, ‘Losing weight improves life and benefits fat person’, and ‘Fat people are unhappy with their weight and want to lose weight (regardless of what they say)’ were not recurrent themes for Study 2. The two additional recurrent themes for Study 2 were not recurrent themes for Study 1 (i.e., ‘Fat people should lose weight’ and ‘Fatness affects others’).

Fat people should lose weight

A few participants suggested or implied that fat persons should lose weight or be healthier. For example:

“As a health professional I can see the health problems being 'fat' causes - rising cases of diabetes, high blood pressure, arthritis, etc. Reduce weight for health, not for looks!”

Fat people should lose weight if it affects their health

In a related theme, a few participants commented that it is acceptable for persons to remain fat as long as their weight didn’t negatively affect their health. For example:

“Other than being a health problem for some people - if you are overweight but fit & happy to be so - it shouldn't be anybody's problem but your own.”

Fatness affects others

A few participants made comments suggesting that a person’s fatness affects other people. Other people affected included friends and family, and society in general. For example:

“I think a lot of fat people don't have a lot of respect for themselves (not interested in maintaining optimal health) This is upsetting to friends & family - Affects everyone.”

“Chronic disease will cost the health system heaps, obesity is one major factor!”