

DEVELOPMENT AND EVALUATION OF A HEALTHY BODIES CURRICULUM
MODULE FOR COLLEGE PERSONAL HEALTH

by

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A Dissertation
Submitted in Partial Fulfillment of the Requirements for the
Doctor of Philosophy

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DISSERTATION APPROVAL

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A Dissertation Submitted in Partial
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in the field of Health Education

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AN ABSTRACT OF THE DISSERTATION OF

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Health curriculum traditionally (re)produces obesity discourse, a fusion of biomedical and moral perspectives of weight and fat. This weight-centered approach to bodies may perpetuate weight stigmatization, indirectly supports a culture of thinness, and contradicts other health messages concerning bodies. A Health At Every Size[®] (HAES[®]) approach is an alternative, multidimensional health-centered approach that can reconcile the incongruent messages in obesity and eating disorder discourses and may reduce weight stigmatization. The purpose of this study was to develop and evaluate a college personal health curriculum module to promote healthy bodies of all sizes. Discourse positions of teaching assistants were explored through interviews and provided an understanding of their values and teaching methods regarding weight and health. A HAES[®]-based curriculum module was developed for college personal health classes at a Midwestern university. Quasi-experimental design was used to compare attitudes toward HAES[®] principles among students who received the alternative, HAES[®]-based curriculum module versus those receiving a traditional weight management curriculum. Pre- and posttest attitudes of students and teaching assistants were assessed using the Health and Weight Attitudes Scale developed for this study. Teaching assistants provided evaluation of the HAES[®] module in a focus group. While teaching assistants' discourse positions varied, most used obesity discourse to talk and teach about bodies and weight. Alternative discourses were most common when teaching assistants discussed eating disorders or body

image. Students' attitudes at pre-test were slightly positive and did not differ significantly between comparison and intervention groups. Intervention group students' attitudes were significantly more positive than comparison group students' attitudes at posttest. Intervention group teaching assistants reported primarily positive experiences with the module. Teaching assistants rely primarily on obesity discourse to teach about weight and bodies but are receptive and positive when offered an alternative method. A HAES[®] curriculum module can increase positive attitudes of students and teaching assistants toward promotion of size acceptance and multidimensional health for people of all sizes.

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I have always enjoyed reading the acknowledgements in other dissertations, but could never quite see myself writing them. I could sense the enormous gratitude and emotion behind them and writing that way seemed so unnatural to me. And really, how many people would I have to thank beyond my committee? Yet, here I am, so grateful to so many!

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Preface

In my prospectus meeting for this study, one of my committee members stated, "...you don't believe in obesity." I have thought about that comment several times since then and trying to define exactly what it is that I "believe" is difficult. My perspective on weight, fat, and obesity is continually evolving. However, I do think it is necessary to position myself for readers so they may have a better understanding of the origins of this research and through what lens data has been seen.

My professional career began as a registered dietitian specialized in weight management. This professional training provided a strong biomedical influence. As a college instructor, I developed a comprehensive Adult Weight Management course. My position began to shift as I set out to cover all aspects of weight, beyond just physical health, within the course. I became especially interested in the psychological and social aspects of weight, particularly weight bias and stigma. At that point, I started to examine my own attitudes toward weight and fat and looked more critically at media, medical practices, and education about weight. My philosophy of health education has further influenced my position. I think health is multidimensional and do not want to overemphasize physical health at a detriment to other dimensions. I also find myself looking for more positive approaches to health promotion than the disease model of risk factor reduction.

I have become critical of the "obesity" approach to health and question the claims made in both popular media as well as scientific literature. While I do not disagree there may be some health concerns related to weight, I think the primary focus on weight is faulty. I do not think that weight, per se, is the health issue. The term obesity has become synonymous with poor eating habits and sedentary lifestyle. However, this is an oversimplification, neglects those

individuals with poor eating habits and sedentary lifestyle that are thin, but still at risk for adverse health effects, and stigmatizes fat. The stigmatization is such that it has become acceptable to judge, ridicule, and blame fat people for their size. Ultimately, poor nutrition and physical inactivity can lead to disease regardless of weight. So, why can't we cut out the "middle man," obesity, for a more inclusive, less stigmatizing approach to promote health? Sidestepping weight to focus on healthy eating, physical activity, positive body image, and acceptance of self and others is multidimensional and all inclusive. Those behaviors apply to all people, not just a few who need to "watch what they eat" due to their weight. If those are the behaviors we want people to change, shouldn't those also be the outcomes we measure, versus using weight loss as the measure of success?

I have come to believe that the dominant obesity discourse (i.e., fat is dangerous and we are all at risk), is damaging to people of all sizes. Most people's bodies cannot be molded at will but that is the message sent to millions every day. "Diet and exercise enough and you can have a thin body." This message leads many people to pursue weight loss, often at any cost, and leaves those unable to achieve it feeling like failures or embarrassed of their bodies. Those who do achieve it are often left with disordered eating patterns. The pursuit of thinness carries a tremendous amount of weight when it is in the name of health. While obesity discourse is presented from a "health" standpoint, the health seems to be lost in translation, in my opinion. I see a disconnect when a medical procedure to remove the majority of a healthy and functioning digestive tract is accepted as a means to improve health by inducing weight loss. For what other condition would we advocate making a functioning organ, permanently malfunction? I can't help but look at the messages about weight and want to change the conversation.

This dissertation is an attempt at changing the conversation around weight and I hope to bridge several agendas. Promoting good nutrition and regular physical activity will improve the health of anyone who practices them, regardless of size or weight. Improving self-esteem and body image encourages people to care for themselves and their bodies. Reducing stigmatization of fat improves lives and is socially just. I think we can improve health using a positive health promotion approach without reinforcing negative attitudes about fat. I hope to shift the discourse in personal health classes from one about weight to one about health for everyone. So perhaps I “don’t believe in obesity,” but I do believe people of every size and shape can improve their health without an obsession with the scale.

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CHAPTER 1

INTRODUCTION

Background

Throughout history, fat was seen “as a sign of health and wealth” (Sobal, 1995, p.68). Physicians encouraged weight gain and heavy men and women were idealized in literature and art (Eknoyan, 2006). In the late nineteenth century, cultural attitudes about weight began to shift in the United States (Fraser, 2009). Fat became undesirable, even deviant. Society looks for ways to explain social deviance by applying moral, medical, or political models. Initially, fat was perceived as a moral failing. However through the medicalization of weight throughout the twentieth century, fat has been constructed as an illness. In response to the moral and medical paradigms of weight, a political movement advocating for size acceptance and the demedicalization of weight began in the late 1960’s. While all three models (moral, medical, and political) are being applied in today’s society, the medical model for fatness is widely accepted (Sobal, 1995).

Each of these perspectives adds to the discourse of weight or fat. Discourse is a socially situated use of language that creates meaning or understanding of a phenomenon (Cameron, 2001). The dominant discourse of fat, obesity discourse, is a combination of medical and moral models. Obesity discourse uses biomedical terminology and tools such as body mass index (BMI) as the framework of language but also draws on moral foundations of personal responsibility. The objectivity of obesity discourse is not widely questioned, although it is value-laden. Cultural attitudes shape public discourse as well as scientific discussion and critics of obesity discourse challenge the validity of claims due to contradictions and uncertainties in obesity research that are given little attention (Campos, Saguy, Ernsberger, Oliver, & Gaesser,

2006; Fraser, Maher, & Wright, 2010). Discourses counter to obesity discourse, such as those drawing upon the political model of fat, do exist and contribute to the language of weight as well (Sobal, 1995). However, dominant discourses can be difficult to challenge or negotiate when promoted in popular media as truth and certain (Kline, 2006; Rich & Evans, 2005).

Most health professionals and organizations identify obesity as a risk factor for disease, if not a disease itself. Multiple factors, including genetics, lifestyle, and environment, converge in the etiology of obesity. According to the Centers for Disease Control and Prevention (CDC, 2011b), obese individuals are at increased risk for conditions such as diabetes, cardiovascular disease, and some cancers. Approximately 35% of Americans are estimated to be obese and the United States, and many nations worldwide, are challenged with an “obesity epidemic” (CDC, 2011b; Flegal, Carroll, Ogden & Curtin, 2010; World Health Organization, 2011a).

Some researchers assert health risks of obesity have been widely exaggerated (Bacon, 2008; Ernsberger & Haskew, 1987; Gaesser, 1996). Arguments of methodological problems within obesity studies include that many studies attribute risk to obesity without accounting for confounding factors of physical activity and nutrition and most studies rely on BMI to estimate body fat, or obesity, despite BMI’s many limitations (Cundiff, 2006; Hawks & Gast, 2000). Furthermore, not all fat individuals are metabolically unhealthy, just as simply being thin is not protection from disease (Karelis, St. Pierre, Conus, Rabasa-Lhoret, & Poehlman, 2004). Other research suggests obesity provides benefits, such as improved survival rates with some diseases and protection against conditions such as infectious diseases, osteoporosis, and chronic obstructive pulmonary disease (Cassell & Gleaves, 2006; Ernsberger & Haskew, 1987). Conflicting research presents a paradox leaving some researchers to question obesity claims (McAuley & Blair, 2011; Muennig, 2008).

Despite conflicting research, many health professionals still encourage weight loss as treatment for obesity. Restrictive dieting, exercising, behavior modification, medication, and surgery for weight loss are regularly recommended by medical professionals. Other means of weight loss practiced by individuals include use of laxatives, diuretics, vomiting, over-the-counter pills, and smoking (Field, Manson, Taylor, Willet, & Colditz, 2004). Safety and efficacy of weight loss with any of these methods is questionable. Dieting may be the most common means of weight loss but long term studies do not support significant sustained weight losses (Mann, et al., 2007). Chronic dieting presents health concerns, such as nutrient deficiencies, stress, disordered eating, and changes in metabolism (Manore, 1996; Grodner, 1992). Maintenance with any weight loss method is difficult and long term data suggests regain is likely with all methods (Mann et al., 2007).

Controversial obesity claims, coupled with discouraging and potentially harmful treatment outcomes, lead some to question whether weight loss should continue to be the goal of treatment (Bacon & Aprhamor, 2011; Ernsberger & Haskew, 1987). One reason for the continued recommendation for weight loss may be the ubiquity and potency of weight stigma. Obesity is highly stigmatized in the United States and weight bias can lead to prejudice and discrimination (Puhl & Brownell, 2001). Weight bias has been documented in employment, healthcare, and education (Brownell, Puhl, Schwartz, & Rudd, 2005; Larkin & Pines, 1979; National Education Association [NEA], 1994). Weight bias can result in lower pay, fewer education or work opportunities, reduced quality of medical treatment, fewer social relationships, and lower quality of life for obese individuals (Brownell, et al., 2005). Stigmatization may also lead to disordered eating, depression, and body dissatisfaction (Friedman, Reichmann, & Constanzo, 2005; Schvey, Puhl, & Brownell, 2011).

Furthermore, similarities between obesity and eating disorders are starting to be recognized and researchers, particularly those in the eating disorder realm, are calling for a reconciliation of weight messages. The message that “thin is beautiful” is criticized as contributing to eating disorders and body image issues. However, the message that “thin is healthy” continues to be promoted, although indirectly supporting the culture of thinness (Cliff & Wright, 2010; Hawks & Gast, 2000). Particularly in school settings, the contradictory messages can be difficult to negotiate. Curriculum involving bodies, such as health and physical education, contribute to “body pedagogies” and provide a means for students to make connections between bodies and health within a social context (Cliff & Wright, 2010; Evans, Rich, Davies & Allwood, 2008). The discourse of obesity prevention has become such a focus in many health and physical education classes that weight overshadows health (Cliff & Wright, 2010; Russell-Mayhew, 2006).

Obesity discourse reflects a biomedical perspective and weight-centered approach to health while largely excluding more humanistic and holistic approaches. Furthermore, obesity discourse may reinforce or contribute to disordered eating, body dissatisfaction, and stigmatization of fat (Rich & Evans, 2005). Teachers’ ideas and values about weight and health, or their “discourse positions” (Welch & Wright, 2011, p.201) influence their instruction and curriculum. Teachers can perpetuate the dominant discourse, but also have opportunity to present alternative perspectives on weight, bodies, and health (Welch & Wright, 2011).

An alternative, health-centered model that could bridge obesity and eating disorders messages is the Health At Every Size[®] (HAES[®])¹ approach. The HAES[®] approach focuses on health promotion versus weight management. Healthful eating and physical activity are

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promoted for the sake of health versus promotion of dieting and exercise for weight loss. The benefits of good nutrition and physical activity exist regardless of body weight or fat. HAES[®] advocates promote health across all dimensions while also respecting size diversity and encouraging positive body image (Bacon, 2008). The HAES[®] approach is more holistic and fits within a multidimensional view of health (Association for Size Diversity and Health [ASDAH], 2012b).

Statement of the Problem

Despite many uncertainties within research, dominant obesity discourse emphasizes a biomedical view of fat as pathological, reinforces moral judgments of individual responsibility, and may perpetuate weight stigmatization. Obesity discourse is (re)produced in schools through policies, practices, and curriculum. Teachers' discourse positions influence their instruction and choices in curriculum. The ways in which bodies are discussed, portrayed, excluded, valued, or marginalized form body pedagogies that influence how students think about their bodies and health. Current body pedagogies within schools are contradictory and may have detrimental effects on the health of students.

Need for the Study

HAES[®] principles provide an alternative to the more dominant weight-centered paradigm. Interventions utilizing HAES[®] principles as a non-diet approach to weight management appear to be increasing. While many of these interventions provide evidence of improved health factors among participants, their efficacy in reducing bias is not as well documented. Furthermore, the literature appears to be limited in practical applications for reducing bias in education through curriculum interventions. Increased awareness of the

contradictions within obesity research, additional literature on anti-fat and HAES[®] attitudes, and practical applications of the HAES[®] approach within health education curriculum are needed.

Purpose

The purpose of this action research study was to develop and evaluate a college personal health curriculum module to promote healthy bodies of all sizes. The first phase of the study focused on analyzing teaching assistants' discourse positions in relation to health and weight through interviews. This analysis provided an understanding of what ideas and values teaching assistants bring to their teaching about bodies. The second phase of the study was the development of a curriculum module and survey instrument to assess attitudes toward HAES[®] principles. The final phase focused on evaluating the module. Attitudes toward a Health At Every Size[®] approach among teaching assistants and students were assessed pre- and post-implementation to determine any differences. Teaching assistants' experiences teaching the new module also were explored in a focus group setting.

Research Questions

1. What are the discourse positions regarding weight management of college personal health teaching assistants?
2. Do college personal health teaching assistants possess positive attitudes toward a Health At Every Size[®] approach?
3. To what extent, if any, do attitudes of college personal health teaching assistants change after training on a curriculum module utilizing a Health At Every Size[®] approach?

4. To what extent, if any, do attitudes of college personal health teaching assistants change after implementing a curriculum module utilizing a Health At Every Size[®] approach?
5. What are the experiences of college personal health teaching assistants implementing a curriculum module utilizing a Health At Every Size[®] approach?
6. Do college students in personal health classes possess positive attitudes toward a Health At Every Size[®] approach?
7. To what extent, if any, do attitudes of college students change after implementation of a curriculum module utilizing a Health At Every Size[®] approach?

Significance to Health Education

This study raises awareness of the Health At Every Size[®] approach in health education and may provide a means of reducing anti-fat attitudes. The module developed for the study will provide an alternative to weight-centered instruction and could be adapted for other courses or age groups. Results could lead to broader changes in health education curriculum to reflect a more health-centered, or holistic, approach to health. Finally, this study may encourage health educators to critically examine current beliefs, assumptions, and approaches to weight, health, and the “obesity epidemic.”

Research Design

Using an action research approach, this study utilized mixed methods to develop and evaluate a Health At Every Size[®] curriculum module for a college personal health course. Qualitative methods, specifically interviews and document analysis, were employed to collect data from college personal health teaching assistants to gain understanding about their ideas and values regarding health and, particularly, weight. Drawing upon the literature, my personal

experience, and communication with the course coordinator, a curriculum module utilizing Health At Every Size[®] principles, a corresponding in-service training, and a survey instrument were developed and implemented. A focus group and reflective documents were used to collect evaluative data from personal health teaching assistants after implementation of the new module. Quasi-experimental design using pre- and post-testing was used to evaluate whether HAES[®] attitudes of college personal health teaching assistants changed after training and implementation of the new module, and whether HAES[®] attitudes of students changed after receiving the module.

Setting and Sample

Teaching assistants and students of introductory personal health classes at a mid-sized, Midwestern university were sampled for this study. The personal health course, Foundations of Human Health, is one course that fulfills a core requirement for human health studies at this university. Weight management is one unit within the personal health curriculum. Personal health teaching assistants at the university were invited to participate in face-to-face interviews. The 12 teaching assistants were assigned to either a comparison or intervention group. The intervention group implemented the new curriculum and participated in a final focus group. All teaching assistants were asked to complete pre-test, post-test, and follow-up surveys. Students enrolled in personal health at this university who are at least 18 years of age were asked to participate in pre- and post-test surveys. Approximately 550 students were enrolled in Foundations of Human Health in the Fall 2012 semester.

Curriculum Development

Curriculum development was guided by literature and my personal experience. The goal of the curriculum was ultimately to improve health and quality of life of students of all sizes by

promoting the principles of Health At Every Size[®], including encouraging size acceptance, multidimensional health, good nutrition, and physical activity. I created two 50-minute lesson plans for implementation within the course. The module was reviewed by an expert panel prior to implementation. Teaching assistants in the intervention group received an in-service training on the module.

Instrument Development

A survey instrument was developed to provide evaluation data for the curriculum module. The instrument was relatively short with approximately 25 items. Twenty Likert-type items assessed participants' attitudes toward HAESSM principles. Five open-ended questions allowed participants to further explain their responses/attitudes. Basic demographic items were included as well. The survey instrument was reviewed and pilot tested to determine content validity, test-retest reliability, and internal consistency.

Data Collection

Qualitative data was collected in the first phase of the study. Personal health teaching assistants were asked to participate in interviews to collect data on their ideas and values about weight and health. Interviews with teaching assistants were audio-taped and transcribed verbatim. During and after the interviews, I took notes to record observations and thoughts.

Participating teaching assistants and students completed the pre-test prior to the training or delivery of weight management instruction. Teaching assistants were assigned to comparison or intervention groups. The intervention group TA's received training on and implemented the new HAES[®] module, while the comparison group delivered their usual weight management curriculum. The teaching assistant post-test instrument was administered approximately one week after training and prior to the HAES[®] or weight management unit. After all sections

completed the HAES[®] or weight management unit, surveys were administered again in class to teaching assistants (follow-up) and students (post-test). Teaching assistants from the intervention group were asked to keep reflective journals and participate in a focus group to collect data about their experiences teaching the new module. The focus group was audio-taped and transcribed verbatim. Course documents from comparison group teaching assistants were collected to provide a comparative view of weight management curriculum.

Data Analysis

Analysis of interview transcripts was performed to identify themes relating to teaching assistants' discourse positions regarding weight and health. Content analysis of the responses from the open-ended questions on the survey was performed. Transcripts of the focus group and reflective documents provided evaluative data of the module. Course documents supplied by comparison group teaching assistants also were analyzed.

Quantitative survey data was analyzed using the Statistical Package for the Social Sciences (SPSSTM). Descriptive statistics were computed. Dependent t-tests were used to determine any differences between the pre-test and post-tests taken by instructors and students. Independent t-tests were performed to determine any differences in scores between students in the comparison versus intervention groups.

Assumptions

1. Anti-fat biases exist among health education instructors.
2. Current personal health course content is anti-fat biased.
3. Students possess anti-fat bias.
4. Participants were honest about their experiences and attitudes.
5. Participants were able to accurately articulate their beliefs and attitudes.

6. Curriculum can influence attitudes.

Limitations

1. Outside variables that may affect attitudes, such as media, were not controlled.
2. The sample of health education instructors may not be representative of instructors at other universities, hindering generalizability.
3. Length of the module may not be sufficient to influence attitudes.
4. Other modules within the curriculum may contain bias limiting the effect of this module.
5. Student participation was limited to those in attendance on the days of survey administration and on both days of the unit.

Delimitations

1. Only the introductory personal health course at this selected university participated.
2. Only college students enrolled in this personal health course were selected to participate.
3. Using a quantitative survey instrument may not fully capture instructor or student attitudes.

Definition of Terms

Adiposity – the amount of fat in the body (CDC, n.d.)

Anti-fat attitudes – “negative attitudes toward obesity” (Morrison, Roddy, & Ryan, 2009, p.80)

Body mass index – weight (kilograms) divided by height (meters) squared (kg/m^2 ; World Health Organization [WHO], 2011b)

Body pedagogies – formal and informal teaching about the body, including curriculum and instruction regarding weight management, eating disorders, and physical education (Evans, Rich, Davies, & Allwood, 2008)

Discourse – “a mode of organizing knowledge, ideas, or experience that is rooted in language

and its concrete contexts (as history or institutions)” (Merriam-Webster, 2012) ;

“practices which systematically form the objects of which they speak” (Foucault, 1972, p.49)

Discourse analysis – “the study of language in use...of the meanings we give language...in the context of society, culture, history, institutions, identity formation, politics, power, and all the other things that language helps us to create” (Gee & Handford, 2012, pp. 1,5)

Discourse position – “the system of ideas or standpoint(s) from which subjects participate and evaluate discourse”; “ideas and values about health” (Welch and Wright, 2011, p.201)

Health at every size[®] – an alternative approach to the weight-based paradigm of health; promotes multi-dimensional health through size acceptance and respect for size diversity, good nutrition, and enjoyable physical activity (ASDAH, 2011)

Medicalization – “defining a [previously nonmedical] problem in medical terms, using medical language to describe a problem, adopting a medical framework to understand a problem, or using a medical intervention to ‘treat’ it” (Conrad, 1992, p.211)

Obesity – “excess body fat. Because body fat is usually not measured, a ratio of body weight to height [BMI] is often used instead...An adult who has a BMI of 30 or higher is considered obese” (National Institutes of Health [NIH], 2007)

Obesity discourse – “...a framework of thought, talk and action concerning the body in which ‘weight’ is privileged not only as a primary determinant but as a manifest index of well-being surpassing all antecedent and contingent dimensions of ‘health’.” (Evans, Rich, Davies & Allwood, 2008)

Overweight – “body mass index (BMI) of 25 to 29.9” (NIH, 2007)

Summary

United States is facing an obesity epidemic according to public health officials. However, many researchers assert the health risk claims associated with obesity are overstated and are in part due to anti-fat attitudes. Weight loss efforts are widely unsuccessful and even detrimental to health at times. Body pedagogies within education provide contradictory messages and may be perpetuating a culture of thinness. A HAES[®] approach to weight management encourages healthy eating, enjoyable physical activity, and positive body image. This study assesses the effect of a curriculum utilizing such an approach on weight attitudes of personal health instructors and college students.

CHAPTER 2

LITERATURE REVIEW

Introduction to Weight Discourse

Perspectives on Weight

At one time, a person with extra pounds was seen as prosperous; heavier women were a sign of sex and fertility; and extra fat was a ward against infectious diseases (Fraser, 2009). Fat was an indication of “health and wealth” (Sobal, 1995, p.68). Extra weight could provide a reserve in times of illness and physicians encouraged weight gain. Cultural ideals, values, and beliefs are often evident in art and literature. The Venus of Willendorf, one of the oldest depictions of the female body, c. 25,000 BC, is thought to be an icon of fertility but is quite fat by today’s standards. Throughout history, many depictions of bodies, particularly women’s bodies, have been “fleshy”. For example, Renaissance artists often illustrated women with rounded abdomens. Fat was favored in literary works also. Shakespeare’s Falstaff from *Henry IV* and Cervantes’ Sancho Panza from *Don Quixote*, both fat characters, were depicted as “jolly, lovable, and good natured” while thin characters such as Don Quixote and Hamlet were “miserly and agonizing” (Eknoyan, 2006, p.424). Similar characteristics can be seen when comparing Santa Claus and Scrooge (Eknoyan, 2006). Contemporaries in the late nineteenth century, Elizabeth Cady Stanton was commended for her heaviness, while Susan B. Anthony was “criticized for her gauntness” (Stearns, 2002, p.9). Women in upper classes padded their clothing to appear larger as late as 1895 (Stearns, 2002).

Around the turn of the twentieth century, attitudes about fat and weight began to change in the United States. Fat was starting to be seen as less attractive and also as a possible health risk (Fraser, 2009). Following the agricultural and industrial revolutions, food was more

abundant and weight could no longer be used as a sign of class or wealth (Sobal, 1995). Women, in particular, began to control their weight. The early 1900's brought about a "moral mobilization against fat" (Stearns, 2002, p. 23). Weight was viewed as bad, even sinful (Sobal, 1995). As weight became an issue of morality, fat people were thought to be gluttonous and unable to control their impulses (Fraser, 2009; Sobal, 1995). While fasting or restrained eating had long been associated with morality among the religious, the immorality of fat *bodies* was a new phenomenon. During World War I, staying slim was considered a "patriotic duty" (Stearns, 2002, p.23). During the Cold War, fat bodies were soft, abnormal, and a sign of weakness. National security was at stake with soft bodies, and gym classes became "first line defense" (Azzarito, 2007, para. 14). At a news conference in 2001, U.S. Health and Human Services Secretary Tommy Thompson suggested all Americans lose 10 pounds "as a patriotic gesture" (Rosenblatt, 2001, para. 6).

Having a fat body was, and is, considered deviant. Deviance can be viewed as a social problem and society may apply moral, medical, or political models to define, explain, and solve the problem. Once fatness was viewed as deviance, a model to characterize the problem was applied. A moral model of fatness asserts individuals are responsible for their weight and allows for social control through punishment (e.g. ridicule or stigmatization). While initially the moral model was applied, fatness was not necessarily considered a serious problem by most of society (Sobal, 1995).

However, as fat became culturally undesirable, the medical community also shifted positions early in the twentieth century, providing patients with means of losing weight, such as arsenic and strychnine at first (Fraser, 2009). The Metropolitan Life Insurance Company conducted actuarial studies early in the twentieth century that associated excess weight with

higher mortality among policyholders (Eknoyan, 2006). These changes began the medicalization of weight (Fraser, 2009; Sobal, 1995). Instead of immorality, fat became an illness. The adoption of a medical model of fat was established through changes in terminology (e.g. obesity vs. corpulence), definition of disease, and development of medical treatments (Sobal, 1995). A variety of subset medical models have been applied to fatness, such as genetic disorder, endocrinology disorder, addictions, or personality disorder models. The multiple models each provide means for medicalizing fat, however, at the same time their incongruence weakens the overall argument (Sobal, 1995). While the medical model of fatness is widely accepted today, both medical and moral models are applied and may serve to reinforce one another (Boero, 2007).

Around the late 1960's, a size acceptance movement started in reaction to the moral and medical models of fat (Sobal, 1995). Advocates within the movement call for a demedicalization of fat and promotion of size diversity. Sobal (1995) referred to this perspective as the political model of fat because advocates often frame weight discussions politically, focusing on oppression of fat people. The U.S. has a history of antidiscrimination and civil rights activism and framing weight as a diversity issue follows in that tradition (Saguy & Riley, 2005). LeBesco (2001) contends that fat is not just a condition of health or appearance, but of politics, and fat people could constitute a subversive culture rejecting current social norms of bodies.

The size acceptance movement, also referred to as the fat acceptance movement, is a result of grassroots efforts. The National Association to Advance Fat Acceptance (NAAFA) was formed in 1969, initially called the National Association to Aid Fat Americans, as a civil rights organization working to improve lives of fat people by eliminating size discrimination (NAAFA, 2011). In 1972, a handful of more radical NAAFA members with feminist ideologies formed the

Fat Underground in Los Angeles. Although folding after just a decade, the Fat Underground brought visibility to fat activism during the 1970's through speaking, demonstrations, and publications (Fishman, 1998). Along with NAAFA, several organizations such as the Council on Size and Weight Discrimination founded in 1991, the International Size Acceptance Association (ISAA) in 1997, and the Association for Size Diversity and Health (ASDAH) in 2003 continue the size acceptance movement (ISAA, n.d.; ASDAH, 2012a, 2012b). The political model has not gained as much support as the other models of fat although evidence of growth includes formation of organizations, publications, and conferences (Sobal, 1995).

Discourse

The language within these models conflicts at times. Language does more than deliver information (Gee, 2011). Language reflects values and can create social meanings. When one considers the function of language to influence people's understanding of their world (Cameron, 2001), words, language, and discourse become important factors within the characterization of a phenomenon, such as fatness. Each model (moral, medical, or political) draws on a different discourse to describe fatness. Foucault (1972, p.49) defined discourses as "practices which systematically form the objects of which they speak." While each model in theory is distinct, the discourses of fatness are not mutually exclusive but form a web of concepts that "discursively constructs" (Cameron, 2001, p.16) a social reality.

Language changes are just one example of shifting values in terms of weight (Sobal, 1995). With three differing models or discourses of fat at play in today's society, many terms associated with weight have negative connotations to different groups of people. Illustrating the current dominance of the medical model of fat, medical terms are used most frequently to

describe weight. “Overweight” and “obesity” are most commonly used in medical and health research, possibly because they are quantifiable (Johnson, 2002).

Scientific terms are often believed to be neutral but medical language is not value-free (Tiefel, 1978). Obesity is a highly medicalized term indicating sickness or disease and, although, overweight and obesity are common terms, they “are neither neutral nor benign” (Wann, 2009, p. xii). Wann posited that “‘overweight’ is inherently anti-fat” (2009, p. xii) and does not allow for any size diversity. Furthermore, like “fat,” obesity is considered to be a socially derogatory term and may increase prejudice (Wadden & Didie, 2003; Wann, 2009). Obese, and even more so, “morbidly obese”, are offensive terms to many people (Johnson, 2002).

Many size acceptance advocates prefer the term “fat” as a simple descriptor or adjective, similar to tall or thin (Wann, 2009). In reclaiming the word fat, they hope to reduce stigma associated with it, similar to the gay rights movement reclaiming the term “queer” (Saguy & Riley, 2005; Wann, 2009). In a study including 390 primary care patients, participants did not prefer “obesity” or terms such as excess fat, fatness, large size, or heaviness (Volger et al., 2012). Simply referring to “weight” was most preferred among the sample (Volger et al., 2012). Other alternative terms include above-average weight, which also has a “mathematical origin” (Johnson, 2002, p.485), or healthy weight as compared to using ideal weight.

Beyond descriptive terms for weight, metaphors are used to describe weight-related health as well. Metaphors can help people make sense of new concepts and are used frequently to describe health. For example, “the body’s ‘defense mechanisms’ are activated when we ‘fight off’ an illness” (Barry, Brescoll, Brownell, & Schlesinger, 2009, p. 8). Disease metaphors are significant when the disease’s cause is unclear or has multiple determinants, or when treatments for the disease are ineffective. The more mysterious a disease, the more likely the metaphors

may link to moral or social problems. Language of war is used commonly in referring to disease. For instance, cancer cells “invade” the body and begin to “colonize” (Sontag, 1978). A military metaphor was used when former U.S. Surgeon General Koop declared “war on obesity” (Koop, 1997). Sontag (1989) reasoned illness as war situates *us* against *them*, the disease being the enemy.

Another common metaphor is that of an epidemic or plague. Terms such as epidemic and plague suggest fast spreading, contagious infection with devastating effects. The epidemic metaphor is used widely for a multitude of conditions such as insufficient sleep, tobacco use, and prescription painkiller overdoses (CDC, 2011e; WHO, 2011c; CDC, 2011f). The plague metaphor more readily implies a moral punishment than that of an epidemic. For instance, referring to AIDS as the “gay plague” implied not only a devastating health threat, but one from a marginalized or feared group. Metaphors may provide means for thinking about who is responsible for the problem (Barry et al., 2009). Reports of an “obesity epidemic” are rampant and, although less prevalent, the metaphor of an “obesity plague” is applied as well (Boero, 2007; Philipson & Posner, 2010). The obesity epidemic is described as “spreading,” similar to the spread of communicable disease (Mokdad, et al., 1999). Weight is discussed regularly in terms of a crisis, threatening the health of the nation and propagating fear of weight gain (Boero, 2007).

Current weight discourse is a combination of social and biomedical semantics. Obesity as an illness or disease is presented in media and much of scientific literature as certain and real. The dominant discourse, obesity discourse, centers on the “obesity epidemic” and the imperative to prevent or treat the condition. The objectivity of obesity discourse is not widely questioned, but assumed. However, obesity discourse does not just inform the public of scientific facts but

creates meaning through language (Barry et al., 2009; see also Treichler, 1987). Treichler's (1987) critical analysis of AIDS discourse highlighted ways in which cultural misconceptions are reproduced even in scholarly work. Similarly, cultural attitudes regarding fat and bodies shape public discourse as well as scientific discussion. Critics of obesity discourse, from a broad range of disciplines, challenge the validity of claims and assert that the obesity epidemic has become a moral panic (Campos, Saguy, Ernsberger, Oliver, & Gaesser, 2006; Fraser, Maher, & Wright, 2010). Little attention is given to the contradictions and uncertainties within the research or to the social construction of weight (Burrows & Wright, 2007; Rogge, Greenwald, & Golden, 2004).

Obesity discourse is value-laden and neglects a more nuanced, balanced discussion of bodies and health. Obesity discourse is situated within a larger discourse of health and the current culture of healthism continues to support the dominant obesity discourse. "Healthy" individuals monitor and continually strive to "improve" their bodies and lives (Welch & Wright, 2011).

The "Obesity Epidemic"

Obesity

Overview.

Overweight is defined as more weight than is considered normal for a specific height (Field, Barnoya, & Colditz, 2002) and could be a result of larger bone mass, fat, fluid, or even muscle (National Heart, Lung, and Blood Institute [NHLBI], 2010). In theory, obesity is having an excess of body fat (NHLBI, 2010) but is generally defined in studies as weight in excess of a standard (Ernsberger & Haskew, 1987; Field, et al., 2002). Obesity is most commonly assessed via weight, body mass index (BMI), or waist circumference, although none are a measure of

adiposity (Prentice & Jebb, 2001). Body fat is difficult to measure and not as practical or convenient as measuring weight (Ogden, Yanovski, Carroll, & Flegal, 2007). BMI is used generally to determine overweight or obesity in research. BMI is calculated by dividing a person's weight in kilograms by their height, in meters, squared (kg/m^2). Overweight is classified as a BMI of equal to or greater than 25; obesity is a BMI of equal to or greater than 30 (WHO, 2011b).

Use of BMI is based on the assumption that it reflects body fat stores (Field et al., 2002; Gallagher et al., 1996). While simple to calculate and widely used, BMI does not provide a particularly good estimate of fat or of health risk (Kline, 2001; Prentice & Jebb, 2001). In fact, the calculation was not intended to be used to determine body composition or adiposity but to study growth patterns (Eknoyan, 2008; Keys, Fidanza, Karvonen, Kimura, & Taylor, 1972). The variance for individuals is large and, therefore, reveals little about individual body composition (Kline, 2001). A given BMI does not represent the same proportions of body fat, health risk, or degree of overweight among individuals (Ogden et al, 2007). Today, BMI is used as a diagnostic tool for individuals although "the potential for BMI misclassification is high" (Kline, 2001, p. 12) and the cut-offs are inappropriate for many groups (Prentice & Jebb, 2001). Despite many limitations, health professionals continue to rely on BMI in clinical settings (Ogden et al., 2007). However, BMI is more appropriate for monitoring population trends (Kline, 2001).

The U.S. has collected data on weight since at least the early 1960's (CDC, 2011a). National prevalence estimates related to weight are produced with data collected from the National Health and Nutrition Examination Survey (NHANES; Ogden, Carroll, Kit & Flegal, 2012). Approximately 5,000 individuals are included in the nationally representative sample. Height and weight data is collected via physical examination for NHANES (CDC, 2011a). Self-

reported height and weight data have been collected through the state-based Behavioral Risk Factor Surveillance System (BRFSS) since 1984 (CDC, 2008). By 1994, all states were participating in the BRFSS and over 350,000 Americans are surveyed each year (2008). Both NHANES and BRFSS data are used to estimate prevalence of obesity.

The CDC (2011d) reports significant increases in obesity over the past few decades. Prevalence of obesity among U.S. men and boys has increased in the last decade but has not changed significantly for women and girls overall during that time (Ogden, Carroll, et al., 2012). Currently, more than a third of Americans are estimated to be obese (Flegal, Carroll, Ogden, & Curtin, 2010). Globally, the World Health Organization (2011b) estimated 1.5 billion adults were overweight in 2008 and, of those, nearly 500 million were obese. These statistics have led many to label obesity a public crisis and even declare “war on obesity” (Koop, 1997; Douglas, 2010). According to the CDC (2011d) and World Health Organization (2011a), the United States, as well as many other nations, is facing an “obesity epidemic.” Ogden, Carroll, Kit and Flegal (2012) report the prevalence of obesity has not changed significantly in recent years, however. Disparities in prevalence exist with age, education level, and race/ethnicity. Prevalence estimates vary by state ranging from 18.6% to 34.4% with states in the South and Midwest having higher percentages, possibly due to demographics in those areas (Sherry, et al., 2010).

Etiology.

Although excess fat defines obesity, for all practical purposes, obesity is measured in terms of weight. Weight gain is explained as a result of an imbalance between energy intake (calories ingested) and energy output (calories burned). Energy is obtained through ingesting foods and beverages containing carbohydrate, protein, fat, or alcohol. The body uses energy for physical exertion and metabolic functions. Although the energy equation is simple, the actual

mechanisms influencing the balance are tremendously complex. For instance, factors affecting intake, such as hunger and appetite, are influenced by both internal regulatory systems and environmental determinants. Likewise, factors affecting output have physiological and behavioral foundations as well (Leibowitz, 2002; Ravussin, 2002).

Genetics play a role in weight gain and may account for 30-70% of weight variability among the population (Bouchard, 2002). Over 600 loci on the human gene map have been associated with obesity (Rankinen, et al., 2006). Weight is “highly heritable” (Price, 2002, p.75) evidenced through multiple twin and adoption studies (Bouchard, 2002). Whether certain genes *cause* obesity or *predispose* an individual to obesity is not as clear (Bouchard, 2002). Although environmental conditions can influence how genes are expressed (Rankinen, et al., 2006), the “magnitude of a response” may still be genetically determined (Price, 2002, p.77).

Many physiological mechanisms encourage eating behavior and energy storage, ensuring survival in times of famine (Peters, Wyatt, Donahoo & Hill, 2002). Weight regulation is a complicated process involving genes, neurotransmitters, hormones, and other metabolic factors affecting appetite, nutrient metabolism, and fat storage (Chua & Leibel, 2002; Leibowitz, 2002). Despite extensive metabolism research, mechanisms are not fully understood (Hill, 2002; Kushner, 2002). While these mechanisms have helped to propagate the species during food shortages, today’s environment of food abundance and limited physical activity is quite different. Physiological mechanisms working in opposition to energy conservation, for instance, a biological drive to burn excess calories, do not seem to exist (Peters, et al, 2002).

Many researchers contend that, despite genetic and physiologic influences, increasing rates of obesity can be attributed to various lifestyle behaviors. Eating habits have changed dramatically in the last century, while genetic profiles have not. Americans eat out more

frequently, meals and portion sizes tend to be larger, and foods tend to be calorically dense. Many people also lead sedentary lives (Weight-control Information Network [WIN], 2008). The lifestyle combination of high caloric intake and low energy expenditure can promote weight gain.

Environmental influences on obesity have received more attention lately, evidenced by an increase in publications and emergence of terms such as toxic or obesogenic environments (Papas et al., 2007; Horgen & Brownell, 2002; Swinburn, Egger & Raza, 1999). Individuals are immersed in an environment of inexpensive high calorie foods, persuasive marketing, and convenience (Horgen & Brownell, 2002). In addition, physical activity is hindered by the built environment and technological advances (James, 2002; Papas et al., 2007). The built environment refers to man-made surroundings and includes the broad physical and social environments (Papas, et al., 2007). A lack of sidewalks within a neighborhood, distance from work or schools, and accessibility of parks are physical examples of the built environment that could influence health, particularly physical activity levels (WIN, 2008). The social environment, such as socioeconomic status and culture, influences diet and physical activity also (Papas, et al., 2007; WIN, 2008). For instance, poverty may hinder transportation or mobility, thereby limiting availability of some foods (Papas, et al., 2007). In terms of technology, physical activity requirements both at home and at work have decreased as a result of mechanization and technological advances (James, 2002). Modern society promotes obesity in almost every aspect (Peters et al., 2002).

Health Implications

The crusade against obesity has been waged in the name of health. Obesity is associated with risk for “hypertension, type 2 diabetes, stroke, gallbladder disease, osteoarthritis, sleep

apnea and respiratory problems, and endometrial, breast, prostate, and colon cancers” (National Institutes of Health/National Heart, Lung, and Blood Institute [NIH/NHLBI], 1998, p.1) and is attributed to be the second leading cause of preventable deaths in United States (Sibbald, 2002). However, some researchers contend health risks from obesity have been widely exaggerated (Bacon, 2008; Campos, Saguy, Ernsberger, Oliver, & Gaesser, 2006).

Increased risk of mortality is often associated with obesity, particularly BMI over 35 (Flegal, Graubard, Williamson & Gail, 2005). However, at lower levels of overweight and obesity, the relationship with mortality is more controversial (Malnick & Knobler, 2006). A U-shaped association between weight and mortality, i.e. increased risk of mortality associated with very underweight and very obese BMI classifications, has been suggested by many researchers (Calle, Thun, Petrelli, Rodriguez, & Heath, 1999; Engeland, Bjorge, Selmer, & Tverdal, 2003; Gu, et al., 2006). Using NHANES data, Flegal and colleagues (2005) observed the risk of mortality to be lowest in the overweight category (BMI 25 – 29.9). Similarly, the lowest mortality rate in a representative sample (n = 154,736) of Chinese men and women was observed at BMI 24 to 27.9 (Gu, et al., 2006). Engeland et al. (2003) reported death rates were lowest between BMI 22.5 and 25 among their large Norwegian sample of almost 2 million participants. However, they also suggested shifting the BMI categories due to an increased risk of mortality in the lower “normal” BMI as compared to the “pre-obese” BMI category (Engeland, et al., 2003). Finally, a limitation of many epidemiological studies is they generally do not track weight gains or losses (i.e., weight cycling) between follow-ups. Several studies have shown excess mortality is associated with weight cycling but not with stable weights in the overweight and obese categories (Diaz, Mainous, & Everett, 2005; Lissner, et al., 1991).

Studies frequently cite obesity, determined by BMI, as a risk factor for disease, assuming adiposity is the actual threat. As discussed previously, BMI is a limited proxy for adiposity. Furthermore, distribution of fat may have more influence on health than general adiposity itself. Whether fat is subcutaneous or visceral, or deposited either peripherally versus centrally all make a difference in determining health risk (Campos, et al., 2006). However, even the basic assumption of fat being pathological can be questioned. No short or long-term benefits to blood pressure, LDL or HDL cholesterol levels, triglycerides, or fasting glucose were observed after removal of approximately 20 lbs of abdominal fat via liposuction among 15 women followed for 10 weeks, 7 of the women were followed for over one year (Mohammed, Cohen, Reeds, Young, & Klein, 2008). Campos, et al. (2006) suggests other underlying metabolic issues may be at the root of such health concerns and obesity may be one manifestation but not necessarily the cause.

Many studies used as evidence for an association between obesity and morbidity fail to distinguish between weight and confounding factors, such as physical inactivity or diet. “Once activity level and diet consumption are accounted for, the relationship between body size and physical health is rather weak” (Hawks & Gast, 2000, p.26). A sedentary lifestyle and diet high in fat may promote cardiovascular disease, as well as encouraging weight gain in some people (Ernsberger & Haskew, 1987). Measuring nutrition and physical activity are more difficult methodologically than measuring BMI. Furthermore, “poor diet” is difficult to define (Cundiff, 2006). Research also suggests not all obese individuals are metabolically unhealthy, just as simply being thin is not protection from disease (Karelis, St. Pierre, Conus, Rabasa-Lhoret, & Poehlman, 2004). Many thin individuals also have poor diet and a lack of physical activity while many overweight and obese individuals eat healthy and exercise (Cundiff, 2006). Researchers have dubbed individuals with high fat mass but normal metabolic profiles the metabolically

healthy, but obese (MHO). Thin individuals with metabolic abnormalities such as insulin resistance, hypertension, or dyslipidemia are termed the metabolically obese, but normal weight (MONW) and are estimated to account for approximately 10% of Americans (Karelis, et al., 2004; Romero-Corral et al., 2010).

Some research suggests benefits of obesity such as protection against infectious diseases, chronic obstructive pulmonary disease, osteoporosis, premature birth, anemia, and Type I diabetes (Ernsberger & Haskew, 1987). Furthermore, obesity is associated with improved survival in chronic hypertension, Type 2 diabetes, and hyperlipidemia (Amundson, Djurkovic, & Matwyloff, 2010; Cassell & Gleaves, 2006). This reduced risk and improved survival rate in some diseases presents an obesity paradox, leading many researchers to further question the assumption that adiposity alone is the cause of such maladies (McAuley & Blair, 2011; Muennig, 2008).

Treatment

Prevention and screening.

As a disease or illness, obesity requires strategies for prevention and treatment. Primary prevention efforts delay or prevent onset of disease while secondary prevention strategies lead to early diagnosis and help to limit impairment (McKenzie, Neiger, & Thackeray, 2009).

Prevention efforts often are aimed at preventing weight gain in children. Early intervention strategies run the gamut of the ecological model focusing on individuals, families, schools, communities, industry, and government (Bauer, Haines, & Neumark-Sztainer, 2009; Robinson, et al., 2011). Education and behavior modification typify primary prevention interventions for individuals and families. School policies regarding vending machines, cafeteria offerings, health education, and physical education mandates are widespread. Community and governmental

interventions for prevention may not be as common but could include community centers offering exercise classes for the public, regulations regarding food advertisements, or tax deductions for exercise programs (Bauer, et al., 2009; Robinson, et al., 2011). The U.S. Preventive Services Task Force ([USPSTF], 2003) recommends screening all adult patients in clinical settings for obesity using BMI. The USPSTF (2010) also recommends screening children 6 years or older using BMI, plotted on a percentile chart, while the American Academy of Pediatrics (2003) recommends plotting BMI annually for all children.

Screening practices have expanded from clinical settings to schools as well. Schools provide an opportunity to reach the majority of children and adolescents and are used as an early screening site for other impairments such as speech or vision (Adams & Adams, 2009). Use of BMI report cards, a confidential report of a child's weight status sent to parents, is increasing although evaluations of the practice do not suggest efficacy in reducing childhood obesity rates and raise questions of potential harm to students (Evans & Sonnevile, 2009; Wake, 2009). Institutions of higher education also participate in screening. In 2006, Lincoln University in Pennsylvania created a controversy by requiring all freshmen to have their BMI's calculated and, if over 30, enroll in a "Fitness for Life" course in order to graduate. Amid complaints and media attention, the University revised the policy to require all students to take a wellness course in which the professors could evaluate students and recommend additional fitness coursework (Ashburn, 2009). The purpose of screening is for early diagnosis so that treatment can begin prior to the condition worsening. Weight loss is the treatment prescribed for obesity.

The dominant perspective in American society is that of individual responsibility (Minkler, 1999). Despite the growing attention to social factors and complexity of obesity, interventions primarily focus on individual responsibility for weight management and, therefore,

individuals are targeted to change behaviors to reduce risk factors (O'Rourke, 2006). Health professionals recommend restrictive diets, physical activity, behavior modification, prescription medications, and even surgeries as weight loss treatments (Fabricatore & Wadden, 2003). Individuals also turn to other methods to control their weight such as laxatives, vomiting, over-the-counter diet pills, and smoking (Field, Manson, Taylor, Willett, & Colditz, 2004).

Weight loss.

Dieting.

Restrictive diets may be the most common means of weight loss. Generally, "dieting" refers to reducing calories in order to lose weight but the term encompasses many approaches (Brownell & Rodin, 1994). The efficacy of dieting is questionable. An analysis of long-term randomized studies did not support the efficacy of dieting for long-term weight loss (Mann, et al., 2007). Of studies that showed significant statistical difference in weight loss maintenance between diet and control groups, the practical differences were very small; maintained losses ranged from approximately two to 10 pounds. Most weight loss studies are observational without controls, have poor follow-up rates, and rely on self-reported data often collected via phone or mail. Out of 10 prospective studies on dieting, only one reported significant weight loss over time while two reported no change and seven reported weight gain (Mann, et al., 2007). Multiple study findings indicate dieting is a predictor of future weight gain, even after controlling for confounding variables (Field, et al., 2003; Korkeila, Rissanen, Kaprio, Sorensen, & Koskenvuo, 1999; Mann, et al., 2007; Neumark-Sztainer, Wall, Story, & Standish, 2006; Savage, Hoffman, & Birch, 2009).

In addition to being ineffective, dieting may be detrimental to health. Chronic dieting can lead to nutrient deficiencies, psychological stress, disordered eating behaviors, fatigue, and

changes in metabolism (Manore, 1996; Grodner, 1992). Obese women are not expected to be at risk of osteoporosis due to weight bearing effects on bone density. However, researchers studying obese, chronic dieters found 31% had either osteopenia or osteoporosis (Bacon, Stern, Keim, & Van Loan, 2004). Furthermore, dieting may be a stepping stone to developing an eating disorder (Patton, Selzer, Doffey, Carlin, & Wolfe, 1999; Stice, Marti, & Durant, 2011). Dieting relies upon cognitive control of eating versus using physiological cues such as hunger and satiety to control eating (Spear, 2006). Ethically, promoting dieting for weight loss collides with the philosophy in treating eating disorders. “The benefits of dieting are simply too small and the potential harms of dieting are too large for it to be recommended as a safe and effective treatment for obesity” (Mann, et al., 2007, p.230).

Exercise.

Physical activity or exercise is also recommended for weight loss. While physical activity garners many health benefits, such as decreased risk of disease and improved psychological wellbeing (Warburton, Nicol, & Bredin, 2006), long term weight loss is not one of them. A meta-analysis of weight-loss trials revealed exercise alone results in minimal weight loss (Franz, et al., 2007). Coupled with diet restriction, physical activity can aid in weight loss and weight maintenance is greater with diet plus exercise interventions versus diet alone (Franz, et al., 2007; Warburton, et al., 2006). However, regain is still likely, resulting in a “more is better” approach regarding physical activity for weight maintenance from the American College of Sports Medicine (ACSM). The ACSM recommends more than 250 minutes of moderate intensity physical activity per week to prevent weight regain, although acknowledging the lack of literature to support a strong guideline (Donnelly, et al., 2009).

Behavior modification.

Behavior modification is at the heart of most weight loss recommendations. Behavioral changes along with changes in diet and physical activity fall under “lifestyle modification”. Behavioral treatment includes self-monitoring, self-regulation, and cognitive restructuring. Examples of self-monitoring include using food logs or regular weighing (Wilson & Brownell, 2002). While several studies point to self-monitoring as a successful means of weight loss or maintenance (Butryn, Phelan, Hill, & Wing, 2007; Linde, Jeffery, French, Pronk, & Boyle, 2005; Wing, Gorin, Raynor, & Fava, 2006), not all methods are without risk. Regular self-weighing has been associated with negative psychological outcomes, such as decreased body dissatisfaction and self-esteem, and increased depression and anxiety (Friend, Bauer, Madden, & Neumark-Sztainer, 2012; Mercurio & Rima, 2011; Ogden & Whyman, 1997). Self-regulation includes stimulus control, such as removing cues to eat. Cognitive restructuring is used to change dysfunctional thoughts or attitudes, for instance, about food (Wilson & Brownell, 2002). While behavioral treatment may aid in short term weight loss, losses are not maintained long term (Wilson & Brownell, 2002).

Medications.

When lifestyle modifications fail to produce significant long term weight loss, physicians turn to pharmacotherapy, or use of prescription medications, to produce or speed weight loss. Until recently, two weight loss drugs were approved for long term use, sibutramine (Meridia) and orlistat (Xenical). However, the U.S. Food and Drug Administration (FDA; 2010a), requested sibutramine taken off the market in 2010 after results of clinical trials indicated increase in heart attacks and strokes. While orlistat is still available, both over the counter as Alli or as Xenical by prescription, the FDA (2010b) recognizes the potential for severe liver injury

and requires manufacturers to include additional safety information on drug labels. The FDA approved two new weight loss drugs in 2012, Belviq and Qsymia, after having rejected both in 2010 due to concerns with side effects including possible cancer risk, heart problems, birth defects, and cognitive side effects (Berkrot & Yukhananov, 2012; Pollack, 2012). Both companies are required to conduct post-marketing studies including long term studies to assess risk of major medical complications such as heart attack or stroke (FDA, 2012a; 2012b). Doctors also prescribe drugs “off-label” (i.e. prescribing a drug for an unapproved use) for weight loss. Anti-depressants, such as bupropion (Wellbutrin), anti-seizure medications, such as zonisamide (Zonegran), and anti-diabetics, such as metformin (Glucophage) and exenatide (Byetta), have been prescribed for weight loss although not approved for that indication (Berenson, 2006; WIN, 2010). Pharmacotherapy is intended to be used in adjunct with lifestyle modifications for weight loss and may improve weight maintenance. However, long term use, particularly over one year, is not supported and generally weight regain is seen after discontinuation (Moyers, 2005).

Surgery.

If other methods fail at producing weight loss, surgery is available to patients as well. Generally, surgery is indicated for individuals with a BMI over 40 or over 35 if co-morbidities, such as diabetes, heart disease, or sleep apnea, are present. However, the FDA has approved laproscopic banding for individuals with BMI over 30 if other co-morbidities are present (WIN, 2011). Surgeries can be categorized as either restrictive or malabsorptive/ restrictive. Restrictive surgeries physically restrict the capacity of the stomach while malabsorptive/restrictive surgeries limit stomach capacity and also rely on reducing digestive absorption. Purely malabsorptive surgeries are no longer performed in the U.S. due to serious complications and side effects (Pories & Behsay, 2002). In the U.S., adjustable gastric band (AGB) surgeries are used most

commonly for restriction. An adjustable band is placed laproscopically around the top of the stomach to partition a small pouch. The AGB is a reversible procedure. Other surgeries commonly performed in the U.S. are Roux-en-Y gastric bypass (RYGB), vertical sleeve gastrectomy (VSG), and biliopancreatic diversion with a duodenal switch (BPD-DS). These surgeries require anatomical modifications that are irreversible. With RYGB, the capacity of the stomach is limited and intestinal anatomy is changed so that food bypasses a large portion of the small intestine thereby limiting absorption of nutrients. The VSG removes a majority of the stomach creating a tubular, vertical “sleeve”. In addition to restriction, VSG may also reduce production of a stomach hormone, ghrelin, responsible for appetite (WIN, 2011). VSG is the first step in the BPD-DS surgery. After creation of the sleeve, much of the duodenum and ileum are bypassed to induce malabsorption in BPD-DS (Pories & Behsay, 2002; WIN, 2011).

Gastric bypass is heralded as the only effective long term weight loss method. Surgery results in greater weight losses (20-30 kg), that can be maintained longer (10 years or longer), than with other weight loss methods (Maggard, et al., 2005). Improvements in co-morbidities such as diabetes and hypertension are common as well (Buchwald, et al., 2004). While media reports claim gastric bypass “cures” diabetes (Olsen, 2012), preliminary reports from a new study suggest the cure is temporary, as diabetes returned in 21% of bariatric patients within five years (Preidt, 2012). Furthermore, the surgeries are not without risk. Early mortality rate for gastric bypass surgery is 1% (Maggard, et al., 2005). Complications include, but are not limited to, dumping syndrome, wound infections, disease or permanent nervous system damage caused by nutrient deficiencies, pulmonary embolism, and food intolerances (Pories & Beshay, 2002; WIN, 2011). Although Buchwald and colleagues (2004) conclude that despite the pain, complications, and inconveniences associated with weight loss surgery, quality of life should

improve among surgery patients, Groven, Raheim, and Engelsrud (2010) report the lived experiences of bariatric patients are at times worse than prior to surgery. Chronic complications, such as pain and low energy, restricted participants' lives and feelings of embarrassment of their bodies due to loose skin after weight loss, and shame of the choice to undergo surgery persisted (Groven, et al., 2010). "A procedure that involves altering a healthy stomach and intestine is likely to change the body in profound ways" (Groven, Raheim, & Engelsrud, 2010).

Weight loss maintenance.

The National Weight Control Registry, established in 1994, tracks individuals who have lost at least 30 lbs and have maintained that loss at least one year. The purpose of the Registry is to identify characteristics of individuals who are able to maintain weight losses (Hill, Wyatt, Phelan & Wing, 2005). While some view the Registry as evidence of the viability of weight loss as a treatment for obesity, the Registry sample is not random, nor representative of the general population. Members are self-selected, 77% female, 82% college educated, and 95% Caucasian (Wing & Phelan, 2005).

While weight loss may be achieved, maintenance with any weight loss method is quite difficult, reducing significant long term success (Miller, 1999). Although some researchers have concluded weight loss is sustainable by reporting a maintenance of 23% of initial loss (75% regain) after five years (Anderson, Konz, Frederich, & Wood, 2001), the difficulty of weight loss maintenance is clearly documented and accepted by many researchers (Mann et al, 2007; Witham & Avenell, 2010; Franz, et al., 2007; Wu, Gao, Chen, & van Dam, 2009). Following a prospective cohort study of 7,729 Finnish men and women, researchers concluded weight loss attempts were associated with "major" weight gains (Korkeila, Rissanen, Kaprio, Sorensen, & Koskenvuo, 1999). Furthermore, many weight loss methods are detrimental to health resulting in

malnutrition, bone loss, eating disorders, depression, increased mortality long term, or even sudden death (Berg, 1999).

The cycle of weight loss and regain, or weight cycling, may have its own implication for health. Field, Malspeis, and Willett (2009) reported almost 27% (n=44,882) of women in the Nurses' Health Study were weight cyclers. Weight cyclers gained significantly more weight than non-cyclers but researchers did not observe a strong association between weight cycling and all-cause or cardiovascular mortality after adjusting for several confounding variables (Field, et al., 2009). In a cross-sectional study, Cereda and colleagues (2011) found an association between weight cycling and accumulation of weight and abdominal fat. Among women in the Nurses' Health Study II, researchers also observed weight cyclers gained significantly more weight than non-cyclers (Field, Manson, Taylor, Willett, & Colditz, 2004).

Furthermore, some studies suggest higher mortality with weight loss than with stability or even gain (Droyvold, et al., 2005; Nilsson, Nilsson, Hedblad, Berglund, & Lindgarde, 2002; Sorensen, Rissanen, Korkeila, & Kaprio, 2005; Yaari & Goldbourt, 1998). In a large prospective study of 44,254 Norwegian participants (46.4% male, 53.6% female), Droyvold and colleagues (2005) found a statistically significant higher mortality rate among those who lost weight versus those participants who maintained or even gained weight. Nilsson and colleagues (2002) observed similar results of increased non-cancer mortality rates with weight loss among 5,722 men and concluded weight loss is not favorable in increasing longevity in men. Using NHANES III data linked to the National Death Index, Ingram and Mussolino (2010) also reported a 15% weight loss was associated with increased risk of all-cause mortality among the respondents in all BMI categories analyzed (healthy, overweight, and obese). A 5% to 15% weight loss also was associated with increased mortality among overweight women (Ingram & Mussolino, 2010).

Current obesity treatments are mostly ineffective and some have substantial risks. Interventions aimed at obesity prevention and/or treatment also may lead to unintended adverse outcomes. In a survey of 87 medical residents, 31% felt treatment of obesity was futile (Block, DeSalvo, & Fisher, 2003). Kopelman (2001) found 98% (n = 3,056) of primary care physicians were interested in new approaches to weight management. In addition, obsession with food, weight, and exercise is seen as a problem by those in the eating disorders field. Yet, for fat people that is what treatment or weight loss requires. Burgard (2005, p.48) asks an important question, “Why is [obsession with food, compulsive exercise, and physiological sequelae of starvation] not problematic in heavier people too?” One reason for this discrepancy may be the ubiquity and potency of weight bias.

Weight Stigma

Prevalence

Societal beliefs about controllability of weight perpetuate bias; if perception is that individuals have control over the cause, a stigma may develop (Musher-Eizenman, Holub, Miller, Goldstein & Edwards, 2004). The portrayal of lifestyle causes of obesity simplistically points to individual choices, making it appear that obesity is a result of poor decision-making (Tomer, 2011). Obesity is often attributed to lack of willpower or laziness and blame is placed on the individual (Puhl & Brownell, 2003; Crandell & Reser, 2005). Even health professionals who claim individuals are not responsible for their weight resort to blame when treatments fail (Boero, 2007). Beliefs of “causal responsibility” (Minkler, 1999, p.122) are widely held and this culture of personal responsibility can lead to victim-blaming (Azzarito, 2007), also seen with conditions of HIV/AIDS and alcoholism (Leichter, 2003). Obesity is highly stigmatized in

United States and negative weight bias can lead to prejudice and discrimination (Puhl & Brownell, 2001).

Continuing to hold individuals solely responsible for their health ignores the complexities of health, including racial and socioeconomic determinants (Azzarito, 2007). Herndon (2005) suggests obesity provides a socially acceptable means for criticizing marginalized groups. Portraying the ideal citizen as thin marginalizes many individuals in the U.S. Often these individuals already belong to marginalized groups such as women, immigrants, and minorities (Herndon, 2005).

Stigmatization may be responsible for negative health consequences such as disordered eating, depression, and body dissatisfaction (Friedman, et al., 2005; Schvey, Puhl, & Brownell, 2011). Multiple studies have shown weight stigmatization may lead to increased food consumption, possibly as a means of coping (Puhl & Brownell, 2006; Schvey, Puhl, & Brownell, 2011). Furthermore, stigmatization is associated with decreased motivation for exercise or physical activity (Vartanian & Novak, 2011). Although some may think shame and stigma would motivate individuals to adopt healthy behaviors and promote weight loss, weight stigmatization likely has the opposite effect, contributing further to obesity (Vartanian & Shaprow, 2008).

Media has a profound effect on cultural ideals and norms. Weight bias in media is prevalent and socially acceptable (Schvey, Puhl, & Brownell, 2011). In a content analysis of online news stories covering obesity, researchers found images of overweight/obese individuals were more likely to be negative than those of non-overweight individuals. Overweight people were more likely to be shown with only their abdomen or lower body (i.e. without heads), not fully clothed, or eating. They were less likely to be shown in professional attire or exercising

(Heuer, McClure, & Puhl, 2011). Television portrayals tend to be funny characterizations, or obese individuals are portrayed as slobs, lazy, or even dumb (Weston & Bliss, 2005).

Negative media portrayals perpetuate stigmatization. In a randomized, experimental design study, viewing negative or stereotypical images of obese individuals resulted in higher anti-fat attitudes among participants than those who viewed positive images (McClure, Puhl, & Heuer, 2011). In a similar study, participants who viewed a positive image of an overweight individual were less likely to want social distance from the model than those who viewed a negative image. Lower anti-fat attitude scores were associated with the positive images as well. Participants also reported they preferred the positive images to the negative or stigmatizing images (Pearl, Puhl, & Brownell, 2012).

Weight bias has long been documented in employment settings. Larkin and Pines (1979) established experimentally that stereotypes of overweight existed and could lead to discrimination in a simulated work setting. Overweight individuals were seen as “less competent, less productive, not industrious, disorganized, indecisive, inactive and less successful” (Larkin & Pines, 1979, pp.315-316) than average weight individuals. In addition, participants did not recommend hiring overweight applicants as highly as average weight applicants (Larkin & Pines, 1979). Multiple studies since that time have found similar results (Finkelstein, Demuth, & Sweeney, 2007; O’Brien, et al., 2008; Polinko & Popovich, 2001; Popovich, et al., 1997; Sartore & Cunningham, 2007). Overweight individuals are overlooked for promotions, earn less than their thin counterparts, and may not be hired for positions (Roehling, 1999). Career advancement lags, as does income (Maranto & Stenoien, 2000; Sarlio-Lahteenkorva & Lahelma, 1999). In fields such as physical education or fitness, overweight individuals may be particularly disadvantaged. In a survey of hiring personnel, Melville and Cardinal (1997) found overweight

candidates were at a disadvantage for physical education teaching positions. Candidates who were 10 pounds overweight had about a 12% chance of being passed over for positions, while 46% of hiring personnel would pass over candidates who were 20 pounds overweight. Authors suggested hiring personnel should either objectively state weight as a job qualification or work toward minimization of bias (Melville & Cardinal, 1997). In some instances, discrimination based on weight may be legal if the employer can demonstrate weight is a “bona fide occupational qualification” (Roehling, 2002, p.179). More notably perhaps, Melville and Cardinal (1997) recommended professional preparation programs should not only inform students of this disadvantage but insure their students achieve physical fitness. They hoped to motivate overweight teacher candidates to be better role models by resolving weight problems with good nutrition and exercise (Melville & Cardinal, 1997).

Weight bias has also been observed among health professionals. Even health professionals working closely with obese patients and specializing in obesity management have shown negative bias toward the overweight population (Schwartz, Chambliss, Brownell, Blair & Billington, 2003; Teachman & Brownell, 2001). Physicians, nurses, dietitians, and other health professionals, as well as students in those fields, exhibit negative attitudes toward obese individuals (Schwartz, et al., 2003; Berryman, Dubale, Manchester & Mittelstaedt, 2006; Chambliss, Finlay & Blair, 2004; Harvey, Summerbell, Kirk & Hills, 2002; Persky & Eccleston, 2011). Weight bias among health educators appears to be a sparse area of research literature. However, researchers reported strong implicit anti-fat attitudes present in undergraduate students in a health promotion/public health program (O’Brien, Puhl, Latner, Mir & Hunter, 2010).

Weight bias can discourage obese individuals from seeking basic healthcare or result in decreased quality of care. Obesity influences diagnoses and treatments (Fabricatore, Wadden &

Foster, 2005). During initial care visits, physicians provided less health education to obese patients than non-obese patients (Bertakis & Azari, 2005). Drury and Louis (2002) found that, as BMI increased, healthcare utilization decreased; participants were more likely to delay basic healthcare if they knew they would be weighed, had a recent weight gain, or thought the healthcare professional would request they lose weight. Impact on health care could be gendered as well. Bertakis and Azari (2005; 2007) analyzed over 500 initial primary care visits and found women were twice as likely to be diagnosed obese than males with BMI over 30. Significantly less time was spent on physical examinations for females than for males and physicians discussed tobacco and alcohol less with women than men, although usage rates were similar (Bertakis and Azari, 2007).

In 1994, the National Education Association (NEA) acknowledged bias exists in school environments ranging from early childhood programs through institutions of higher education. Children demonstrate negative biases toward obese peers through teasing, hostility, and exclusion (Hayden-Wade, Stein, Saelens, Zabinski, & Wilfey, 2005; Robinson, 2006). McCormack and colleagues (2011) reported 40% of sixth grade students (n = 148) had been teased about their weight by their peers. Obese children and adolescents may experience fewer friendships, fewer dating relationships, depression, and decreased self esteem as a result of this peer victimization (Pearce, Boergers & Prinstein, 2002; Latner & Schwartz, 2005). Educators also exhibit biases toward obese students through avoiding eye contact, ignoring in class, refusing to write recommendation letters, and ridiculing (NEA, 1994; Latner & Schwartz, 2005). Consequences can include lowered self-esteem, poorer academic performance, and psychological distress for students.

Reducing Anti-Fat Prejudice

Literature regarding interventions to reduce anti-fat prejudice is limited but is expanding. Several studies have focused on changing beliefs about controllability of weight to influence anti-fat prejudice. An early intervention targeting adolescent girls had positive results when participants were told their peer had a thyroid condition causing obesity (DeJong, 1980). Crandall (1994) also found positive results with college students using a message about the influence of genetics on weight. In a recent study of college students, researchers reported a decrease in two implicit anti-fat measures and a decrease in one of the explicit measures (Dislike of Obese Persons) in the treatment group following three, 1-hour tutorials addressing genetics/environmental causes of obesity (O'Brien, et al., 2010). However, results have been mixed. O'Brien and colleagues (2010) also observed an increase in the Willpower scale of the explicit anti-fat measure among both the control and treatment, but not the comparison, groups. Anesbury and Tiggemann (2000) were able to change controllability beliefs in children aged 9 to 11 years but that did not transfer to a reduction in stereotyping. A medical explanation for obesity did not improve anti-fat prejudice in similar aged children for Bell and Morgan (2000) either. Teachman and colleagues (2003) targeted adults but did not have positive results after participants read an article on genetic causes of obesity versus the control (no article) or comparison group who read an article about behavioral causes.

Evoking empathy has been another strategy employed to reduce anti-fat prejudice. Teachman et al. (2003) had success reducing bias in adult participants with BMI over 25 using true stories of discrimination to evoke empathy for obese individuals. However, the manipulations did not have the intended effect on other groups (Teachman, et al., 2003). Other studies using empathy have not been successful at reducing anti-fat prejudice in children

(Haines, et al., 2006), high school students (Hennings, Hilbert, Thomas, & Siegfried, 2008), or college kinesiology students (Rukavina, Li & Rowell, 2008).

Interventions using combined strategies have mixed results as well. Using a puppet show to promote size acceptance and evoke empathy, Irving (2000) had favorable results with 5th grade girls. After viewing the show, girls rated larger figures more positively on three of six items (Irving, 2000). Diedrichs & Barlow (2011) saw improved attitudes, sustained after three weeks, in college students following a two hour lecture challenging controllability of weight and promoting size acceptance as compared to either a control or comparison lecture. However, neither Gapinski, Schwartz, and Brownell (2006) nor Harris, Walters, and Waschull (1991) were able to reduce anti-fat prejudice in their samples of college students using empathy and positive portrayals of overweight people in a ten minute video or reading interviews, respectively.

While most interventions have been one-shot programs and lack follow-up, Robinson, Bacon, and O'Reilly (1993) assessed anti-fat prejudice before and after a self-esteem/body image program where participants had individual and group sessions aimed at improving perceptions of fat people and improving self-esteem. Strategies addressing controllability of weight, size acceptance, and positive portrayals of fat people were utilized. Sixty percent of the 40 women had improved scores on the Fat Phobia Scale (Robinson, et al., 1993). Wiese, Jones, and Neises (1992) used empathy, positive portrayals, and messages about controllability to reduce anti-fat prejudice in first year medical students with success. However, after a one-year follow-up there were no significant differences between the control and treatment groups (Wiese, et al., 1992). Hague and White (2005) were able to sustain reduction in anti-fat prejudice among student teachers and teachers after 6 weeks following an online intervention promoting size acceptance. They also noted that attitudes were positively influenced by the perceived expertise and

trustworthiness of the presenter. Attitudes were more favorably influenced by a credible “fat” presenter than with a credible “nonfat” presenter (Hague & White, 2005).

Recent studies have shown some success using social norms or consensus to reduce anti-fat prejudice. Puhl, Schwartz, and Brownell (2005) performed a series of studies to examine the influence of perceived consensus on weight stereotypes. Positive traits (stereotypes) increased and negative traits decreased on post-test surveys after participants were told their peers rated obese individuals more favorably, while unfavorable consensus feedback did not result in significant changes in stereotyping. Researchers also observed improved attitudes among participants when the consensus feedback was from a similar group to that of the participants (in-group) versus receiving consensus information for a group unlike the participants (out-group). Finally, researchers compared different methods for anti-fat attitudes reduction among 200 undergraduates. Groups provided with favorable consensus feedback from an in-group and favorable consensus feedback from a scientific perspective each reported an increase in positive trait ratings and a decrease in negative trait ratings. The groups provided with vignettes on causes or controllability of weight, either genetic/biological or behavioral/lifestyle, did not have any changes in positive trait ratings although negative ratings were decreased in the genetic/biological group and increased in the behavioral/lifestyle group (Puhl, Schwartz, & Brownell, 2005).

No clear cut evidence of effective strategies is available within the limited literature on reducing anti-fat prejudice (O’Brien, et al., 2010). Multiple strategies have been attempted and the instruments measuring anti-fat prejudice vary as well. Evoking empathy alone does not appear to have significant results on anti-fat prejudice (Haines, et al., 2006; Hennings, et al., 2007; Rukavina, et al., 2008) and utilizing controllability of weight as a strategy has mixed

results (Anesbury & Tiggemann, 2000; Bell & Morgan, 2000; Crandall, 1994; DeJong, 1980; Teachman, 2003). However, interventions promoting size acceptance have positive results (Hague & White, 2005; Irving, 2000; Robinson, et al., 1993) as do the studies on social norms (Puhl, et al., 2005).

Role of Schools

Historically, schools have been utilized to promote larger societal changes. As an “instrument of politics” (Arendt, 1961, p.176), education can be used to create new conditions. Using schools to promote health has a long history (Welch and Wright, 2011). Health interventions in public schools provide the potential to reach a majority of children and can influence health and weight through explicit messages, such as curriculum, or implicitly through norms and policies (Bauer, Haines, & Neumark-Sztainer, 2009).

Schools have been used for a multitude of health initiatives. Health education started as a subject in the curriculum called “hygiene” and initially covered topics of physiology and effects of alcohol (Veselak, 2001). The subject has evolved over the years to include a broad range of health topics often reflective of health issues in society. The school environment has also been used to promote health. For example, a formal school lunch program was instituted in New York City schools in 1910 (Veselak, 2001). Today, the National School Lunch Program provides nutritious meals to children at a low cost or even free (United States Department of Agriculture, 2012). Historically, schools have provided health services to students as well. School medical inspections were started as a result of small pox. Over time, schools have been the site for dental and vision screenings, medical examinations, and immunizations (Veselak, 2001). Today, the CDC recommends coordinated school health to improve health and learning of students. Coordinated school health integrates various health initiatives to streamline and maximize

resources and goals. Eight areas of student life are typically targeted for health promotion. These areas are represented by the eight components of coordinated school health. They are health education, physical education, health services, nutrition services, counseling, psychological, and social services, the school environment, staff, and family/community (CDC, 2012).

Schools have been given responsibility in curbing the obesity epidemic and all areas of coordinated school health could be used in the fight. The CDC (2011g) states, “Schools have a responsibility to help prevent obesity and promote physical activity and healthy eating through policies, practices, and supportive environments.” While improving nutrition and physical activity within schools are commendable efforts, addressing self-esteem, self-acceptance, weight-related bullying, and harassment need to be included as well (Bauer, Haines, & Neumark-Sztainer, 2009). Although the CDC (2011g) emphasizes the medical model, specifically focusing on improving nutrition and increasing physical activity levels to prevent obesity, guidelines do include addressing weight discrimination and teasing within a bullying prevention program, using diverse bodies on posters and visual aids, and preparing staff to promote positive body image and body satisfaction among students.

While providing opportunities for improved nutrition and increased physical activity through the school environment, instruction can also increase knowledge, influence attitudes, and provide skill building to promote adoption of healthy behaviors. Health education and physical education classes are the primary targets for such curriculum. Beyond nutrition and physical activity information for basic health, these courses often include weight control within the curriculum. Contradictions within both subject areas occur at the intersection of health and weight control. Physical educators are forced to balance fitness tests with physical activity for enjoyment while health educators walk a fine line between promoting a thin ideal and body

acceptance (Gard & Wright, 2005; Leahy & Harrison, 2008). The weight-centered approach often dominates, overshadowing other messages (Cliff & Wright, 2010). Unfortunately, the results of this approach may have adverse or unintended consequences. Some researchers contend physical and health education contributes to students' weight concerns and fat phobia by presenting fatness in critical and negative ways (Sykes & McPhail, 2008).

Universities seek to improve health and academic performance of students as well. Health services are provided to students through student affairs. The American College Health Association (ACHA) provides standards of practice for institutions of higher education regarding health promotion. ACHA points out health is not only biomedically comprised, and sees the mission of health promotion in higher education to not only improve students' health but also to create a socially just campus community (ACHA, 2005). In addition to services, many, if not most, institutions offer a personal health course for undergraduates. These courses are typically part of a health professional preparation degree program or part of a health and wellness approach promoting individual prevention. More institutions may be offering health courses as part of general studies based upon the 2003 recommendation from the Institutes of Medicine (IOM) for access to public health education for all undergraduates as part of becoming educated citizens (Riegelman & Albertine, 2011). While national standards exist for pre-K through grade 12 health education curriculum, post-secondary curriculum is not standardized. Generally, health education curriculum covers several areas of health from a multi-dimensional perspective.

Curriculum regarding bodies and weight often comes in the form of obesity prevention. Curriculum based on obesity discourse reiterates risks associated with obesity and treatment strategies. This approach defines acceptable bodies and promotes self-monitoring, body work through diet and exercise, and an "at risk" mentality (Leahy & Harrison, 2008). This weight-

centered approach comes with authority and power from a biomedical perspective. Evans, Rich, Davies, and Allwood (2008) contend teachers and students are expected to accept the dominant discourse as certain or truth, although many uncertainties exist. Similarly, Azzarito (2007) claims the obesity discourse of an epidemic and at-risk society has been accepted within schools and curriculum without critical inquiry and diverse perspectives are disregarded.

Educators should consider the ethical implications of the emphasis on personal responsibility and lack of emphasis on the social environment, perpetuation of the culture of thinness, and the possible perpetuation of weight bias within the curriculum (Hawks & Gast, 2000). In their analysis of interviews with 144 adolescents, Rail, Holmes, and Murray (2010) found that all participants conflated health with having a specific body shape or weight, i.e. not being fat but being thin. Participants' views were gendered as well; males should be muscular while females should be thin. Viewpoints of individual responsibility for health were prevalent and negative attributions, such as laziness, were assigned to those not participating in healthy practices (Rail, Holmes, & Murray, 2010).

While obesity prevention curriculum, or weight control education, is well intentioned and promotes "healthy" practices, it does so at the cost of other messages (Burrows & Wright, 2007). Weight control education presents an ethical dilemma by indirectly supporting the culture of thinness (Hawks & Gast, 2000) and normalizing fear of fat (Cliff & Wright, 2010). Health education curriculum also includes information on eating disorders and the "thin ideal as beautiful" is criticized. However, the contradiction comes when "thin as healthy" is promoted. The risks of desiring a thin body are acknowledged but "teaching about how to avoid being fat prevails" (Cliff & Wright, 2010, p. 226). In a review of middle school health education textbooks, several books presented weight control information in a way that perpetuates cultural

desire for thinness, both directly and indirectly (Brown, 1996, p.129). Similar to scare tactics used with anti-tobacco campaigns, images used in obesity curriculum often promote fear or disgust of fat (Burrows & Wright, 2007). Thin as beautiful is a strong message in American culture and media; however, thin as healthy becomes a powerful force when endorsed by medical professionals (Cliff & Wright, 2010).

Education plays a role in perpetuating social norms and norms involving weight and bodies are no exceptions. Curriculum and instruction involving bodies, including weight management, eating disorders, and physical education, have been termed body pedagogies by Evans, Rich, Davies, and Allwood (2008). Body pedagogies are situated within a social and cultural context. They provide a means for individuals to make connections between their bodies and health (Cliff & Wright, 2010). Body pedagogies influence students' experiences with their bodies and shape the values and significance of the body (Evans, et al., 2008). Because of this, contradictory messages about bodies and emphasis on weight could bring potentially dangerous consequences for students (Cliff & Wright, 2010).

Negotiating between messages of accepting one's body and rejecting a thin ideal within an eating disorders discussion and those within an obesity discussion of weight control to stay healthy can be difficult for teachers. Cliff and Wright (2010) noticed the paradox of a high school teacher concerned for her female students being able to make healthy food choices to prevent obesity yet also not wanting them to be too preoccupied by food or weight either. The two contradictory messages were not easily reconciled and upon interviewing students, the message to avoid becoming fat overshadowed caution in pursuing thinness. Students commented on a slim body being a sign of good health and reported feelings of guilt after eating fatty or sugary foods (Cliff & Wright, 2010).

While the messages within the eating disorders and obesity fields are contradictory at times, the two fields have many similarities and may benefit from more collaboration (Neumark-Sztainer, 2009). In fact, both fields share several goals in treatment and prevention such as regular meal patterns versus bingeing or skipping meals, paying attention to internal cues of hunger and satiety, and regular physical activity (Neumark-Sztainer, 2005). In a follow-up study of 2,516 adolescents (Project EAT), researchers found weight-related problems, defined as overweight, binge eating, and extreme weight-control behaviors, in 44% of females and 29% of males. The weight-related problems also co-existed, or overlapped, among respondents. The weight-related problems shared risk factors such as weight concerns, weight teasing, maternal weight concerns, body dissatisfaction, exposure to magazine articles on weight loss, dieting, and unhealthy weight control. Shared protective factors included family meal frequency and atmosphere and lunch frequency. Self-esteem was protective against weight-related problems in partially adjusted models (Neumark-Sztainer, et al., 2007).

Health education teachers negotiate between two health paradigms when it comes to bodies and weight (Shelley, 2006). Obesity discourse is firmly situated within a biomedical framework and tends to be weight-centered. The biomedical model is disease-oriented and focuses on prevention and treatment. This risk-reduction model is dominant in the U.S. Although this approach relies heavily on “scientific evidence”, it is not value-free and, in the case of obesity, may reinforce the moral model of fat. Most health educators favor multi-dimensional health, a more holistic approach encompassing physical, mental, and social aspects of health. A teacher’s position on health would presumably influence their instruction. However, curriculum still tends to reflect weight-centered ideals likely as a result of dominant discourse of obesity (Shelley, 2006).

The discourse positions of teachers impact the ways in which they teach, from how curriculum is constructed, to what messages are communicated, or omitted. Discourse position influences what is “normalized” in curriculum. Teachers are in a position to reproduce dominant discourse or to challenge or negotiate dominant ideas to produce a new or different viewpoint. However, the discourse may be so ingrained resisting or disrupting it can be difficult. Welch and Wright (2011) observed the majority of pre-service primary teachers (n = 130) had a discourse position consistent with that of obesity discourse. Response patterns within this position included a language of healthism, individual responsibility, and certainty of the relationship between weight and health. Pre-service teachers with an alternative, or counter, discourse position constituted a smaller proportion of participants (22%; Welch & Wright, 2011). While many responses represented a fixed and certain “truth” about weight and health, socially-just pedagogy respects a plurality of meanings about health (Burrows & Wright, 2007).

In an effort to reduce potential harm from obesity prevention initiatives targeting adolescents, Bauer, Haines, and Neumark-Sztainer (2009) recommended interventions that improve body satisfaction, do not encourage short-term dieting or unhealthy weight control, and do not promote stigmatization. At the school or institutional level, Bauer and colleagues (2009) recommended instruction for staff on weight stigmatization and healthy weight management and media promoting healthy behaviors and diverse body sizes. Brownell and Rodin (1994) recommended promoting size acceptance to reduce the number of people seeking very lean, often unrealistic, bodies and to improve the acceptance of varying body shapes and sizes. Education could also dispel the myth that the body can be “shaped and molded at will” (Brownell & Rodin, 1994, p. 787). The Weight Realities Division of the Society for Nutrition Education (2003) recommended a health-centered, holistic approach for weight programs and

suggested that emphasizing risks “can contribute to fear, shame, disturbed eating, social discrimination, and size harassment” (p. 4). Researchers also call for a reconciliation of obesity and eating disorder messages (Neumark-Sztainer, 2005). HAESSM initiatives may be useful in meeting these recommendations.

Health At Every Size[®]

The Health At Every Size[®] approach represents a health-centered paradigm, focusing on health promotion versus weight management. HAES[®] principles support multi-dimensional health and promote good nutrition, enjoyable physical activity, and acceptance of diverse bodies (ASDAH, 2011). The non-dieting approach of HAES[®] encourages relying on internal processes, such as hunger and satiety, to regulate eating, commonly referred to as intuitive eating. HAES[®] philosophy promotes a return to eating driven primarily by physiological cues versus cognitive processes used when dieting or with disordered eating patterns. Intuitive eating requires mindfulness of the body’s responses before, during, and after consumption. Proponents of HAES[®] also encourage people to consider how their emotions are connected to their eating behaviors (Bacon & Aphramor, 2011).

Nutritious food choices are promoted but all foods are acceptable. HAES[®] principles honor all meanings of food including nutritional, psychological, and cultural meanings, by acknowledging the reasons people eat, including pleasure (Bacon & Aprhamor, 2011). Health is promoted by improving diet composition and reducing behaviors associated with disordered eating. In a survey of 343 college students, researchers found a positive correlation between high intuitive eating scores and lower BMI. Intuitive eating was not correlated with negative aspects of diet composition (Smith & Hawks, 2006). An intervention focusing on “natural eating,” or eating in response to physiological hunger signals as opposed to restrained eating or dieting,

found participants' body concerns were significantly reduced compared to that of a control group. Participants' eating behavior changes and improved self-perceptions were sustained at 12 months. Researchers also concluded natural eating is "compatible with, and may even promote, weight stability or weight loss" (Higgins & Gray, 1998, p.1058) after observing 72% of those participants reporting they were "sometimes" or "often" natural eaters either maintained or lost weight at follow-up.

Physical activity is promoted with the HAES[®] approach as well. For many, physical activity has been associated with exercise for weight loss or fitness goals. However, lifestyles that include activity in day-to-day routines, enjoyable exercise, and play are encouraged. HAES[®] advocates recognize the benefits of regular activity on well-being, both physical and psychological. These benefits exist regardless of weight. HAES[®] promoters also encourage physical activity "as a way of healing a sense of body distrust and alienation from physicality" (Bacon & Aphramor, 2011, p. 8). Past experiences with anti-fat prejudice may inhibit physical activity. In recalling physical education classes, overweight participants in a retrospective study reported feeling humiliated, vulnerable, alienated, and incompetent (Sykes & McPhail, 2008). Unfortunately, fat bodies are not legitimized in physical education leaving fat individuals feeling oppressed and resistant to physical activity. Bacon (2008) notes that some of the most common reasons people do not like exercise relate to social stigma. She recommends finding fun ways to be active as a reward for hard work in other areas of life (Bacon, 2008).

One tenet that sets HAES[®] apart from other non-dieting interventions is the promotion of body acceptance. Body dissatisfaction is widespread in the American population, particularly among females, and has been associated with disordered eating, depression, and poor self-esteem (Cash, 2002). Both male and female college students experience body dissatisfaction. In a survey

of 310 undergraduates, all overweight females desired a lower body weight. Eighty-seven percent of “normal weight” females wanted to weigh less and 10% desired a weight that would put them in the underweight BMI category. While body weight and shape dissatisfaction existed among male respondents, the prevalence and degree were less than with females (Neighbors & Sobal, 2007). Forrest and Stuhldreher (2007) found similar results reporting 67% of college females and 32% of college males were dissatisfied with their bodies and, of those, 90% wanted to lose weight.

HAES[®] advocates acknowledge health consequences of body dissatisfaction and encourage people of all sizes to appreciate their bodies’ strengths, abilities, and beauty (Parham, 1999). Size acceptance honors the diversity of bodies and challenges anti-fat prejudice (Robison, Putnam, & McKibbin, 2007). Furthermore, promoting size acceptance may go beyond just increasing tolerance of different bodies but could translate into a broader respect for diversity of many kinds (Irving, 2000).

Critics of HAES[®] argue that size acceptance will lead to weight gain. However, van den Berg and Neumark-Sztainer (2007) found that among 376 adolescents at or above the 85th percentile for BMI, those with higher body satisfaction gained less weight over five years. Adult participants of HAES[®] interventions have not experienced weight gain either (Bacon, Stern, Van Loan, & Keim, 2005; Provencher, et al., 2009). However, participants have improved their health in many aspects.

Bacon and colleagues (2002; 2005) compared a HAES[®] intervention with a diet intervention in a six-month, randomized trial with 12-month and 24-month aftercare follow-ups (n = 78). The diet group followed a traditional weight loss model utilizing diet, exercise, behavior modification, and social support. The HAES[®] treatment group focused on body

acceptance, emphasis on listening to internal cues of hunger and satiety, good nutrition, incorporating enjoyable lifestyle activity, and social support (Bacon, et al., 2002). While the diet intervention did result in weight loss initially, weight at the 2 year follow-up was not significantly different from baseline indicating a regain commonly seen long term after diet interventions. The HAES[®] group showed no significant change in weight (gain or loss) throughout the study or follow-up. Both groups experienced improvements in metabolic fitness, such as decreased LDL cholesterol, triglycerides and systolic blood pressure although the diet group did not sustain these improvements at the 2-year follow-up (Bacon, et al., 2005). At one year, an increase in energy expenditure was sustained in the HAES[®] group but had decreased in the diet group. Researchers hypothesized this change was due to the emphasis on lifestyle activity versus more regimented exercise. Notably, attrition rates in the diet group were significantly higher than those of the HAES[®] group. Only 8% of the HAES[®] group dropped out while 42% of the diet group dropped out prior to completion (Bacon, et al., 2002). Both groups had a decrease in depression at 1-year but only the HAES[®] group sustained that level at the 2-year follow-up. Furthermore, 100% of the HAES[®] group reported feeling better about themselves due to the program, while only 47% of the diet group reported feeling better. More than half (53%) of diet participants reported feelings of failure, while none (0%) of the HAES[®] participants felt that way (Bacon, et al., 2005). Provencher and colleagues (2009) also reported positive long term results with the HAES[®] approach when compared to control and social support groups.

HAES[®] training or interventions may be beneficial for teachers. After developing and implementing a HAES[®] curriculum unit for third graders, teachers reported a positive impact on their own attitudes and beliefs. The teachers felt empowered to be healthy regardless of their

weights or sizes. In terms of the curriculum, teachers reported previous biomedical curriculum focused on surface knowledge and recall while the HAES[®] curriculum allowed them to better engage students for deeper understanding (Shelley, O’Hara, & Gregg, 2010). Shelley and colleagues (2010) also pointed out teachers may continue to use what is familiar (i.e., a biomedical weight-centered curriculum) because they are pressed for time and managing a packed curriculum.

Adopting HAES[®] principles may help to reduce anti-fat prejudice among educators. Hague and White (2005) found that anti-fat attitudes of current and future teachers decreased following an online intervention promoting size acceptance and results were sustained at a six week follow-up. Furthermore, a program facilitator of “A New You: Health for Every Body” workshop expressed a “greater appreciation for people of all sizes and the struggles people go through with body image and weight” (Wardlaw, 2005, p.S106).

Although educators may not explicitly discriminate or intentionally stigmatize, they may feel uncomfortable discussing weight topics with students particularly if they perceive some as overweight. Pedersen and Ketcham (2009) described experiences of health professionals working with overweight and obese students in a Student Health Services setting. Providers felt challenged in initiating discussions of weight. Providers also commented on the lack of tools or effective options for treatment. Another theme that emerged from comments was a need for health-centered messages versus messages about weight (Pederson & Ketcham, 2009). HAES[®] provides a health-centered message and was well received among future health professionals. Students (n=129) in a disease-prevention course viewed a PowerPoint presentation on HAES[®] and read a peer-reviewed article of a randomized study comparing a HAES[®] intervention with a traditional weight loss intervention. At post-test, 77% of students reported improved attitude

toward HAES[®] principles. At the end of the semester, students were asked to write a reflection on two articles (out of a possible 30) from the course that made an impact on them. The HAES[®] article was chosen most frequently (43%) among students (Brown, 2009).

Summary

Current obesity discourse reflects the medical and moral models of fat. In the medical model, obesity is viewed as a disease and requires treatment, generally weight loss. Weight loss treatments are ineffective long term and harmful in many instances. However, weight loss is still promoted possibly due to strong weight stigma in American culture. Anti-fat bias is widely prevalent and stigmatization has adverse effects on health. Interventions aiming to reduce anti-fat attitudes have had mixed results. However, Health At Every Size[®] initiatives show promise in improving attitudes and reconciling obesity and eating disorders fields.

CHAPTER 3

METHOD

Purpose

The purpose of this action research study was to develop and evaluate a college personal health curriculum module to promote healthy bodies of all sizes. The first phase of the study focused on analyzing teaching assistants' discourse positions in relation to health and weight through interviews. This analysis provided an understanding of what ideas and values teaching assistants bring to their teaching about bodies. The second phase of the study was the development of a curriculum module and survey instrument to assess attitudes toward HAES[®] principles. The final phase focused on evaluating the module. Attitudes toward a Health At Every Size[®] approach among teaching assistants and students were assessed pre- and post-implementation to determine any differences. Teaching assistants' experiences teaching the new module also were explored in a focus group setting.

Research Questions

1. What are the discourse positions regarding weight management of college personal health teaching assistants?
2. Do college personal health teaching assistants possess positive attitudes toward a Health At Every Size[®] approach?
3. To what extent, if any, do attitudes of college personal health teaching assistants change after training on a curriculum module utilizing a Health At Every Size[®] approach?

4. To what extent, if any, do attitudes of college personal health teaching assistants change after implementing a curriculum module utilizing a Health At Every Size[®] approach?
5. What are the experiences of college personal health teaching assistants implementing a curriculum module utilizing a Health At Every Size[®] approach?
6. Do college students in personal health classes possess positive attitudes toward a Health At Every Size[®] approach?
7. To what extent, if any, do attitudes of college students change after implementation of a curriculum module utilizing a Health At Every Size[®] approach?

Research Design

An action research approach was taken to develop and evaluate a curriculum module utilizing a Health At Every Size[®] approach for use within a college personal health course. At its core, action research is about empowering participants, collaborating, acquiring knowledge, and stimulating social change. The cyclical process of action research is solution-oriented; a problem is identified, data are collected and interpreted, action is undertaken, and results are evaluated and reflected upon (Ferrance, 2000). Not only can action research solve a specific problem in education, but it also can provide for professional development of teachers, improve interactions, impart change, and provide for systematic reflection (Ferrance, 2000). Education is a part of “social reproduction...the social process by which each new generation is initiated into the language, rituals, roles, relationships and routines...to become members of a society” (Carr & Kemmis, 2009, p. 75). Education maintains social continuity (Carr & Kemmis, 2009). However, education also can play a role in transforming society as the “potential for enhancing social justice...is there” (Griffiths, 2009, p. 91).

Mixed methods were utilized to collect multiple, complementary data (Johnson & Onwuegbuzie, 2004). Mixed methods within one study can serve several purposes including triangulation, complementarity, development, initiation, or expansion (Greene, Caracelli, & Graham, 1989). In this study, mixed methods provided for exploration of attitudes and discourses, development of an intervention, and evaluation following implementation. Qualitative and quantitative data were analyzed to provide a broad platform for the development and subsequent evaluation of a curriculum module.

This study was completed in three phases, an exploratory phase, curriculum and instrument development phase, and an evaluation phase. As shown in Figure 1, these “phases” were not distinct per se and overlapped chronologically. In the exploratory phase, interviews provided means of collecting rich description from participants about their attitudes about weight and teaching weight management. Qualitative techniques allow for dialogue between researcher and participants to gain understanding and meaning from participants’ experiences (Bogdan & Biklen, 2007; Merriam, 2009). Exploration of instructors’ ideas on health and weight provided understanding and insight into their discourse positions.

Task	Month 2012					
	July	Aug	Sept	Oct	Nov	Dec
Pilot interviews		X				
Interviews with teaching assistants		X	X			
Curriculum development	X	X	X			
Instrument development	X	X				
Instrument pilot		X	X			
Pre-test of students and teaching assistants			X			
Training with intervention group TA’s			X			
Post-test with teaching assistants only			X			
Implementation of module			X	X	X	
Follow-up with students and teaching assistants					X	
Focus group with intervention group TA’s					X	
Document collection from teaching assistants					X	X

Figure 1. Timeline of Events

A quasi-experimental design was used to implement and evaluate a curriculum module utilizing a Health At Every Size[®] approach in the final phase of the study. Quasi-experimental design allows for experimentation within a natural setting when all threats to validity cannot be controlled (Neutens & Rubinson, 2002). Nonequivalent control group design suitable for intact classrooms was appropriate for this study because all participants would not be randomly assigned to control and intervention groups (Campbell & Stanley, 1963). Quantitative and qualitative data were collected from teaching assistants and students using a survey instrument. Additional evaluation of the module relied upon qualitative data collected from teaching assistants through a final focus group and reflective documents created by the teaching assistants. See Table 1 for a summary of methods corresponding to each research question.

Setting

This study centered on an introductory personal health course at a mid-sized, Midwestern university. The university has a Carnegie Classification of RU/H: Research Universities (high research activity) (Southern Illinois University Carbondale [SIUC], 2012) and had 18,847 full and part time students enrolled in fall semester 2012 (SIUC, 2013). In Fall 2012, the student body was 54.16% male and 45.84% female with 26.75% ethnic minority enrollment (SIUC, 2013).

As part of the University Core Curriculum, all undergraduate students are required to complete two semester hours in Human Health studies. Foundations of Human Health is an introductory personal health course and is one of six courses that fulfills the requirement for Human Health studies (SIUC, 2011). The course is coordinated by the Health Education and Recreation department chair and taught by graduate-level teaching assistants. Generally, 24 sections are offered in both Fall and Spring semesters with approximately 25 students per

Table 1
Research Design Elements Corresponding to the Research Questions

Research Question	Sample	Data Collection	Data Analysis
1. What are the discourse positions regarding weight management of college personal health teaching assistants?	Teaching assistants	Interviews, Survey	Discourse and content analysis
2. Do college personal health teaching assistants possess positive attitudes toward a Health At Every Size [®] approach?	Teaching assistants	Survey (pre-test)	Descriptive statistics and content analysis
3. To what extent, if any, do attitudes of college personal health teaching assistants change after training on a curriculum module utilizing a Health At Every Size [®] approach?	Teaching assistants	Survey (pre-test, post-test)	Descriptive Statistics, t-tests, and content analysis
4. To what extent, if any, do attitudes of college personal health teaching assistants change after implementing a curriculum module utilizing a Health At Every Size [®] approach?	Teaching assistants	Survey (pre-test, post-test, follow-up)	Descriptive Statistics, t-tests, and content analysis
5. What are the experiences of college personal health teaching assistants implementing a curriculum module utilizing a Health At Every Size [®] approach?	Intervention group teaching assistants	Focus group, reflective documents	Content analysis
6. Do college students in personal health classes possess positive attitudes toward a Health At Every Size [®] approach?	Students	Survey (pre-test)	Descriptive statistics, t-tests, and content analysis
7. To what extent, if any, do attitudes of college students change after implementation of a curriculum module utilizing a Health At Every Size [®] approach?	Students	Survey (pre-test, post-test)	Descriptive statistics, t-tests, and content analysis

section. Teaching assistants are required to take a course, Health Education Instructional Strategies, with the coordinator in the Fall semester to discuss the course and implementation strategies (J. Fetro, personal communication, July 22, 2011). Approval to implement a new weight management module in Foundations of Human Health at this university was obtained from the course coordinator. The coordinator facilitated the integration of the new module into half of the course sections in the Fall 2012 semester.

The personal health course at this university uses a multi-dimensional approach to health and covers a wide variety of health topics including, but not limited to, stress management, nutrition, weight management, physical activity, substance abuse, and sexuality. Due to the number of sections, organization of the topic modules is staggered throughout the semester so that all teaching assistants are not covering the same topics at the same time. This sequencing allows for better access to instructional resources (J. Fetro, personal communication, July 22, 2011). The teaching assistants were purposefully assigned to either the comparison or intervention groups. Assignments according to teaching assistant, as opposed to course sections, was chosen due to teaching assistants teaching multiple sections of personal health. Purposeful selection of teaching assistants was chosen to ensure a balance of experienced and new teaching assistants in both the comparison and intervention groups. A list of teaching assistants was prepared and divided into two groups, new teaching assistants and those with previous experience teaching the course. The lists were further delineated by number of sections each teaching assistant was responsible for teaching in the Fall 2012 semester. For instance, two teaching assistants had experience with the course and had three sections each. One was assigned by the coordinator to the intervention group and the other to the comparison. This procedure was

repeated until all teaching assistants had been assigned a group. Each group was comprised of six teaching assistants and 11 sections.

Sample

The personal health teaching assistants in the Fall 2012 semester were all graduate students within the Health Education department. All teaching assistants were invited to participate in the study. Separate requests for participation were made for interviews and pre-, post-, and follow-up surveys. Comparison group teaching assistants were asked to provide their teaching materials for review. After module implementation, intervention group teaching assistants were asked to participate in a final focus group to share their experiences teaching the new module. For those teaching assistants in the intervention group, implementation of the module was not voluntary but determined by the course coordinator. However, participation in the interviews, surveys, and focus group was voluntary. Separate consent forms for each data collection piece was used and emphasized to reinforce to teaching assistants that their participation in those procedures was voluntary and no negative consequence would result from non-participation.

Students enrolled in the Fall 2012 personal health classes were asked to complete pre- and post-test survey instruments. Because the course fulfills a core curriculum requirement, the sample was expected to be representative of the university student body. Student criteria for inclusion was to be at least 18 years of age.

Phase One - Exploration

Data Collection

Semi-structured interviews were conducted to elicit ideas and values regarding health and weight from college personal health teaching assistants. Interview questions were piloted with

graduate students who were previously teaching assistants but were not teaching Foundations of Human Health in the Fall 2012 semester. Names of previous teaching assistants were obtained from the online class schedule and email addresses obtained from the university's online directory. The email solicitation and pilot interview consent form can be found in Appendices A and B, respectively. Interviews were audio-taped and later transcribed verbatim. Additional probing questions were added to the protocol based on the pilot interviews.

I requested names of current teaching assistants from the course coordinator and email addresses were obtained from the university's online directory. An email was sent using blind copy format to request participation. See Appendix C for the sample email solicitation. A random drawing for two \$25 gift cards to a book store was used as incentive to participate in the interview. Informed consent was obtained prior to beginning each interview (Appendix D). Participants were asked to complete a short questionnaire to collect demographic data, including age, sex, and race/ethnicity, and background information including educational experience to provide a profile of the sample. See Appendix E for the interview protocol. All sessions were audio-taped and transcribed verbatim by me.

In addition to the recordings, I made handwritten notes after the interviews. These field notes contained observations, impressions, other comments made before or after the interview that were not audio-taped, as well as my personal reflections.

Data Analysis

I began analysis of qualitative interview data by listening to the audio-tapes and making notes of preliminary impressions. I then transcribed the tapes verbatim. After transcription, I listened to the tapes again while reading through the transcripts to ensure accuracy. Transcripts were read and re-read. By underlining relevant phrases and taking notes in the margins of

transcripts during each reading, I began to code the data. Coding functions to draw attention to specific pieces of data to be contemplated further (Merriam, 2009). Codes may develop from specific words or phrases (Bogdan & Biklen, 2007).

The language and vocabulary participants used were particularly important to me in examining their individual discourse positions. I noted specific terms they used and whether they used metaphors when talking about weight, bodies, or health. I used a loose framework of the medical, moral, and political models of fat, described by Sobal (1995) and outlined in chapter two, to aid in determining whether teaching assistants were speaking from a dominant or alternative discourse. Each model provides an explanation and/or solution to issues of fat. The dominant obesity discourse pulls predominantly from the medical and moral models while the political model would be an alternative discourse. I watched for use of the medical model by examining use of medical terms such as overweight or obese, versus fat or other terms, and discussion of assessments such as BMI, body fat percentage, or waist circumference, health risks associated with weight, and acceptance of weight loss as a solution. A strong emphasis on personal responsibility or even blaming or stigmatizing indicated a use of the moral model in my analysis. I also looked for other moral implications in the transcripts such as fat being a burden on society or morally wrong. I attributed discussions about size diversity, body acceptance, and the discrimination or oppression of fat people as drawing from the political model. In addition to noting *what* participants said, I also noted *how* they said it or in what context. For instance, use of the term, overweight, did not immediately assign that participant to the dominant discourse position.

I also made notes of recurring comments or threads across interviews to construct rudimentary categories. As rough categories come together, themes, or patterns, emerge (Creswell, 2007). Themes did emerge from the data and are discussed in the findings.

Phase Two – Curriculum and Instrument Development

Curriculum

The goal of the curriculum module for college personal health classes was to improve health and quality of life for students of all sizes by promoting the principles of Health At Every Size[®]. Encouraging size acceptance and multi-dimensional health, including good nutrition and physical activity, were promoted to reduce anti-fat attitudes among instructors and students. The module consisted of two 50-minute lessons and fit within the overarching objectives of the course. Lesson plans with learning objectives and evaluation measures were developed. Once completed, a panel of experts reviewed the module. Panelists included a health educator with content knowledge in nutrition and an expert in curriculum and instruction (see Appendix F for biographical sketches and Appendix G for reviewer checklist). Concerns an expert panel could address include accuracy, appropriateness, design, and quality (Neutens & Rubinson, 2002). Panel recommendations were incorporated into the module prior to implementation.

Teaching assistants assigned to the intervention group were trained on the HAES[®] module. The two-hour training included explanation of the HAES[®] approach and overview of the curriculum module. Intervention group teaching assistants were asked at this time to keep reflective journals/notes during and after implementation. They were asked to record descriptions of interactions, their feelings, and any observations they made regarding implementation. Intervention group teaching assistants also were advised to call or email me with questions regarding the module before, during, or after implementation. Lastly, intervention group teaching

assistants were instructed not to share or discuss the module with teaching assistants in the comparison group.

Instrument

A survey instrument was developed to evaluate attitudes of instructors and students toward Health At Every Size[®] principles. The instrument used a Likert-type scale of summated ratings with higher total score reflecting more positive attitudes. The Association for Size Diversity and Health (2012b) has outlined five principles of Health At Every Size[®]. The instrument contained three to five Likert-type items and one open-ended question based on each principle. The open-ended questions allowed participants an opportunity to explain or share more about their attitudes. Items to collect basic demographic information, such as age, sex, and race/ethnicity, were included. Two final questions asked participants how they would describe their body size or shape and whether they want to lose, maintain, or gain weight. The survey instrument was relatively short with 20 Likert-type items, six open-ended questions, one forced-choice question, and three demographic questions. The instrument took approximately 15 minutes to complete.

The survey instrument was reviewed by an expert panel to establish content validity. The panel consisted of three professionals, including a HAES[®] expert, health educator, and registered dietitian. Panelists were asked to mark each item as either retain, revise, or remove and provide comments, as necessary. Biographical sketches of panelists and instrument reviewer checklist can be found in Appendices H and I, respectively. Revisions were made based upon their feedback. The revised instrument was pilot-tested for internal consistency and test-retest reliability. See Appendix J for the pilot test consent form.

Phase Three - Evaluation

Data Collection

Surveys.

Teaching assistants and students were given a pre-test survey (see Appendix K), after all interviews had been conducted and prior to in-service training or implementation. I obtained the names of enrolled students from department administrative staff and randomly assigned numbers to students and teaching assistants. This assignment was kept confidential and the record will be destroyed after completion of the research project. The names were written on consent forms and stapled to the survey with the corresponding number. This was done in duplicate for students' pre-test and post-test, and in triplicate for the teaching assistants' pre-test, post-test, and follow-up. This procedure allowed me to match pre- and post-test surveys (and follow-up in the case of TA's).

In each section of the personal health course, I explained the purpose of the research and asked for participation. Survey/consent forms (Appendix L) were distributed to students and the teaching assistant. Participants were instructed to remove the consent form with their name on it and complete the survey. Individuals who did not wish to participate were asked to sit quietly.

Approximately one week after training and before implementation, all teaching assistants were asked to complete a post-test survey. The surveys were placed in their departmental mailboxes with instructions to return the completed survey to my mailbox. Teaching assistants were given this post-test to assess any differences in attitudes following training.

Implementation dates varied by teaching assistant. Surveys were administered again to teaching assistants (follow-up) and students (post-test) after all sections completed the weight

management or HAES[®] unit. Procedures used for the pre-test were repeated for the follow-up/post-test.

Documents.

Documents can provide context, complementary or supplementary data, or corroboration with other data (Bowen, 2009). Documents, such as PowerPoint presentations, lesson plans, handouts, and other curricular resources used to teach weight management in introductory personal health at this university, were requested from teaching assistants in the comparison group. Furthermore, a copy of the current text and accompanying resources were obtained to provide documentation of information provided to students on weight management. This data was used to describe methods of teaching weight management in the comparison group. Other documents used in this study included my notes, from interviews and informal conversations with teaching assistants, and emails.

Focus Group.

A focus group with intervention group teaching assistants was conducted after implementation to collect qualitative data on their experiences using the HAES[®] approach. A light meal was provided as incentive to participate. A semi-structured interview protocol was used (see Appendices M, N, and O for the email solicitation, consent form, and protocol). I audio-taped the session and transcribed it verbatim.

Data Analysis

Quantitative survey data was analyzed using Statistical Package for the Social Sciences (SPSS[®]). Descriptive statistics, such as means, frequencies, and percentages, were calculated for Likert-type items. T-test calculations were used to determine if significant differences existed between measurements and within the samples.

Likert items were coded -2, -1, 0, 1, and 2 for strongly disagree, disagree, neutral, agree, and strongly agree, respectively. A more negative attitude toward HAES[®] principles was represented by a lower (negative) number versus a higher number for more positive attitudes. Some items were reverse coded to reflect appropriate positive or negative attitude. The sum of the items represented overall attitude toward HAES[®] principles.

Completion of both pre- and post-tests and attendance in both (100%) of the days covering weight management or the HAES[®] module was used as criterion for analyzing the student surveys for changes. Attendance records were obtained from teaching assistants. One TA could not locate the attendance sheets from her sections. Another TA initially gave me the attendance record for the days the survey was administered. After further explaining what days' attendance I was requesting, he sent attendance for one day versus two. After a third unsuccessful attempt, I decided not to utilize his attendance records because I did not feel confident they were from the days he covered weight management.

Surveys with missing data were examined closer to determine how to handle the data. The quantity and pattern of missing data appeared to be random; therefore, missing values were substituted with the mean for each individual's responses. Data collected from the open-ended items on the instrument were entered into a Microsoft Access database and analyzed in a similar manner as interview transcripts.

Course documents were analyzed for content. Subject matter, descriptions of class activities, and images were examined. A cursory review of documents was completed to get a sense of relevancy and meaning. Documents were evaluated for their contribution and utility within the framework of the study (Bowen, 2009). For instance, one TA provided multiple presentations and assignment instructions; however, I determined that not all were relevant to

this study as some covered basic nutrition principles versus weight management content. Written documents, such as the textbook, were read and re-read using a procedure similar to coding and interpreting the interview transcripts.

Reflexivity

In qualitative research, the researcher is considered the instrument. “Most proponents of action research have strong ethical and/or political commitments which underpin their reasons for espousing it” (Griffiths, 2009, p.86). A process to detail researcher biases is necessary, not to eliminate the bias but to “to manage it – to preclude it from being unwittingly burdensome” (Peshkin, 1988, p. 20). I do have strong opinions and beliefs about health and weight and how those topics should be discussed. I anticipated that my perspective on weight and its relation to health would be different from those of the teaching assistants. I find that media advertisements or journal articles promoting the dominant obesity discourse often provoke strong emotions in me, such as anger or frustration. I prepared to deal with my biases during the interviews by reminding myself that my perspective evolved over time through much study of the topic. I think of discourse positions along a spectrum and I have slowly moved along that continuum. I find I am more patient when I remind myself of this progression and that I started out at the other end of the spectrum, too. Ultimately, I did not want to judge the participants for their positions but wanted to be able to evaluate where on that spectrum they might be.

I think it is important to describe my position within the study and more precisely, within the setting of the study. I am a graduate student within the department where this study takes place. I have established relationships with the course coordinator and administrative staff. I have been in the position of teaching assistant for the very course I am studying. And while I did not know any of the TA’s well, I had met a few of them prior to the study and considered them

friendly acquaintances. To a large degree, this established position was a benefit and helped to facilitate the study. I already had established rapport with gatekeepers, for instance. Having been a teaching assistant myself, I also felt a connection or shared bond to the participants that softened my emotions and increased empathy.

However due to this “insider” position, I took special care to both protect the trustworthiness of the research but also to protect the trust and relationships with participants. I did not discuss my study with any potential participants and although it is customary to post prospectus chapters online for graduate students to read and to allow students to attend the prospectus meeting, my chapters were not made available and no teaching assistants were allowed to attend. Several of the teaching assistants made generous offers to assist in ways I had not requested. While this could be seen as beneficial, I found myself worrying about the fidelity of the study if they went “above and beyond” what I requested. I continually tried to set researcher-participant boundaries by keeping conversations and emails professional and direct.

Additionally, I came into this research with many assumptions based on my “insider” knowledge and experience. I was familiar with the course content, ways other teaching assistants had taught the course, and familiar with the culture of the department. I tried to look at things from a fresh perspective though and to continually be aware of my biases. I used notes, or memos, throughout the study to manage my subjectivities. Memos can be a way to reflect on personal thoughts or feelings and used to work through problems or develop ideas (Bogdan & Biklen, 2007; Maxwell, 2005). I considered my positionality during the development of materials for the study, including the instrument, curriculum, and interview questions as well as during data collection and analysis. For instance, in developing the survey instrument, I

thoughtfully considered my biases in determining word choice, something I struggled with throughout the study.

Peshkin (1988) used a method of regularly checking his subjectivity, or being especially mindful of it, by noticing when his feelings were aroused and noting them on 5x8 notecards as he experienced them. He was able to bring himself back to center and not allow his subjectivities to take over. I used a similar method of logging my positive or negative experiences throughout the project to ensure I was not overly critical. Spending time considering my emotions helped me to better position myself in terms of the research so that my subjectivities did not obstruct my interpretation.

Trustworthiness

Several strategies were incorporated to increase the trustworthiness of the study. Credibility was established with varied contact with teaching assistants over the course of the semester, reflexivity, and triangulation of data. Multiple contacts with participants allow opportunities for recurrent patterns to emerge and for participants to become more accustomed to the researcher (Krefting, 1991). At the time of the interviews, I did not have much, if any, contact with the teaching assistants other than to set appointments. I tried to build rapport with them before and during the interviews. A few teaching assistants I knew as friendly acquaintances already. Being a fellow graduate student and having been a teaching assistant myself, I hoped participants would feel we shared a bond. Reflective note taking throughout the process helped me be mindful of my biases and how I approached data collection and analysis. Triangulation of data from interviews and documents added to the credibility of the interpretation.

All instructors willing to participate were interviewed. This provided representativeness of the group. Detailed descriptions will allow other researchers to determine if the findings are transferable to other situations. Dependability was increased by using a code-recode procedure. After coding a portion of the data, I waited two weeks and recoded the same data to compare the results. Finally, detailed description of the methods followed and decisions made provide an audit trail.

Summary

Mixed methods were utilized to conduct this action research to develop and evaluate a health-centered weight management module for introductory, college personal health classes. Interviews and document analysis provided descriptive data on curriculum, instruction, and the discourse position of college instructors teaching weight management in personal health classes at a mid-sized, Midwestern university. Personal health instructors' HAES[®] attitudes were measured before and after training on the new module and after implementation. Students' HAES[®] attitudes were measured pre- and post-implementation. Additional evaluative data was collected from instructors via focus group and reflective notes following implementation.

CHAPTER 4

FINDINGS

Phase One - Exploration

The first phase of this study was to explore teaching assistants' values and attitudes about health and weight. I interviewed the twelve teaching assistants and used a mix of discourse and content analysis to assign "discourse positions" and develop themes.

Pilot Interviews

Four graduate students who taught the introductory course in the previous year, but were not teaching it in the fall 2012 semester, were asked to participate in a pilot interview. Two agreed to participate and were interviewed to test potential questions. Both participants were engaging and eager to provide answers. My first question, "what does health or being healthy mean to you," elicited the type of response I was looking for. However, I found with both participants I needed to ask them to clarify their answers. Knowing I was a fellow graduate student and previous instructor for the same course, I think they made assumptions about my knowledge of "holistic" health, "dimensions of health", and a "public health model". I followed up with asking them to explain what they meant by those terms.

When I asked whether they thought a connection existed between weight and health, both answered affirmatively. I was surprised that one of the participants immediately mentioned underweight, as well as overweight, though. This confirmed my decision to use the general term weight to allow participants the room to explain their own perspectives and to see where that led the conversation.

When asked about what they covered in the course regarding weight, both spoke generally about nutrition and physical activity topics. I asked multiple probing questions to try to

direct them more to the weight management unit/chapter specifically. However, separating weight management from nutrition and exercise proved to be difficult for both participants. Although threads concerning eating disorders were present in the interviews, neither participant mentioned that area specifically in their dialogue about what they covered in class. I added that to the list of probing questions to ask study participants.

In asking whether teaching about weight was ever challenging, I expected participants to mention discomfort or heightened awareness when overweight students were in class based on literature, personal experience, and anecdotal comments from colleagues. While this did emerge in the interviews, another thread I did not anticipate emerged. Both participants alluded to feeling unprepared or not fully qualified to teach about weight management evidenced by statements like, “I’m not a dietitian and so I didn’t want to get too far you know too deeply into something that I didn’t feel comfortable with, that I didn’t have enough knowledge about,” “I don’t feel adequately trained in that area,” and “I don’t feel that the vast majority of instructors, um, teaching on weight management and nutrition, uh, particularly nutrition, are qualified to teach it.” Based on their comments, I added the question, “do you feel prepared or qualified to teach the weight management unit,” to my protocol.

I felt confident after the pilot interviews about my questions and what type of data I would collect for this study. Although my basic questions did not change dramatically, I developed more probing questions to use as needed. The first participant had a clear position on weight without my asking outright. The second participant’s discourse position, although distinctly different from the first participant’s, was not as clear. She seemed more apprehensive about making strong statements and was contradictory at times. I decided for study participants, I

would need to be more direct to gain more insight on their discourse positions. I would need to ask directly if they thought a person could be healthy at any size.

Interviews

Demographics.

All 12 teaching assistants agreed to participate in an interview. Three (25%) assistants were male, nine (75%) were female. Eight (66.67%) of the participants were white, three (25%) were black, and one (8.33%) was Asian. They ranged in age from 22 to 56 years. Five (41.67%) participants were under 25, putting them within the traditional college age of 18 to 24 years.

Their backgrounds and professional interests varied widely. All participants had received at least a bachelor's degree while five had earned master's degrees. The disciplines included variations of health education, foods and nutrition, kinesiology, exercise science, biology, and psychology. Two participants also had nursing backgrounds. In terms of areas of professional interest, one participant listed nutrition and one listed childhood obesity. Other areas participants listed included, but were not limited to, environmental health, sexuality, resilience, infectious disease, women's health, and health disparities.

Discourse Positions – A Tug of War.

Participants varied in their beliefs and values about weight and its relationship with health. While no participant expressed a wholly positive attitude toward fat, i.e. being fat would be healthy, beneficial, attractive, or desirable, that outcome also was not anticipated. Participants did express varying degrees of acceptance however. A few participants had fairly stable “positions.” Their responses were consistent throughout the interview and among topics. However, most participants alternated positions throughout their interviews. In some cases this appeared an unconscious flip-flop; in others, the reversal was more of a double-back maneuver

to qualify their previous statement. In general, most of the participants went back and forth between positions without realizing their statements were incongruent. One participant explicitly acknowledged her shifting position saying, “I know these are all very contradictory thoughts.”

For this discussion, I have loosely grouped participants with similar values. More accurately they likely fall as points within a spectrum with small, yet distinct, differences. I have chosen to cluster participants whose discourses are most similar and, therefore, positions within that spectrum are closest together. There are no definite cut-offs between groups and no two participants within a group held the exact same position.

Health and weight are “absolutely” related.

Many participants used terms, phrases, and concepts in line with the dominant discourse of obesity. Without being prompted, they used terms such as underweight, overweight, and obese. Consistent with a medical model of fat, they outlined health risks associated with weight:

“the person who’s overweight starts, I mean at the very least, you start, have a little bit of shortness of breath when you try to do some things, climbing stairs or walking distances and then it, you know, then you start having joint problems because you’re carrying around that extra weight;”

“our body does do okay to a point, but when we’re after a certain weight for our structure, our bone structure, our height, it’s just not going to support it as well and it is going to compromise other parts of our body. So it’s amazing what 15 pounds will do, um, on our joints, um, it’s amazing what an extra 30 pounds will do on, you know, our blood pressure...there may be some more fatigue and strain on their body, um, physically;”

“it makes you more susceptible to things like heart disease and things like that;”

“in terms of overweight you have things like hurting organs and cholesterol issues and blood pressure issues.”

A philosophy of personal responsibility was also apparent. Although sampling from all the models of fatness (medical, moral, and political) at times, five participants were clearly and firmly situated within this dominant discourse that health is “absolutely” affected by weight and spoke matter-of-factly about the effects of obesity.

One of the male participants consistently drew upon the medical model, and at times the moral model, to talk about weight. When asked if he thought health and weight were related in any way, he quickly and emphatically answered, “absolutely.” While generally he used terms such as overweight and obese, he switched and used “fat” to portray disrespectful or less tactful students: “there’s a lot of comments that are like, ‘oh, if they’re overweight or they’re fat then they just need to go get on the treadmill’ and it’s like comments, like to me, those, that kind of stuff offends me.” He used phrases to convey the severity of obesity by calling it an “assassin” and referred to students who “might be exposed to that.” These metaphors portray obesity as a killer and possibly even infectious, similar to a virus, and something to be feared. He definitely placed responsibility with the individual saying, “I want to say, you know, if you’re overweight, *well, you can do something about it...everybody in some capacity is in control...if you want to lose weight, go do it. Most people just don’t want to do it.*”

A female participant who consistently used a woven discourse of the medical and moral models had similar values saying, “you know the calories just aren’t balancing at all after a certain point and then you have to look at are you *really truly* making the wise choices or are the *unwise* choices slightly *more than?*” In addition to overweight and obese, she used terms such as thin, skinny, and really heavy, but never fat, to describe bodies. She reluctantly made some

exceptions to the medical model, saying “that tiny little window of overweight before you hit obesity, that’s okay for some people.” But she was always quick to clarify and qualify her statements. She used terms like “to an extent,” “there is a certain point,” and “there’s a limit” as though she wanted to clearly define she was talking about exceptions to a rule.

Another female spoke about weight as a simple matter of fact:

“as far as weight goes I would say, you know, obviously, more calories makes you gain weight and all that stuff...then as far as calories in, calories out it’s, obviously, if you eat healthy you’re less likely to gain weight...I mean I think [physical activity] can, obviously, maintain their weight.”

She accepted obesity discourse as certain and obvious. She also referred to the importance of using assessment tools such as BMI, body fat percentage, and waist circumference. While she placed some responsibility with the individual, her statements did not contain as much of a strong moral undercurrent.

The last female who fell within this position used the terms overweight and obese, as well as morbidly obese, although hesitantly, in discussing weight and emphasized personal responsibility. “I mean, I really try to tie it into that we have a lot of *choice*, it may seem difficult but we do have a lot of choice on maintaining our weight.” While this participant was firmly situated within the dominant discourse position, she acknowledged the stigma associated with weight more so than the other participants with similar values. She commented on “bigoted attitudes” and said, “I think that, um, people still have an idea that is undesirably [sic], socially undesirable to be overweight...so there tends to be more often people feeling like ashamed or self-conscious.” In not wanting her students to “feel, like, shame,” she said she was careful to “separate [their weight] out from their worth.”

The other male in this group did not rely as heavily on the medical model. Many of his comments were set within a context of appearance versus health. However, he drew upon themes of personal responsibility and willpower, focusing on goal setting and dieting for weight loss. Therefore, he was still positioned within the dominant discourse. His comment,

“if you want to go on a diet that needs to be your own personal decision...when *you* decide that *you* want to be fit or you want to lose weight...you need to be strong enough mentally, physically, emotionally to...say *no and mean it*,”

implied weight is a matter of choice and would require willpower to succeed in losing it. He also stressed the importance of “taking the time to set up a plan, SMART goals, uh, towards, uh, seeing the, achieve what we want to see in our bodies and our images” and in finding “which diet fits into our lifestyle best.” He placed a great deal of emphasis on self-esteem saying, “how you feel about yourself is more important than what the scale says.” Yet, comments like, “if you want to lose weight, and, to look better, be better, it’s a process,” conveyed losing weight was an acceptable option.

“Possibly, definitely, maybe, yeah.”

Many of the participants alternated between discourses; some swung wide like a pendulum even. Another group of teaching assistants generally acknowledged the medical model but were seeking to reconcile that position with personal experiences of healthy overweight individuals, whether themselves or another person. When discussing “overweight,” this group generally drew upon the dominant obesity discourse but would switch to a more political model of discourse particularly when topics of body image or eating disorders came up. These five participants weren’t fully committed to an alternative discourse but struggled to negotiate their ways around the dominant discourse.

One individual, when asked whether she thought there was a relationship between health and weight, replied,

“I *do* in terms of physically *but* genetically, um, I have a family member...who’s heavy and doesn’t eat more than like a potato for dinner, so, and she works out all the time but she just can’t [lose weight]...so I definitely wouldn’t judge *her* that way...that information probably makes me shift just a little bit.”

She emphasized personal behaviors such as physical activity and nutrition in class but also acknowledged a wider responsibility saying,

“there’s been a lot of comments well like, ‘why don’t you just go on a diet to lose all that weight,’ no, it’s not really that easy. It’s a lot more in depth and takes a lot more work from other people as well...family norms [are] a big issue and genetics.”

She returned to personal experience several times throughout the interview,

“again see, I always think of my [family member] based on genetics, like this woman does *everything* to lose weight, *everything under the moon* to like, but she doesn’t lose weight so and she’s still healthy to me. When I think of her, she’s healthy, you know?”

She also displayed her multidimensional view of health by saying, “if a person is overweight I feel that they can still be healthy because weight isn’t the only thing that makes a person healthy. There are other...dimensions where people can fulfill that healthy overall encompassing word, um, in wellness.”

The male in this group juggled discourses, continually shifting. He started by saying,

“if you’re eating well and you’re active you’re less susceptible to be overweight, hypertension, high blood pressure, um, I think [health and weight] are correlated yes,

100%...I think that if you eat a lot of food and you don't exercise and you're sitting at home watching television all day and you gain weight, A yields B."

The next passage had him negotiating back and forth though:

"I think that [overweight people] could be healthy but not reach a total sense of wellness...as long as [the weight] is being managed, but they're still not 100% healthy, but we're not always going to, there's always going to be an area of improvement for anybody. I don't think anybody will ever be 100%...just because they're overweight, doesn't mean that, that they can't be fit. I think, I mean they can, you can be healthy. But I think that you can manage it better."

At some points elements of the moral model were prominent in his discourse, for instance, "you either have *those who don't care* (emphasis added) and we've, I can see them in the hallway, who let everything, expose everything without clothes and I don't really care to see that...[versus] those who are so thin that they *need to eat*." However at other times he strongly displayed a political stance evidenced by, "I think diet is a *horrible, horrible* word...because Americans have turned that into something that everyone can't live up to;" "I think the media exploits women and men;" and "you gotta be comfortable within your own skin and you have to appreciate who you are and to have to feel, not feel compelled to be something that you aren't and make a, an *unrealistic* goal." He also wasn't willing to discard the medical model completely saying, "I don't think that just because you're *overweight* you're not healthy. I think if you're *obese* you're not healthy." One passage, I thought, clearly illustrated his dissonance,

"if you look at, um, what is her, uh, Weight Watchers, Jennifer Hudson, she never said she wanted to be thin, she said she wanted to be healthy. Queen Latifah was doing that before. She never said she wanted to be *thin*, she wanted to be *healthy*. And I liked how

they positioned that against, uh, Jenny Craig and some of the other ones, or who, I might be having those mixed up. But I like how they *phrased* it and *positioned* it to where it was about living healthy but not being *thin*.”

He definitely did not want people to feel like they had to diet to be thin but couldn't quite let go of the discourse of losing weight to improve health.

Another participant visibly struggled with terms and “paradigms,” often ruminating over responses and contradicting herself. Her contradiction was evident early in the interview and continued throughout. In an early passage she says, “I probably badger myself too much for *being* overweight. And I *don't* think I'm healthy, even though I really do *believe* that I'm healthy.” As she described her viewpoint, she would almost talk herself out of the position she started with to end at an opposing position. She explicitly struggled with terminology,

“I think generally speaking people who are, um, *thinner*, are we going to use thinner and fatter type of thing? (pauses) People who are toned maybe, I don't know what I'm trying to think, people who are thinner maybe are more healthy...but I don't know if I really, really, really believe that.”

She talked about “a healthy way to lose weight” and incorporated that into her class, “we talk about, um, manageable ways, cutting back...*not* eating as *much*, exercising *more*, the whole calories in, calories out thing...in moderation type thing and trying to choose better and eat less, exercise more often...very simplistic things.” She was also one of the few participants who expanded her concept of weight management curriculum beyond nutrition and physical activity to include a “foundation of stress management and psychological health.”

Two females in this grouping drew more heavily from the political model of fat than other participants within this group. Yet, these same two females also spoke strongly from the

medical model. I think both wanted to embrace an alternative discourse but continually went back to the dominant discourse as the correct or acceptable response.

The first said, “I think weight is like a well-known, um, marker for health...weight is like one of the number one markers that people use for health...it dictates a lot about your health as far as like diseases.” Starting off with a strong stance that “weight is extremely important,” her statements slowly diluted to “weight is a number, it’s a semi-important number” to “[health] shouldn’t be dictated by a number, you know, it should be focused on how you feel, how you feel about yourself...[because] this *number* that like could be *lying*.” She also spoke about “different body types, the mesomorphs, endomorphs”, stressing the point “that we all kind of carry our weight differently, you definitely need to take that into account.” She acknowledged, “there are not these like *positive* messages [in society]...the message that society sends out especially regarding like numbers and weight, I don’t think it’s necessarily healthy and it’s not, it doesn’t give you a whole view of weight.” There were glimpses of advocacy within her discourse such as, “I *don’t* promote dieting at all,” and

“I think it’s important to kind of push or change, have some type of a paradigm where you change what healthy means...I really think this whole, the number is really, I feel *bad* when I see it screw with kids’ heads in my class...their spirits are kind of crushed with that and that’s a *big* issue.”

The second female said she thought “people who are overweight are not necessarily healthy...it does, uh, have an effect on your, uh, lifespan and I think that it, uh, makes you more susceptible to things like heart disease and things like that.” Although she had not taught the course before, she anticipated having students complete a three day food recall and wanted to incorporate BMI and dietary planning into her lessons. When discussing whether individuals

could be healthy regardless of size, she said, “I think that there *are* exceptions to the rule, but I think that the rule generally wins out.” However, the longer she talked about it the more she circled around and ended up saying,

“I don’t really know that the rule applies. I don’t really think there is a rule. I think it’s a constructed rule in our society because health is so much more than just the way you look, or what you eat, or how often you go to the gym.”

She spoke about weight stigma and prejudice:

“our society has *such* a, you know, a *vendetta* against overweight people... I think in our, in the American culture, I feel like, um, you know, thin is in. Um, when you see ads in magazines or billboards or movies, you know, everyone is very beautiful and thin and athletic and, you know, the chubby overweight guy who never gets the girl, you know what I mean? I think that, I think that overweight people are not given the same opportunities in the media as thin people are and I think that translates to real, like, to real life society.”

While she spoke about this injustice, she did not take a stance for advocacy within her classroom as opposed to the previous participant.

“It’s how you feel about your body.”

I grouped the last two participants separately because they did not rely much on the dominant discourse to talk about weight. Neither drew much from the medical model, never using the terms overweight or obese and speaking very limitedly on health risks. They described bodies as fat, thin, big, skinny, or lean, for example. While both thought a person could be healthy at any size, neither found fat to be a desirable trait. These two females seemed more to have not fully formed their positions than to be speaking from alternative positions though. They

were two of the youngest participants, had never taught the course before, and I think identified more as students than instructors based on our conversations.

The first participant said she thought a person's weight could be related to his/her health but "it depends upon how you look on your weight...how you think about it, so mentally it might affect you." When asked if she thought weight affected physical health specifically, she briefly said, "you may be tired or something...[a] big body...might physically let you know like if you can do stuff." She said multiple times some variation of "I am against calorie counting." While she was unsure yet how she would cover the weight management unit in the course, she speculated that maybe she would "try to focus them onto...[the] love your body thing." She talked about how bodies are portrayed in media and said, "when you look at that stuff you be like, 'oh my god, I should really lose [weight].'"

The other participant said "weight is not really like a good indicator [of health]." She brought up size diversity several times saying things such as "everybody's different because some people have, like, big bones and they're just meant to be bigger" and "some people aren't supposed to be small." However, she also expressed losing weight was acceptable as long as it wasn't extreme, but the reason for doing so was more important:

"The reasons why they're [losing weight] makes a *big* difference. If they were doing it because they wanted to and they're not feeling up to par with themselves or they're not happy with themselves, like in a healthy way, like 'I know that I'm not supposed to be this big, like, it's a struggle and I wasn't *always* this way' then that's a different story. But if they're doing it because, like, 'my boyfriend thinks I'm fat' or 'I hate myself' and that's like the reasons why they're doing it, kind, it would be like a determining factor of whether or not I'd be like, 'ok, well that's for you'."

She did draw some from the moral model mentioning “bad” foods and talking about motivation. She suggested, “if you’re going to eat *bad* per se, just eating smaller portions...fill up the rest of your plate with something more healthy...than just the *bad* stuff, the *greasy* stuff.” In terms of instruction, she also thought of incorporating “motivation more so than ‘this is what should be done,’ just kind of like pushing them and seeing like what works for them more so than just telling them what to do...but sometimes you just need a push.” Overall, she thought how a person felt about him/herself was a better indicator of health than weight.

Themes.

Dimensions.

In addition to participants’ individual discourse positions, several themes emerged from the interviews. Overwhelmingly, participants described health as multidimensional. Several assumed I understood what they meant by multidimensional or “holistic”. When asked to tell me more about the dimensions, one responded, “ok, um, obviously the basics I guess,” before going on to describe them. Participants assumed we shared common knowledge and beliefs about health. Participants talked about dimensions of health being “interconnected” and needing to be “in sync,” “balanced,” or in a state of “homeostasis.” While some participants specifically listed dimensions such as, “physically active or, you know, um being environmentally conscious... intellectually healthy and mentally healthy, um, also, um, spiritually healthy,” others referred more broadly to “your mentality and...physically, so, um, being able to do like your activities of daily living, right, you know, the absence of disease.” A few participants went a step further to describe healthy individuals as being “contributing members of society,” “participating in life,” having a “good sense of the world around you and...of your *place* in the world,” and “handling life as it comes at [you].” Several of the participants emphasized self-esteem when talking about

health, saying things like, “it’s how you feel about your body,” “knowing who you are and being comfortable with who you are,” and “being healthy means...kind of well-rounded...happy is kind of a general word, but I’m just kind of, I’m at peace maybe with who I am.”

Despite multidimensional views of health, when discussing what they would cover in class regarding weight management, most participants focused on the physical dimension. They immediately began talking about nutrition and physical activity as ways to manage weight.

“I think we should just give knowledge about, um, physical activity and how you can be more physically active to, you know, get your weight to normal level and then I would say to include physical activity and then more information about nutrition...just so they can kind of feel healthy and be more healthy.”

Multiple participants admitted they had a hard time separating out weight management from the nutrition and physical activity chapters. One even stated explicitly, “it’s hard for me to separate the whole weight management from the physical activity and nutrition.” However, one teaching assistant said she started the weight management chapter from a “foundation of stress management and psychological health [because]...if I’m not happy with who I am it’s very hard for me go and eat correctly.” She felt students needed to feel “worth it” before they would commit to behavior changes.

Participants talked about how a person’s weight could influence health, in some instances, across multiple dimensions. For example, “most people don’t feel as confident about themselves when they’re overweight and that stresses them out, as well as just stress, physical stresses, not being able to do you know basic things like you should be able to do” and “there definitely hits a point where one’s weight *will* impact just *all* those dimensions.” Although most had previously discussed the interconnectedness of the dimensions, few discussed how issues in

other dimensions of health, beyond physical, might influence someone's weight. Beyond nutrition and physical activity level, only two participants provided other health concerns, within a person's control, that could influence his/her weight. One participant acknowledged "our stress level and our sleep level is a big piece of this weight management thing that we cannot take out of the equation, like, cortisol does affect us. It does affect our body's ability to maintain our weight." Another said, "if, um, somebody's depressed, you know, it's hard for somebody to manage their weight because depression leads to like being sedentary, leads people to eating more and to do stuff like that." However, both primarily discussed nutrition and physical activity when teaching about weight.

Personal Responsibility.

The theme of personal responsibility was evident in many of the interviews. There was a spectrum of levels of personal responsibility from focusing on nutrition and physical activity because they are controllable behaviors to almost a blaming for weight. Many of the participants felt weight, or losing weight, was definitely within control of the individual saying things such as, "I mean I think [physical activity] can obviously maintain their weight," and "we have a lot of *choice*, it may seem difficult but we do have a lot of choice on maintaining our weight." A couple teaching assistants blamed mindless behaviors for weight, "especially for the students who have just never really sort of like they're on autopilot and their autopilot has them really overweight and it is harmful for their body," and "I think that if you eat a lot of food and you don't exercise and you're sitting at home watching television all day and you gain weight, A yields B."

Some participants alluded to willpower or motivation as an underlying issue.

“Most people that are overweight, have weight management problems, know they’re overweight, have problems, they just don’t know how to address, they don’t, they want to address it, they don’t know how to and they’re scared to...If they’re not happy with their weight...they’ve got to make the decision of either one, I need to, you know, change something, or I need to accept it and quit whining...I see in the back of my mind, you know, I want to say, you know, if you’re overweight, ‘well, you can do something about it.’ You know what I mean? Like I always have that mentality but I don’t feel like you can teach it like that...What’s that Mark Twain quote, you know, ‘you’re the captain of your own ship’ or something like that, you know what I mean? Like, it’s like everybody in *some capacity* is in control of what they can do and it’s, do you have the self-efficacy to and belief to actually do it yourself. And I think weight management is like one of those things, you know. I mean if you want to lose weight, go do it. Most people just don’t want to do it.”

Another described the discipline to lose weight by saying, “[you] need to be strong enough mentally, physically, emotionally to drive past a McDonalds or to, when somebody offers you some food, just say *no and mean it*.” The “just say no” was reminiscent of the drug campaign to me and puts ultimate responsibility on the individual.

Sensitive Subject.

Many of the participants acknowledged stereotypes and weight stigma. There is a “stigma, overweight people are lazy. But they’re really *not*, so to speak.” An international teaching assistant commented the culture is “different over here in United States...fat is kind of, like, offensive to people.” One participant said she tried to get students to “understand that overweight people are not horrible people. They’re not, you know, slobs or have all these

negative, horrible behaviors with them, um, and that, that's just not the only thing that will make them healthy." One participant touched on discrimination even saying, "our society has *such* a, you know, a *vendetta* against overweight people...I think that overweight people are not given the same opportunities in the media as thin people are and I think that translates to real, like, to real life society."

Because of the stigma and visibility of a person's weight, most of the participants wanted to approach the topic of weight in a sensitive way. According to one participant, "[weight] is one of those topics that you kind of have to tread lightly on." Another said, "when you talk about weight people tend to be extremely insecure. It takes either a very strong or a very, um, a person that's very good at putting on a front to, uh, not be insecure." More than one participant commented that teaching weight management with an overweight person in class would be challenging:

"I always find it hard to, like, to tell people, to talk to people and teach about obesity and how to do weight management when you've got people that are overweight in the class...It's hard for me to talk about obese people losing weight, losing weight because, you know, I don't want, you know, you've gotta be very sensitive with it."

Another said, "when I have very overweight people in [class] it's almost touchy." A few of the teaching assistants admitted feeling hypocritical or uncomfortable teaching weight management due to their own sizes. One said, "I'm overweight, *obviously*, so I feel kind of contradictory talking to the kids about that in front of them...It's kind of like somebody telling you how to finance your money but they're broke". Another said it could be uncomfortable,

"when I have, um, very in shape people [in class] and I'm *not so* in shape, um, and...my physical build and what they *perceive* as healthy and here I am trying to, you know,

what's she trying to teach me about weight for?...I was probably more conscious of what they thought of me, you know, and giving information is one thing but being an example is another.”

For the most part, teaching assistants were mostly concerned about not offending students. “I’m afraid that it might *embarrass* some of them....I hope my students don’t feel singled out.” Another participant said,

“I have a harder time, um, when I would tend to look that way I tend to *not* because I don’t want to *offend* and say ‘dude, you really need to lose about a 100 [pounds]’, you know. I don’t want to ever *offend* because that’s, it’s a touchy thing, um, emotionally.”

Teaching assistants used multiple ways of mitigating the possible discomfort. Several mentioned the timing of the unit was later in the semester and provided time to build rapport. One of the males said he felt his class was already getting comfortable with one another and “hopefully by the time we get to weight management we can all share our insecurities.” A trend among several of the teaching assistants was to use themselves as examples in class to avoid singling out any students or to ease students’ discomfort.

“I’ve got a very playful personality so I usually, I turn it around and I joke. I’m like, you know what I mean, I’m like, ‘well, I hit the...treadmill all the time and look at me. I’m not, you know what I mean, I’m too skinny. I want to gain weight and I can’t.’”

Another teaching assistant told her class about her personal weight gain in an attempt to foster a discussion on positive body image: “even, like, I gained like around 20 pounds within like three, four years and so I tell my students, like, I don’t even care...it’s the reality.” While good intentioned, I wonder if these methods have the intended effect, as these teaching assistants are still thin and appear in shape.

Similarly, a few also used athletes as examples. For instance,

“You’ve got your, like, offensive linemen, which are your 6’4”, 6’5”, 300 pound guys and their weight management is totally different than, like, than your 180 pound, 6’ wide receiver that’s, you know, six percent body fat and the other guy’s, you know, probably 22% body fat. So it’s very different the way that they manage their weight but those are great examples and I always use, like, all sizes of people to do it because it’s all different.”

Again, while athletes may be monitoring their weights, the nuance of stigma is lost in this example and I question whether they assuage discomfort of overweight students.

One teaching assistant emphasized the distinction between weight and worth to make the discussion about health and weight more objective:

“I, personally, as their instructor and just to how I think about it, separate it out from their worth. Like, like so as we’re talking through this I’m saying, ‘you may be an awesome person; I may love to be your friend; I may think that you have great skills; you’re a great this, that, and the other. However, if I, if I would point out at any point that you are obese and there’s this, makes a risk or you are, you know, underweight and that makes you at risk for such and such, I am not at all saying now you are unworthy as a person.’ Like I said, that might be a weird way to think of it but I just, I can, I separate those out completely so I don’t want anyone to think, ‘oh my gosh, you know, she’s talking about fat people and she hates them all.’ Like nope, I don’t. So I think there’s a distinction that isn’t always made, a lot of people tie it into worth...I think unfortunately there’s not a need to [make that distinction between health and worth] as much in the other areas and I think that’s why I do it in this one because I think this socialization of, um, obesity is

such that we do tie it to, like, this is, um, something that you've done and it's your fault and you should feel guilty about it."

Weight in Society.

Many of the participants talked about weight messages within society and media. One of the male teaching assistants stated,

"the media exploits women *and men*. And if we're not buff, if we're not looking like John Cena or, uh, any of these other guys, you know, go down to the rec center and these guys are *trying* their best, women, they're trying to *not eat*, neither of which are healthy."

Another said, "the message that society sends out, especially regarding like numbers and weight, I don't think it's necessarily healthy." The impact of these messages is also widespread. One male teaching assistant disclosed, "I don't know anyone who is *comfortable* with their weight or can't say that they would like to lose some or that they're perfectly fine with their weight." In talking about a female friend, one assistant said, "I don't know but she's never been body conscious. She's never been, I mean she's a female in the US that's white and she just is like completely oblivious to these things, right?...She's so protected." Negative body image or discontent was assumed as standard or normal. Someone with positive body image would have been "protected."

Some of their conversations echo blurry messages between health and appearance:

"we get our ideas of what's healthy and what is considered acceptable or good looking, uh, through the media...as much as I watch the media, um, everyone seems to have this same type of physique so I think it crosses over...I know that's one thing a lot of us struggle with on a day to day basis, how, how we look, how we appear to others."

Several participants supported weight loss as a means for health, but rescinded that support if it was for appearance:

“The reasons why they’re [losing weight] makes a *big* difference. If they were doing it because they wanted to and they’re not feeling up to par with themselves or they’re not happy with themselves, like in a healthy way, like, ‘I know that I’m not supposed to be this big, like, it’s a struggle and I wasn’t *always* this way’ then that’s a different story. But if they’re doing it because, like, ‘my boyfriend thinks I’m fat’ or ‘I hate myself’ and that’s like the reasons why they’re doing it, kind, it would be like a determining factor of whether or not I’d be like, ‘ok, well that’s for you’.”

And as previously described, one male participant liked that Weight Watchers promoted weight loss to improve health as opposed to weight loss to be thin.

In addition to the reasons *why* someone would try to lose weight, *how* they went about it mattered too. Teaching assistants had different interpretations of the term diet. When I asked one participant about dieting, she replied, “It’s really not about dieting, when I think of dieting I think of, like, yo-yo dieting or *fad* or trend dieting...I *don’t* promote dieting at all.” However, earlier in her discussion she talked about calories and their importance to managing weight saying,

“people don’t think about, a lot of them don’t realize, how much *dressing* or *dipping sauce* or *sodas*, we talked about that the other day. Like sodas are basically empty calories and how that adds to...I’m just like, those are empty calories. If you have a certain amount of, a certain number of calories that you’re supposed, that you want to intake a day, why kill it on two or 300 calories when they’re just empty?”

Most participants thought trying to lose weight was acceptable but there was a “a healthy way to lose weight...one to two pounds a week,” “you should always set parameters...[and] monitor it, like, effectively,” and that losing weight is “a process and not a [sic] instant thing.” A few participants also confided they were currently trying to lose weight themselves. One said, “dieting, *whooo*, it’s definitely a process, um, I’m currently on one *myself*.”

Self-Esteem.

Threads of self-esteem, body image, and acceptance were common throughout all of the interviews. Teaching assistants wanted their students to feel good about themselves and their bodies. “They need to be comfortable in their own skin and it’s disheartening [when they don’t].” Most of the participants linked weight with issues of insecurity.

“I think there’s probably a big insecurity issue, especially if that’s what you’ve been taught in your family too, um, to be insecure if you’re overweight and that, that’s a bad thing when it might not be, especially, based on what those family norms are for what’s a healthy weight ‘cause that sometimes can be a bit *extreme* based on the family norms but yeah, I think that, that’s pretty common if you’re overweight or underweight to be, um, insecure about that.”

More than one participant emphasized the impact to women, particularly, “like as women how do, especially as women, how do we feel about our bodies...Females especially are feeling guilty and feeling like they do have to manage themselves because they’re not doing it well enough.” One teaching assistant said,

“I hope to, like, in one way empower them, to make them feel comfortable with who they are but still encourage them, like if it’s something that you don’t like and you have control over it, you know, these are the tools...[to] work through that or to improve it.”

While many teaching assistants stated they wanted to talk about body image in their classes, none provided specific examples or activities of how they would incorporate that into their weight management lessons. Several of the participants conveyed positive body image was important but none of them were fully committed to encouraging all their students, regardless of size, to accept themselves as they were.

Phase Two – Curriculum and Instrument Development

Curriculum Development

I developed a curriculum module to be implemented in half of the sections of personal health. The goal of the module was to improve health and quality of life for students of all sizes. I had three program objectives: to increase awareness and knowledge of the HAES[®] approach as an alternative to weight control, to promote positive weight attitudes, and to increase skills necessary to incorporate HAES[®] principles. I drew upon social cognitive theory (SCT) as a theoretical basis for the module. Central to SCT is reciprocal determinism among behavior, personal factors, and the environment. Each factor influences the others and so a change in one can bring about change in the others. With this module, I sought to change the environment of the classroom by shifting the discourse and promoting an alternative approach to teaching about weight to influence personal factors such as attitudes in an effort to ultimately change behaviors. The module addressed misperceptions about weight and provided the opportunity to consider alternative health norms. Both knowledge and skills are necessary for behavioral capability and self-efficacy increases the likelihood of performance of behaviors. The lessons provided for knowledge and skill-building. Students had the chance to try some small steps to build their self-efficacy at performing the behaviors. Reinforcement is also a construct within SCT. The module provided for vicarious reinforcement through observation of their peers during activities and

through watching a video. Direct reinforcement was provided by teaching assistants in the class and on assignments.

I developed two 50-minute lesson plans, each with three learning objectives. Each lesson plan included key concepts, learning objectives, list of instructional materials, sequence of activities, background information, script, and copies of handouts. Three individuals were asked to review the curriculum module. The reviewers were chosen based on their expertise. Although all three agreed to review the module, only two returned feedback. Biographical sketches of the two curriculum reviewers are provided in Appendix F. Each reviewer was provided the curriculum module and a curriculum review checklist. Reviewers were asked to rate the curriculum based on learning objectives, teacher materials, instructional strategies and materials, content, and evaluation. See Appendix G for the checklist.

Suggestions for improvement were, primarily, minor revisions including numbering the script to correspond with the sequence summary, providing example questions to lead discussion, and providing quantities of instructional materials needed for each lesson. In addition to incorporating those changes, I developed rubrics for each assessment based on one reviewer's suggestion. One reviewer suggested having students set personal health goals based on their learning. I did not incorporate that suggestion into this module because the course has a required assignment on goal setting already and students would have the opportunity to discuss possible goals in a reflection paper for this unit. Table 2 lists the learning objectives and corresponding assessment tools.

Table 2

Learning Objectives and Assessment Tools

Lesson Plan	Learning Objective	Assessment Tool
Lesson One	students will be able to describe the HAES [®] approach	exam
	students will be able to compare and relate characteristics of eating disorders and obesity	in class activity
	students will explore and articulate their attitudes regarding the HAES [®] approach	reflection paper
Lesson Two	students will be able to compare dieting to a non-dieting approach	exam
	students will be able to apply mindful eating techniques	in class activity
	students will demonstrate positive body self-talk	role play

Instrument Development

A survey instrument was developed to assess attitudes toward HAES[®] principles. Likert-type items were constructed to assess attitudes relating to multidimensional health, relation of size and health, dieting, exercise for weight control, and size acceptance. Open-ended questions were included to allow participants to explain their responses and/or provide additional qualitative data. Questions were included to collect demographic data (age, sex, race/ethnicity) on participants as well.

Twenty-one Likert-type items, six open-ended questions, and three demographic questions were initially constructed for the instrument. Three panelists reviewed the instrument

for content validity (see Appendices H and I). Panelists were provided the list of HAES[®] principles and asked whether each item should be retained, revised, or removed from the survey. Comments and suggestions were encouraged.

Reviewer suggestions for improvement consisted primarily of wording changes, most of which were adopted. One reviewer recommended the open-ended question, “How would you describe your body shape or size,” be revised to a categorical format. However, the purpose of this question was to assess what terms or vocabulary participants used to describe themselves; therefore, the item was not changed. Three new items were suggested by reviewers. Two did not assess attitudes and were not added to the instrument. The third suggested item asked participants to categorize themselves by BMI. I did not expect participants to know their BMI’s nor was the item consistent with the philosophy of the project and, therefore, was not included. One additional item was added to the instrument, “Do you want to lose weight, maintain weight, or gain weight?”

The revised instrument was piloted in three undergraduate Health Education classes with approximately 60 enrolled students total. Neutens and Rubinson (2002) recommend having a pilot sample of twice the number of statements in the instrument. I obtained the names of enrolled students from the instructor and randomly assigned each student a number. This assignment was kept confidential and the record of names was destroyed after the post-test. Students’ names were written on the consent forms (Appendix J) and stapled to the survey with the corresponding number. This process was done in duplicate for a pre-test and a post-test and allowed me to match pre- and post-test surveys for each participant. During the first week of the Fall 2012 semester, I attended the classes to recruit participants to pilot-test the instrument. I explained the purpose of the research and passed out the consent form/instrument to students.

They were instructed to remove the consent form with their name. Students were advised participation was voluntary and they would not be penalized for non-participation. Individuals who did not want to participate were asked to sit quietly. I collected the surveys upon completion. Two weeks later, I returned to each class and repeated the procedure.

Reliability of the instrument was analyzed using Statistical Package for the Social Sciences (SPSS[®]). Responses were entered into SPSS software. Thirteen items required reverse coding to ensure total score reflected an overall positive attitude toward HAES[®] principles. Internal consistency reliability was determined using Cronbach's alpha. A minimum coefficient value of 0.80 is preferred for applied studies (McDermott & Sarvela, 1999). To determine test-retest reliability, pre- and post-test surveys were matched. Participants who completed the pre-test but not the post-test, and vice versa, were removed from the analysis. A bivariate correlation analysis was used to determine the test-retest reliability. The relationship between the two sets of scores are considered strong if the correlation is greater than 0.80 and moderate if between 0.60 and 0.80 (Dignan, 1995).

Forty-seven students completed the pilot pre-test. Participants ranged in age from 18 to 52 years with an average of 21.60 years. Twenty-one (44.7%) participants were male while 26 (55.3%) were female. One participant did not indicate race/ethnicity. The sample (N=46) was 67.4 % white, 19.6 % black, 2.2 % Hispanic, and 2.2 % Asian. Four (8.7 %) students indicated "other" race/ethnicity. Five surveys (10.6%) were excluded from the reliability analysis due to missing data. Cronbach's alpha for the pre-test was 0.708.

Fifty-four students, aged 18 to 52 years, completed the pilot post-test. Average age was 21.54 years. Twenty-one (38.9%) participants were male and 33 (61.1%) were female. One individual did not indicate race/ethnicity. Participants (N=53) were 62.3% white, 22.6% black,

5.7 % Hispanic, and 1.9% Asian. Four (7.5%) participants indicated “other” race/ethnicity. One survey was excluded from the second reliability analysis due to missing data. Cronbach’s alpha was calculated separately with this set of data and was 0.753. Deleting one item from the analysis resulted in higher Cronbach’s alpha scores on both the pre- and post-test data (0.746 and 0.781, respectively). Based on these analyses, the item was dropped from the final instrument.

Scores on the pre-test ranged from -18.00 to 14.00 with a mean of -0.26 (N=42) while post-test scores ranged from -20.00 to 22.00 with an average of -0.70 (N=53). Thirty-eight participants completed both the pre- and post-test. A Pearson correlation was used to analyze test-retest reliability using matched pre- and post-test scores. The correlation was 0.839 and significant at the 0.001 level. See Appendix K for the final version of the instrument.

Phase Three – Implementation and Evaluation

Teaching Assistant Attitudes

Pre-test.

Eleven teaching assistants completed the pre-test survey. Their total scores ranged from -3.00 to 18.00 with an average of 6.18 (SD = 6.57). The average score among comparison group members was 3.40 (SD = 4.67). Among intervention group members the average score was 8.50 (SD = 7.40). No significant difference between group means was observed [$t(9) = -1.33, p = 0.22$]. Of note, statistical significance was not expected to be achieved in the analyses of teaching assistants’ data due to small sample size but is still reported here. Table 3 contains individual teaching assistants’ scores at pre-test, post-test, and follow-up.

All participants had either a neutral or negative attitude toward one item, “people should not be encouraged to exercise to lose weight.” Their responses for that item ranged from strongly disagree to neutral, with an average of -1.27 (SD = 0.91). This item was followed with an open-

Table 3

Teaching Assistants' Scores on Pre-test, Post-test, and Follow-Up Surveys

Teaching Assistant	Pre-test Score	Post-test Score	Follow-Up Score
Comparison Group			
1	8	1	1
2	6	6	5
3	6	5	5
4	*	*	13
5	0	*	9
6	-3	-1	-1
Intervention Group			
1	-1	0	9
2	3	20	10
3	16	21	20
4	18	*	10
5	9	13	18
6	6	11	*

Note: * denotes no score.

ended question asking participants to explain why they chose the response they did. Six participants strongly disagreed with this statement. Their written responses reflected the value they placed on exercising for weight control or weight loss to improve health. One wrote, “exercise is essential to healthy weight loss.” While another replied, “exercising is a way to lose weight or maintain weight and it’s definitely a way to stay healthy. Exercising is vital to losing weight.” The five participants who either marked disagree or neutral commented that while exercise might result in weight loss, it should be encouraged either way due to many benefits.

Three items elicited only neutral to positive responses. Those items were “the physical condition of the body is only one aspect of health,” “healthy people sometimes have excess fat,” and one reverse-coded item, “thin people are healthier than fat people.” Positive responses to the

first item, “the physical condition of the body is only one aspect of health,” were expected due to multidimensional health being promoted within the department and course.

Participants’ written comments to why they responded to the item, “fat people should not be encouraged to accept their bodies,” further showed the contradictions or incongruence seen in the interviews. Six participants disagreed with this statement, implying a positive attitude toward size acceptance. However, only one participant fully embraced the idea saying, “some people are not genetically engineered to be thin and should accept themselves for who they are.” The other comments still reflected a need for change, in conflict with acceptance in my interpretation. For example, one wrote, “I think you have to accept in order to change;” while another said, “everyone in general should be encouraged to embrace their whole selves, but also encouraged to lose weight if they need to;” and yet another commented, “everyone should be encouraged to accept their bodies no matter what size and encouraged to reach their desired weight.” Three participants had marked “neutral” to the item. One of their written responses was HAES[®] positive, “because overweight people can be healthy;” however, the other two were similar to previous comments. For instance, one wrote, “I think everyone should respect their body except obese should be encouraged to exercise at the same time.” Finally, two participants agreed that fat people should not be encouraged to accept their bodies. One did not provide a written comment but the other did, leading me to believe she had mistakenly responded “agree” to the item. Her comment was “they should accept their bodies because oftentimes not doing so negatively affects health.” Overall, I found most of these statements indicative of the clash between obesity and body image discourses.

Seven (63.64%) out of the 11 participants wanted to lose weight, while the rest wanted to maintain. No teaching assistants wanted to gain weight. Of the seven that wanted to lose weight,

five described their body shape or size using the term, overweight. One gave her height and weight and described herself as “tall pear” and the last said, “athletic.” Four participants wanted to maintain their weight and described themselves as “average,” “fit,” “thin but shapely,” and “small, thin, short.”

Training on the Module.

I conducted a two hour training session (after pre-test surveys were administered) with the intervention group teaching assistants to discuss HAES[®] and the curriculum module. Five teaching assistants attended in person while one attended via Skype. While I had intended to audio-tape the entire session, I did not start the recorder at the beginning. The session did not start as I had envisioned, calm and organized, but more chaotic. I had arrived early to set up but shortly after was asked to exit the room for another unexpected group to meet. I was not able to return to the room until a couple minutes before the scheduled time so I felt rushed in setting up. We also had some difficulty connecting with Skype and one TA was several minutes late. Needless to say, in the chaos I forgot to hit record. About half way through the session, we lost connection with Skype and while trying to fix that, I remembered the audio-recorder and started it.

Teaching assistants were provided with a packet including a rationale for the module, theoretical framework, goals, objectives, lesson plans, background information and script, copies of handouts and instructional materials, example exam questions, and rubrics. We discussed the content and performed some of the activities. The meeting was semi-structured and I answered questions as they thought of them and asked.

Although all teaching assistants were willing to implement the curriculum, I was unsure of their “buy in” to the material. One excited teaching assistant said she thought it would be

“empowering” to students. However, another questioned if HAES[®] would actually promote obesity. I further discussed the philosophy of HAES[®] making clear the distinctions that good nutrition was promoted, overeating was not, and physical activity was highly encouraged but not for the purpose of losing weight. That seemed to alleviate concerns. One TA was hesitant to implement the mindfulness activity because of a previous conflict within his class about spirituality. He felt the mindfulness activity verged on the edge of spiritually and was not comfortable with that. However, after reviewing the script and discussing the purpose of the activity, he was reassured and said he could implement the activity. Although they may have initially felt some reservation about parts of the curriculum, all of them seemed to want to help me (in terms of conducting research), though. I expressed the need to follow the curriculum, not tell their students they were in the intervention group, and to not discuss the material or training with the comparison group teaching assistants. I also sent a follow-up email restating these points.

Post-test.

A post-test survey was given to teaching assistants approximately one week after the training session but prior to any sections implementing either the HAES[®] module or weight management chapter. Nine teaching assistants completed the post-test survey. Four were from the comparison group and five from the intervention group. Total post-test scores ranged from -1.00 to 21.00. The range for the comparison group was -1.00 to 6.00 with an average 2.75 (SD = 3.30) while the average for the intervention group was 13.00 (SD = 8.46) and scores ranged from 0.00 to 21.00. Although the gap between means for the comparison and intervention groups widened, the difference did not reach statistical significance, $t(7) = -2.26$, $p = 0.06$. Gain scores were calculated by subtracting pre-test scores from post-test scores. Gain scores provide a means

of controlling for differences in pretest scores. The comparison group had a gain score mean of -1.50 (SD = 3.87) while the intervention group had a mean gain score of 6.40 (SD = 6.15). All five intervention group participants who completed both a pre-test and post-test had positive gain scores ranging from 1.00 to 17.00. One comparison group participant also had a positive gain score of 2.00. Differences in mean gain scores between groups from pre-test to post-test were not significantly different, $F(1,7) = 4.95$, $p = 0.06$.

Written responses to open ended questions were similar from pre- to post-test, particularly among the comparison group. Six participants wanted to lose weight and three wanted to maintain their weight. No participants changed positions about losing or maintaining weight from the pre- to post-test. Most participants also used the same terms to describe their bodies as they did at the pre-test. However, two of the intervention group participants who had described themselves as overweight at pre-test described themselves as “thick” and “normal size – medium” at post-test. The one comparison group TA who had described herself as “tall pear” at pre-test, reiterated this at post-test adding the term overweight. She commented, “I am overweight; tall and pear shape. I love my body, value myself, but am also putting strain on my body by carrying too much weight on it.”

Follow-up.

Eleven teaching assistants completed the follow-up survey administered after implementation of the intervention curriculum or standard curriculum in all sections. Six participants were from the comparison group; five were from the intervention group. Follow-up scores ranged from -1.00 to 20.00. The average for the comparison group was 5.33 [SD = 5.13] with scores ranging from -1.00 to 13.00. Four comparison group participants completed both a post-test and follow-up survey. Their mean scores did not differ significantly from post-test to

follow-up, $t(3) = 1.00$, $p = 0.391$. The average score at follow-up for the intervention group was 13.40 [SD = 5.18] with a range from 9.00 to 20.00. This mean ($M = 13.40$, $SD = 5.18$) was significantly different from the comparison group mean ($M = 5.33$, $SD = 5.13$), $t(9) = -2.59$, $p = 0.03$. Mean scores for the four intervention group participants completing both post-test and follow-up surveys did not differ significantly from post-test to follow-up, $t(3) = -0.18$, $p = 0.87$. For those participants who had completed both a post-test and follow-up survey ($N=8$), a second gain score was calculated by subtracting the post-test score from the follow-up score. The mean gain score for the comparison group was -0.25 [SD = 0.50]. The intervention group's gain score mean was 0.75 [SD = 8.26]. Scores did not change significantly from the post-test to the follow-up among either group, comparison group $F(1,6) = 0.06$, $p = 0.82$. Seven participants wanted to lose weight at follow-up while four wanted to maintain their weights. No changes per participant were seen in this variable over the course of the study.

Again, most of the written comments for the comparison group were fairly constant across time, as were their descriptions of their bodies. One comparison group TA's description went from "overweight, obese, curvy" at pre-test, to "overweight" at post-test, to "fluffy" at follow-up. I also noted on an open-ended response on the follow-up survey, she used the term "big" and followed it with a comment in parentheses, "I don't like the word fat, it's borderline offensive." Because her last description of her body seemed flippant to me, I found myself wondering if it was really meant in earnest or if she was offended or insulted by my research, or more accurately, what she *thought* my research encompassed.

Written responses among the intervention group varied more across time than those of the comparison group, reflecting more positive HAES attitudes. While I think some the intervention group TA's did embrace the HAES approach, I also questioned in some cases

whether they answered in ways they thought they “should” answer. For instance, one TA’s response, “no matter what size you are, if you are positive about weight and function properly” to the question, “how do you think a person’s weight is related to their health,” raised a flag for me. As I looked closer at her other responses and scores on each test, she had the largest gain from pre- to post-test and her written responses changed more so than some of the other TA’s as well. From pre-test to post-test, her explanation to the item, “people should not be encouraged to exercise to lose weight,” went from “exercise keeps you fit. If along the way of exercising leads to lose weight, I call it perfect and healthy,” to “I know that even fat people can be healthy.” For other TA’s, remnants of previous responses were still evident in the majority of their comments, even if the overall attitude had changed.

Student Attitudes

Four hundred eight students completed the pre-test survey. One hundred fourteen were removed from the analysis because they did not complete the post-test. Three hundred thirty-three students completed the post-test. Thirty nine were removed from the analysis because they had not completed the pre-test. Once matched, ninety-two pairs were removed because the students had not attended both days of the intervention or weight management unit (or attendance had not been recorded) and seven were removed because the student was not over 18 years of age. This left 195 matched surveys for analysis. Of those, 109 (55.9%) were in the intervention group and 86 (44.1%) were in the comparison group.

Age of participants ranged from 18 to 31 years with an average age of 19.26 years. Only one student was outside the traditional college aged student of 18 to 24 years. One participant did not provide his/her sex, however, the remaining participants were split evenly between male and female with 97 (49.7%) each. Ninety five (48.7%) participants identified as white, 77 (39.5%) as

black, 11 (5.6%) as Hispanic, and five (2.6%) as Asian. Five (2.6%) chose “other” as their race/ethnicity while two (1%) left the item blank.

The comparison group’s (N=86) mean age was 19.10 years (SD = 1.39). Forty seven (54.7%) of the group were male leaving 39 (45.3%) females. Forty one (47.7%) were white, 35 (40.7%) were black, 4 (4.7%) were Hispanic, 3 (3.5%) were Asian, and 3 (3.5%) indicated “other” race/ethnicity. The intervention group did not differ significantly from the comparison group on age [$t(193) = -1.12, p = 0.26$] with a mean of 19.37 years (SD = 1.79). Fifty eight (53.2%) of intervention group participants were female and 50 (45.9%) were male. One (0.9%) participant in the intervention group did not provide data on sex. Fifty four (49.5%) were white, 42 (38.5%) were black, seven (6.4%) were Hispanic, two (1.8%) were Asian, two (1.8%) were other ethnicities, and two (1.8%) did not provide data on race/ethnicity. See Table 4 for demographic characteristics of student participants.

Table 4

Demographic Characteristics of Student Participants by Group

Characteristic	Comparison (n = 86)		Intervention (n = 109)		Total (n = 195)	
	n	(M)	n	(M)	n	(M)
Age in years		(19.1)		(19.4)		(19.3)
Sex						
Male	47	(54.7)	50	(45.9)	97	(49.7)
Female	39	(45.3)	58	(53.2)	97	(49.7)
Race/Ethnicity						
White	41	(47.7)	54	(49.5)	95	(48.7)
Black	35	(40.7)	42	(38.5)	77	(39.5)
Hispanic	4	(4.7)	7	(6.4)	11	(5.6)
Asian	3	(3.5)	2	(1.8)	5	(2.6)
Other	3	(3.5)	2	(1.8)	5	(2.6)

Pretest scores from the comparison group ranged from -20 to 30 with a mean of 2.61 (SD 6.78). The intervention group's pretest scores ranged from -20 to 24 with a mean of 2.69 (SD 6.96). An independent samples t-test was calculated to determine no significant difference existed between comparison and intervention group pretest scores [$t(193) = -0.08, p = 0.93$].

Posttest scores from the comparison group ranged from -25 to 19 with a mean of 2.43 (SD 7.12). Mean scores at pretest and posttest within the comparison group did not differ significantly [$t(85) = 0.29, p = 0.77$]. Posttest scores from the intervention group ranged from -15 to 30 with a mean of 7.78 (SD 8.53). This was significantly different from the pretest mean score [$t(108) = -7.55, p < 0.001$]. The intervention group posttest scores were also significantly different from the comparison group posttest scores [$t(193) = -4.67, p < 0.001$]. See Table 5 for a summary of differences in score means between groups and across time.

Table 5

Differences in Student Mean Scores at Pre- and Posttest by Group and Across Time

Group	<u>Comparison</u> <i>M (SD)</i>	<u>Intervention</u> <i>M (SD)</i>	<i>t (df)</i>	<i>p</i>
			Between groups	
Pretest Score	2.61 (6.78)	2.69 (6.96)	-0.08 (193)	0.93
Posttest Score	2.43 (7.12)	7.78 (8.53)	-4.76 (193)	<0.001
Across time				
<i>t (df)</i>	0.294 (85)	-7.55 (108)		
<i>p</i>	0.770	< 0.001		

Gain scores were calculated for both groups by subtracting pretest scores from posttest scores. Gain scores control for individual differences in scores by providing a posttest score relative to the pretest score. A one-way analysis of variance (ANOVA) was conducted to determine whether a significant difference existed among the groups in relation to their gain scores. The gain scores of the comparison group and intervention group did differ significantly ($F(1, 193) = 32.43, p < 0.001$). The gain in positive attitude was greater in the intervention group ($M = 5.09, SD = 7.04$) than in the comparison group ($M = -0.17, SD = 5.51$).

At the pretest, 75 (38.5%) students indicated a desire to lose weight, 78 (40.0%) wanted to maintain their weight, and 34 (17.4%) wanted to gain. Eight (4.1%) students did not respond to the item. At posttest, 61 (31.3%) indicated wanting to lose weight, 92 (47.2%) wanted to maintain, 32 (16.4%) wanted to gain, and 10 (5.1%) did not provide a response.

Overwhelmingly, student descriptions of their body sizes/shapes did not change from pretest to posttest in either the comparison or intervention groups. Few students used terms such as overweight or obese to describe their bodies. Only one student, a male from the comparison group, used the term obese while 24 students used the term overweight. Of those 24 students, 15 (62.5%) used the term in conjunction with another descriptor, such as “slightly overweight,” “a little overweight,” or “10 pounds overweight.” Other terms to describe bigger bodies included big, stocky, large, heavy, thick, chubby, chunky, curvy, and fat.

Thin was a popular adjective with 54 students describing their bodies as such. Other similar terms used in place of or in combination with thin were slim, skinny, little, slender, lean, and lanky. Only three students used the term underweight. Fifty-five students described themselves as “average.” Other ambiguous terms such as normal and medium were used by some students. Seventeen students gave measurements such as their height and/or weight.

Interestingly, some female students referred to clothing sizes to describe their bodies. A few said they were “plus-size” and one even responded she was a “size 8.” While arguably not just a clothing size, several females also listed “petite.” No males referenced clothing sizes to describe their bodies. While many students, both male and female, described their bodies as physically fit or athletic, males more frequently used the term muscular than females.

A few students used terms with a moral undertone, such as good or right, implying bad or wrong bodies exist. Four described their bodies as “good,” while one said “not good but not bad.” One male student responded, “average – the right weight,” and a female said she was “just right not too skinny or big.” Two used the adjective nice in describing their shape or body and another wrote “excellent.” Only nine students described their bodies as healthy.

Curriculum Evaluation

I kept notes of conversations and emails with intervention group TA’s during the weeks of implementation. One TA had emailed after the first day of implementation to say she was unable to show the video on her computer. She tried using a departmental computer but the video would not play at the correct speed and was slow. Instead, she said she talked about the video. I received an email from her a couple weeks later describing the reflection paper assignment:

“...I made my students write a reflection paper based on the class discussions, video and HAES approach and what they feel about it. Everyone had a positive respond [sic], they said they never knew about such body positive organisation [sic], most of them shared their experiences about body issues...but one particular student didn't really agree. She responded well in her paper and she said "teaching people that obesity is okay as long as it is done correctly is like saying that smoking has no bearing on health as long as you do it right. Eating fast food on a regular basis is no less harmful than smoking daily, so why

don't we cut the bull and tax fast food like cigarettes" Well I could see what she meant by it and in the real world, I think the obesity issue is way too scary-the way people think about the topic as well as those obese people go through everyday."

I was concerned how this TA might have presented the concepts in comparison to the video. She seemed to agree with her student's assessment yet the concepts the student replies to, for example, eating fast food regularly, were not necessarily concepts in line with the module or a HAES approach. Of course, this is one student response and not indicative of all students' attitudes. However, this email made me wonder whether the TA, an inexperienced instructor and new to the HAES® philosophy, was able to convey the material in an objective and effective way.

In late October, I saw another intervention group TA in the hallway. She had just finished the first day of the module in her classes. She was upbeat and positive saying it went very well and she thought the material was well received by students. She was surprised at how well the in-class activity went because she said her students don't always want to volunteer. She said, "once they got going, they really got into it." Due to discussion, she ran out of time to finish the video, only showing about six minutes versus the full 12 minutes, but said she would finish it in the next class. She stated she liked not using a PowerPoint presentation because the students were more engaged, looking at her, and that she felt she had their attention. The teaching assistant described one student's comment, "finally someone said it. I've been in health class before and feel like everyone's staring at me."

After all classes completed the module or weight management unit, I conducted a focus group with intervention group TA's to discuss their experiences teaching the module. Although all six had agreed to participate and a time agreeable to all parties set, only four, one male and

three females, attended the focus group. When asked about what parts of the implementation went well, three of the teaching assistants described the activities in class as provoking rich discussion. One mentioned the initial act of listing things about weight the students had heard on the board got them to “participate a lot.” Another said her students “interacted...and it went really well” discussing scenarios regarding eating disorders and obesity. The male teaching assistant said the same activity was “awesome” and that he finally “cut-off” the discussion in order to continue. He also said the activity focused on intuitive, mindful eating “really got them thinking.” One teaching assistant admitted the module was challenging for her to implement. She said, “that was new for me, it was hard for me to tell them and when they brought [questions] up I don’t know what to say to them.” She later said, “people aren’t going to use that outside of the classroom.” This confirmed my earlier concerns, as this was the TA who was unable to show the video. Another challenge the TA’s faced was the contradiction between the module and the textbook. Not only was the weight management chapter in conflict with the module, but teaching assistants said the fitness chapter was contradictory as well. When I asked in what ways the information differed, multiple TA’s responded in unison, “BMI.”

When I asked what areas could be improved upon or if they had suggestions, one TA thought the introduction was too long and the curriculum could be more effective if it “maybe [got] right to the nitty gritty.” He thought the activities of the second lesson were more personal and by doing those in the first lesson it would “do more to get buy in.” Another TA pointed out that the video and the two scenarios from one activity focused only on females. Interestingly, the male teaching assistant said he had not noticed that but he also only had a few males in his class. The script did address the video’s lack of male perspectives and gave suggestions for discussion, which the TA’s were able to incorporate.

Overall, the teaching assistants did not have many suggestions for improvement other than to expand it. One of the females said, “I hate health books, I’ll say that. They approach [weight] so differently and I wish they approached it this way.” She suggested implementing the curriculum in all of the sections of this course and expanding it to also replace the fitness chapter. She thought something similar in high school health courses was needed as well. At the end of the focus group she stated, “I’m glad we got to implement it.” Another participant said, “I really liked it...I used it as, with a bridge with psychological health...if we’re happy with ourselves we’re better able to change anything and so that went right along with [that] foundation... so I really liked it much better than the book.” One of the TA’s that did not attend the focus group replied in an email, “the only comment I have is I wish it was longer than 2 (50 minute) classes. Lots of discussion! Most were questioning why they had been taught BMI their entire academic career. There were intense discussions.” Only one teaching assistant explicitly stated he had applied any of the principles in his personal life. He said he really liked the mindfulness piece and was trying to eat more mindfully. Only one TA from the intervention group provided a written reflection on the module. She said,

“teaching the Weight Management curriculum set up by you was interesting. I loved it, but had some reservations...or maybe you would say difficulties. Mostly those negative parts came from me not having set it up myself, I think. While I had gone over the information and felt like I knew it well enough, I didn’t feel like I owned it much....All in all, I enjoyed it. I may have changed a few parts but only because of my own style of teaching vs. how you set it up.”

While I think the teaching assistants followed the “procedure” of the module for the most part, I do not think all of them were prepared for glitches or tough questions. While a few were

quick to accept the concepts, the HAES[®] approach was an entirely new philosophy for others. Compounding that was teaching inexperience for some TA's. Experienced instructors can often quickly adapt when things do not go as planned. New instructors could have benefitted from additional training for the "what-ifs." In hindsight, two hours to both introduce a new concept and go over methods was likely not sufficient for training. Even some of the experienced TA's were unfamiliar with a few of the methods I incorporated, such as a "fishbowl" activity. However, despite any missteps, the module sparked "intense discussions," "a cool conversation about dieting," and "[the students] were talking so much" that they had to be "cut off" at times.

Comparison Curriculum

The required textbook for this course relies heavily on dominant obesity discourse using the medical model of fat and reinforcing personal responsibility for weight. The chapter, *Weight Management and Body Image*, begins with statistics regarding obesity trends and health and economic effects associated with overweight and obesity. The chapter then transitions into factors contributing to overweight and obesity, including genetics, physiology, environment, and lifestyle. Assessment methods for body weight and composition, including BMI, are presented. Behavioral factors such as eating and exercise are emphasized. The chapter concludes with a presentation of body image and eating disorders.

Teaching assistants were provided a teaching tool box in addition to the text that includes an instructor's manual, activity idea book, test question bank, worksheets, PowerPoint slides, and videos. Two activities were provided for the weight management chapter. One was to have students calculate their individual BMI's. The other activity was meant to portray the strain of carrying excess weight by having a student hold a 20 pound dumbbell at the front of the class and once tired, asked to describe the experience. The videos were from mainstream news

programs and focused on calorie counting, food journaling, the diet drug Alli, orthorexia (obsession with eating healthy foods), and the “slim-obese.” Fat people in the videos were generally shown with their heads cut out of the frame and/or from behind. The PowerPoint slides followed the text closely. Each comparison group teaching assistant had the freedom to choose what resources to use in his/her class.

All but one teaching assistant in the comparison group provided documents, such as presentation slides and assignment instructions/handouts, that they used in their classes during the Fall 2012 semester. Multiple teaching assistants reported treating weight management as part of a larger “unit” including nutrition and fitness chapters. However, upon asking for documents associated with the specific weight management chapter only, most were able to separate them out. One TA had a particularly difficult time separating this chapter from what she called the “super-unit.” She provided several documents including some I categorized as nutrition resources versus weight management documents.

Three of the TA’s used the PowerPoint slides provided with the text, with minor changes in some instances, while two had developed their own presentations. Four of the five presentations had similar main points including information on obesity trends, health risks, contributing factors, assessment, lifestyle and behavior changes, body image, and eating disorders. The terminology used in their slides and handouts was consistent with dominant discourse. They used the terms, overweight, obese, and morbid obese. BMI was emphasized as a way to classify bodies and determine health risk. There was also an emphasis on calorie counting for weight control. The slides for the fifth TA’s presentation did not include statistics or health risks associated with weight but came from a more appearance-oriented position. The first slide included the question, “are you happy with your body weight?” The notes for that slide started

with, “if you are happy with your body weight, you are in the minority.” Similar to others, this TA’s slides included lifestyle and behavior changes that would affect weight, body image, and eating disorders.

A theme of personal responsibility for weight was evident in the comparison group documents. The sentence, “obesity is the second greatest preventable cause of death in the United States, after smoking,” was included verbatim in two presentations. In one presentation, a slide titled, “what contributes to obesity?” was followed with a subheading of “genes?” This TA referred to obesity within her PowerPoint as a “lifestyle disease” and also included a slide with an estimate of healthcare costs for obesity. Another presentation contained 17 before and after photos of individuals who had lost large amounts of weight. Multiple TA’s noted within their slides and/or notes that weight management or weight loss was not easy but still within individual control. The dominant discourse of obesity was evident in the documents through the use of the medical model and emphasis on personal responsibility.

I did not intend to evaluate the comparison group’s teaching materials in this project, merely to provide a comparative look at the “traditional” way in which weight topics are taught within this course. However, I found myself cringing as I looked through the documents to prepare an overview. Particularly for those TA’s who did not rely heavily on the text’s slides, the images used tended to be negative and/or more stereotypical. For example, one TA only used pictures of extreme weights. The presentation had multiple slides of fat children, eating fast food in one, ice cream in another, and one with a paper bag over his head, while the pictures on the eating disorder slides were of extremely emaciated individuals. And while some TA’s presented warnings on “drastic weight-loss measures,” another showed clips from the television show, *The Biggest Loser*, an extreme weight loss program, in my opinion.

Summary

Teaching assistants' discourse positions were categorized into three groups. Five TA's "absolutely" felt weight impacted health and relied primarily on dominant obesity discourse. Two TA's spoke primarily from an alternative discourse but did not seem to inhabit that alternative position. Finally, five TA's incorporated alternative discourses but continued to revert to obesity discourse. This negotiation or contradiction was evidenced in many of the written responses on the survey as well. Both teaching assistants and students in the intervention group had increased positive scores on the Health and Weight Attitudes Scale from pre-test to post-test. Student scores in the comparison group and intervention group differed significantly following implementation of a Health at Every Size[®] curriculum module. Overall, intervention group TA's liked the module and successfully implemented it, despite a few challenges.

CHAPTER 5

CONCLUSIONS, DISCUSSION, AND RECOMMENDATIONS

“I don’t know that one class could ever change it but at least it starts the process.”
- Intervention group teaching assistant

Purpose

The purpose of this action research study was to develop and evaluate a college personal health curriculum module to promote healthy bodies of all sizes. The first phase of the study focused on analyzing teaching assistants’ discourse positions in relation to health and weight through interviews. This analysis provided an understanding of what ideas and values teaching assistants bring to their teaching about bodies. The second phase of the study was the development of a curriculum module and survey instrument to assess attitudes toward HAES[®] principles. The final phase focused on evaluating the module. Attitudes toward a Health At Every Size[®] approach among teaching assistants and students were assessed pre- and post-implementation to determine any differences. Teaching assistants’ experiences teaching the new module also were explored in a focus group setting.

Research Questions

1. What are the discourse positions regarding weight management of college personal health teaching assistants?
2. Do college personal health teaching assistants possess positive attitudes toward a Health At Every Size[®] approach?
3. To what extent, if any, do attitudes of college personal health teaching assistants change after training on a curriculum module utilizing a Health At Every Size[®] approach?

4. To what extent, if any, do attitudes of college personal health teaching assistants change after implementing a curriculum module utilizing a Health At Every Size[®] approach?
5. What are the experiences of college personal health teaching assistants implementing a curriculum module utilizing a Health At Every Size[®] approach?
6. Do college students in personal health classes possess positive attitudes toward a Health At Every Size[®] approach?
7. To what extent, if any, do attitudes of college students change after implementation of a curriculum module utilizing a Health At Every Size[®] approach?

For this study, I interviewed 12 teaching assistants to gain insight into their discourse positions; I developed a curriculum module based on a Health At Every Size[®] approach to health and survey instrument to assess attitudes toward the principles; and I conducted a focus group to gather evaluative data regarding implementation.

Conclusions

Teaching assistants' discourse positions fall variably along a spectrum but predominantly reproduce obesity discourse, the dominant discourse in American society today. Most TA's portrayed weight as a medical phenomenon with health risks requiring behavioral changes for resolution. Alternative discourses were most apparent when TA's discussed body image or eating disorders.

When it comes to teaching about bodies, teaching assistants' approaches are rife with inconsistencies. Despite valuing multidimensional health models, teaching assistants almost exclusively focus on physical health when teaching about bodies and weight. They describe weight loss as difficult but definitely within control of the individual, ultimately holding students

accountable for their sizes, but are very concerned about not offending them. While TA's promote weight loss to achieve certain BMI ranges, in an effort to promote positive body image, they also tell students they "shouldn't strive for some ideal." Finally, TA's acknowledge negative messages in society about bodies and want their students to feel good about themselves, yet do not take strong stances within their classes to advocate for size acceptance or positive body image.

A HAES[®] curriculum module can influence both teaching assistants' and students' attitudes. Training on a HAES[®] approach can increase positive attitudes of teaching assistants. Teaching assistants are receptive to an alternative and positive approach to teaching about bodies. Furthermore, a HAES[®] curriculum module can increase positive student attitudes toward HAES[®] principles.

A HAES[®] curriculum module provides an alternative and more cohesive discourse across topics. The HAES[®] curriculum module promoted multidimensional health, alleviated teaching assistants' concerns about offending students, was inclusive in nature, and bridged messages between weight management, eating disorders, and body image discourses. The HAES[®] philosophy is new to many health educators but provides an alternative to obesity discourse.

Discussion

Health education teaching assistants drew heavily from obesity discourse. This discourse is reinforced in the media and in health literature, including the text and resources for this course. Even when TA's made alternative statements about health and weight, they generally reverted back to messages consistent with obesity discourse. Other authors have noted the dominance and lack of questioning of obesity discourse in education (Azzarito, 2007; Evans, et al., 2008). Welch and Wright (2011) also reported the majority (35%, n=130) of pre-service teachers in their study

had discourse positions consistent with that of obesity discourse. They described a group of participants that were “less ‘fixed’ ” (p.206) in their positions as negotiating discourses, contradicting themselves at times, and using personal experiences to counter the dominant position. I found similar contradictions and negotiating strategies within some TA interviews as well.

Teaching assistants’ positions waivered as they shifted from talking about weight management to discussing body image or eating disorders. Their comments were often contradictory and most TA’s did not seem aware of the incongruence. After interviewing a female health and physical educator and conducting focus groups with her students, Cliff and Wright (2010) reported a similar incongruence between obesity and eating disorders discourses within the same course. Although the teacher had great concern for her female students’ risk of developing eating disorders, she was unable to move away from obesity discourse and fear of fat. Focus groups with that teacher’s students were conducted and their responses reflected the need to watch what they ate. The authors concluded obesity discourse overshadows other alternative discourses about bodies (Cliff & Wright, 2010).

While Welch and Wright (2011) postulated discourse positions influence curriculum and instruction, TA’s in this study continued to use obesity discourse in their lessons regardless of their discourse positions. Possible reasons for this could be unawareness of alternatives, lack of time for preparation, lack of availability of alternative resources, or simply the ubiquity of obesity discourse. Many of the TA’s were generalists, had limited time to devote to course preparation, and tended to rely on the resources they were provided. Shelley and colleagues (2010) also noted teachers may continue to use weight-centered curriculum because it is familiar.

Multiple themes emerged from the interviews. All of the teaching assistants described health as being multidimensional, for instance. However, when describing how they taught weight management, overwhelmingly they talked about only the physical dimension. Similarly, in an analysis of content focus in health education research articles, Hawks and colleagues (2008) found the majority of articles (79%, n = 1365) focused on physical health. The authors noted the inconsistency between health education philosophy and practice. Despite health being generally defined as multidimensional and dynamic, the authors suggested public health's emphasis on physical health and the ambiguity of other dimensions as barriers to promoting a more multidimensional view of health in practice. This may play out in health education classes as well. For instance, one TA voiced his concern in discussing spirituality within his class, yet he also wanted to promote holistic health. Furthermore, TA's may find difficulty in applying multidimensionality to topics they see primarily as physical. Yet, as Hawks et al. (2008) pointed out, it is difficult to appreciate the dynamic nature of the dimensions when they are not integrated as such.

Personal responsibility was a strong element within most interviews. I paid close attention when threads of personal responsibility were evident in the transcripts because to some degree, teaching assistants are going to focus on behaviors that are within personal control. I did not want to assume they were assigning responsibility of weight to the individual when they may have just been emphasizing what an individual could control. Although a fine line, I did interpret those threads in the majority of instances as assigning responsibility versus emphasizing behavioral change or skill building. This theme of personal responsibility for weight was not surprising given the tradition of personal responsibility in American society. In their study of 13 to 15 year old students (n=144), Rail, Holmes, and Murray also found a theme of personal

responsibility in their discourse analysis. Students described health in terms of what they were, what they do, or what they feel while neglecting a bigger picture of macro-level determinants of health including environment. The authors also reported moral underpinnings within the narratives, including the need to be physically active and not lazy. Welch and Wright (2011) reported similar findings of personal responsibility, blame, and moral undertones in their analysis of discourse positions of pre-service teachers.

Based mostly on anecdotal evidence, I had expected teaching assistants to divulge feeling uncomfortable at times teaching about weight, particularly when fat students were present. However, I had not fully expected the theme of weight being a sensitive subject. I found it interesting that TA's needed time to build rapport with students prior to talking about weight when many of the topics in this class could be considered "sensitive" such as sexuality, mental health, substance abuse, domestic violence, etc. I contribute some of this to fat being visually apparent as opposed to other conditions and coupled with the value of personal responsibility, TA's may be struggling to avoid blame within their classrooms. Pedersen and Ketcham (2009) conducted focus groups with direct care providers in a college student health setting. Providers also expressed discomfort in talking about weight, feeling it was a sensitive topic, and not wanting to offend patients. I question if the discomfort is a product of the moral attribution of weight clashing with the reality of interacting with the person.

Teaching assistants also discussed the role of social norms and messages regarding weight. Appearance or image was the stronger influence in these messages, versus health. They spoke of media exploitation of bodies and pervasiveness of negative body image. While they expressed disgust and, at times, outrage at the media and societal messages, they also contributed to dominant discourses by discussing healthy ways to lose weight and conform to weight

standards such as BMI. Another emergent theme was that of self-esteem. TA's wanted their students to feel good about themselves, accept their bodies, and feel self-worth. They noted most people, and particularly females, have insecurities about their bodies and some people equate worth with weight. Teaching assistants did not discuss ways in which they were able to alleviate these issues and did not address how they fostered improved self-esteem in class.

The HAES[®] approach is an unfamiliar philosophy for many health educators. However, the majority of intervention group TA's welcomed the alternative approach as a more inclusive, less stigmatizing approach to discussing weight. While all TA's in the intervention group were willing to implement the module, three were especially interested or open to the alternative. TA's spoke positively about the curriculum and HAES[®] philosophy during informal conversations with me as well as during the focus group. However, only one TA explicitly expressed applying any of the principles personally. Shelley and colleagues (2010) reported teachers' attitudes and beliefs were positively affected by implementing a HAES[®] curriculum. The four teachers included in that study, aged 40 to 54 years with an average of 30 years of experience, also embraced the HAES[®] principles within their personal lives. The collaborative approach to curriculum development, scope of the curriculum, and extensive in-service training within that project likely contributed to greater acceptance. The ages and experience levels of participants between studies were quite different as well and may have impacted acceptance. Multiple researchers have reported acceptance and preference for HAES[®] approaches among instructors (Shelley, et al., 2010; Wardlaw, 2005). Shelley and colleagues (2010) reported the female teachers they worked with felt empowered after developing and implementing a HAES[®] curriculum. Participants of such education and programs are also receptive to the new principles (Brown, 2009; Wardlaw, 2005). Furthermore, training on the HAES[®] curriculum can influence

instructor attitudes. After a two hour training on the curriculum module, intervention group TA's attitude scores increased. Positive attitudes in this group were maintained until the follow-up survey at the end of the semester. Hague and White (2005) also reported decreased anti-fat attitudes among educators following an intervention promoting size acceptance.

A HAES[®] curriculum can influence student attitudes as well. Students in the intervention group had increases in positive attitudes after implementation while comparison group students did not have any significant difference in scores from pre- to post-test. In addition, TA's thought the curriculum was well received by students. Brown (2009) also acknowledged an interest in the HAES[®] approach among students in a disease-prevention course. She reported in an end-of-the-semester assignment, 43% of students chose to write reflectively about the HAES[®]-related article, from a choice of 30 assigned readings. Furthermore, 77% of students participating in that study had improved attitudes toward HAES[®] principles at posttest.

A HAES[®] curriculum provides an alternative and more cohesive discourse between weight, obesity, eating disorders, and body image topics and may influence attitudes about weight. The curriculum module in this study spurred intense discussions in class and got students, and teaching assistants, to critically question popular messages about weight. While one module cannot change the discourse, an alternative dialogue was started.

Limitations

This study was limited by several factors. Outside variables, such as media, other coursework, etc., were not controlled but could have affected student attitudes. Furthermore, the sample of teaching assistants and students may not be representative of other universities and may hinder generalizability of results. Also, this research was not true experimental design with

a randomized control group, but quasi-experimental. While experimental is the gold standard, logistically the design is near impossible in application within educational settings.

Student participation was limited to those students in attendance on the days of the survey administration and during the days of implementation. Additionally, four sections of the comparison group were excluded from the survey analysis due to a lack of attendance data. Two intervention group TA's mentioned the module to their students when introducing me at the post-test. One of them had another section after that and I asked her not to mention it to those students. I cannot be sure this did not influence students' responses in those two sections. Actions such as these and possible others I am not aware of may have weakened the study.

I did not observe any of the classes. Previous requests to observe teaching assistants' classes were not granted and I did not want to jeopardize the relationship I was building with TA's as I was depending on them for multiple pieces of data. Therefore, I cannot say with certainty that intervention group TA's implemented the module precisely as directed. I also relied primarily on presentation slides, assignment handouts, and interview data to describe the comparison curriculum.

I am unable to say whether this curriculum module will have lasting effects on either the TA's or students. Data collection for this study took place during one academic semester. The two 50-minute lesson length of the module may not be sufficient to significantly change attitudes long term. Furthermore, other modules within the course may have been in conflict with the HAES[®] approach, further limiting its impact. Finally, this study did not evaluate changes in knowledge, behavior, or impact on health outcomes.

Recommendations

1. An alternative approach to teaching about bodies is needed and, while this module provided an alternative to one chapter within the course, a curriculum with more breadth and depth is necessary for cohesion and maximum impact. In addition, a more participatory, collaborative approach to curriculum development may increase ownership and acceptance of the HAES[®] philosophy among instructors. Instructors could also benefit from additional training to feel adequately prepared and able to adjust more readily to different situations. Additional training may also help to clear up continued misunderstandings I noticed with some teaching assistants.

2. Incorporating HAES[®] principles into more health education courses, workshops, or other educational forums would reinforce positive attitudes, raise awareness and increase knowledge, and provide additional opportunities for skill building. TA's and students questioned why this approach was not utilized in their other courses. Multiple points of exposure would reinforce the knowledge, attitudes, and behaviors necessary to shift paradigms.

3. Most health educators define health as multidimensional and, therefore, need to apply a more multidimensional approach when teaching. The majority of TA's limited their discussions of weight and bodies to the physical dimension. This recommendation applies to more than just weight management but to all of the content areas within health education. For instance, I would argue much about food and nutrition is also psychological, social, and at times spiritual. Although, based on interview discussions, the focus is on the physical in this course. Weaving in those concepts strengthens the multidimensional foundation that health education, at least in this department, is built upon.

4. More research is needed in the area of HAES[®] education. Literature of HAES[®] applications, while growing, is still fairly limited. This study evaluated attitudes toward HAES[®] principles but knowledge, skills, and health outcomes related to HAES[®] curriculum should also be studied.

5. On a broader scope, I would like to recommend more critical investigation of discourse and pedagogy within health education. The medical model of obesity is generally not questioned, but accepted as certain and fact. However, many inconsistencies, contradictions, and uncertainties exist within the research. As health educators, we need to continue to ask questions, test assumptions, and form our own opinions. As I read countless articles on weight or obesity for this study, I found I did not always reach the same conclusions as those of the authors. However, if no one questions those conclusions, they become the basis for a wider platform of policy and guidelines, and then perpetuated in education.

6. Furthermore, as health educators we need to critically examine the messages we are sending about health. Many of the TA's said health was subjective or depended on what the individual valued. However, they also had strong beliefs about what people "should" be doing, or what constituted healthy behaviors. This may be perpetuating a culture of healthism, where health is a moral imperative (Azzarito, 2007). Furthermore, their messages about bodies were contradictory and could be confusing to students. Critically examining language, discourse, and instruction may help to align it with health education philosophy.

7. My final recommendation is for a wide shift in paradigms. Even from an anti-obesity stance, the interventions based on the current paradigm aren't working. The population isn't getting smaller or healthier. Perhaps it is time to shift focus. I would like to see weight taken out of the health equation. Weight has become a proxy for determining poor nutrition and/or

sedentary lifestyle. These behaviors have detrimental effects regardless of weight or body size. Improving nutrition and physical activity levels in our society should be paramount as these factors are associated with chronic disease. However, labeling interventions targeting these two factors as obesity prevention is unnecessary and misguided at the least, stigmatizing and discriminatory at worst. With their expertise in educational strategies, program planning, social marketing skills, and focus on multidimensional health, health educators could lead the way in shifting the discourse and approach to bodies and health.

References

- Adams, J.B., & Adams, J.B. (2009). Practical applications and limitations of tracking body mass index in schools. *Journal of Physical Education, Recreation, and Dance*, 80(4), 14-17.
- American Academy of Pediatrics. (2003). Prevention of pediatric overweight and obesity. *Pediatrics*, 112(2), 424-430.
- Amundson, D.E., Djurkovic, S., & Matwiyoff, G.N. (2010). The obesity paradox. *Critical Care Clinics*, 26, 583-596.
- Anderson, J.W., Konz, E.C., Frederich, R.C., & Wood, C.L. (2001). Long-term weight-loss maintenance: A meta-analysis of US studies. *American Journal of Clinical Nutrition*, 74, 579-584.
- Anesbury, T., & Tiggemann, M. (2000). An attempt to reduce negative stereotyping of obesity in children by changing controllability beliefs. *Health Education Research*, 15(2), 145-152.
- Arendt, H. (1961). *Between past and future: Eight exercises in political thought*. New York, NY: Penguin.
- Ashburn, E. (2009, December 6). Lincoln U. faculty votes to scrap a weighty requirement. *The Chronicle of Higher Education*. Retrieved from <http://chronicle.com/article/Lincoln-U-Faculty-Votes-to/49364/>
- Association for Size Diversity and Health. (2011). *Health at every size[®] fact sheet*. Retrieved from <https://www.sizediversityandhealth.org/content.asp?id=161>
- Association for Size Diversity and Health. (2012a). *About*. Retrieved from <http://www.sizediversityandhealth.org/about.asp>
- Association for Size Diversity and Health. (2012b). *ASDAH leadership team*. Retrieved from <http://www.sizediversityandhealth.org/content.asp?id=8>

- Association for Size Diversity and Health. (2012b). *Health at every size® principles*. Retrieved from <https://www.sizediversityandhealth.org/content.asp?id=5>
- Azzarito, L. (2007). "Shape up America!": Understanding fatness as a curriculum project. *Journal of the American Association for the Advancement of Curriculum Studies*, 3, 1-25.
- Bacon, L. (2008). *Health at Every Size*. Dallas, TX: BenBella Books, Inc.
- Bacon, L., & Aphramor, L. (2011). Weight science: Evaluating the evidence for a paradigm shift. *Nutrition Journal*, 10(9), 1-13.
- Bacon, L., Keim, N.L., Van Loan, M.D., Derricote, M., Gale, B., Kazaks, A., & Stern, J.S. (2002). Evaluating a 'non-diet' wellness intervention for improvement of metabolic fitness, psychological well-being and eating and activity behaviors. *International Journal of Obesity*, 26, 854-865.
- Bacon, L., Stern, J.S., Keim, N.L., & Van Loan, M.D. (2004). Low bone mass in premenopausal chronic dieting obese women. *European Journal of Clinical Nutrition*, 58, 966-971.
- Bacon, L., Stern, J.S., Van Loan, M.D., & Keim, N.L. (2005). Size acceptance and intuitive eating improve health for obese, female chronic dieters. *Journal of the American Dietetic Association*, 105, 929-936.
- Barry, C.L., Brescoll, V.L., Brownell, K.D., & Schlesinger, M. (2009). Obesity metaphors: How beliefs about the causes of obesity affect support for public policy. *The Milbank Quarterly*, 87(1), 7-47.
- Bauer, K.W., Haines, J., & Neumark-Sztainer, D. (2009). Obesity prevention: Strategies to improve effectiveness and reduce harm. In L. Smolak & J.K. Thompson (Eds.), *Body Image, Eating Disorders, and Obesity in Youth: Assessment, Prevention, and Treatment* (pp. 241-260). Washington, D.C.: American Psychological Association.

- Bell, S.K., & Morgan, S.B. (2000). Children's attitudes and behavioral intentions toward a peer presented as obese: Does a medical explanation for the obesity make a difference? *Journal of Pediatric Psychology, 25*(3), 137-145.
- Berenson, A. (2006, March 2). Byetta: A ray of hope for diabetics. *The New York Times*. Retrieved from <http://www.nytimes.com/2006/03/02/business/02drug.html?pagewanted=all>
- Berkrot, B., & Yukhananov, A. (2012, June 27). FDA OKs first obesity drug in 13 years. *Reuters*. Retrieved from <http://www.reuters.com/article/2012/06/27/us-arena-obesity-idUSBRE85Q1AA20120627>
- Berryman, D.E., Dubale, G.M., Manchester, D.S., & Mittelstaedt, R. (2006). Dietetics students possess negative attitudes toward obesity similar to nondietetics students. *Journal of the American Dietetic Association, 106*(10): 1678-1682.
- Bertakis, K.D., & Azari, R. (2005). The impact of obesity on primary care visits. *Obesity Research, 13*(9), 1615-1623.
- Bertakis, K.D., & Azari, R. (2007). Patient gender and physician practice style. *Journal of Women's Health, 16*(6), 859-868.
- Block, J.P., DeSalvo, K.B., & Fisher, W.P. (2003). Are physicians equipped to address the obesity epidemic? Knowledge and attitudes of internal medicine residents. *Preventive Medicine, 36*, 669-675.
- Boero, N. (2007). All the news that's fat to print: The American "obesity epidemic" and the media. *Qualitative Sociology, 30*(1), 41-60.
- Bogdan, R.C., & Biklen, S.K. (2007). *Qualitative research for education: An introduction to theory and methods*. Boston, MA: Pearson Education.

- Bouhcard, C. (2002). Genetic influences on body weight. In C.G. Fairburn & K.D. Brownell (Eds.), *Eating Disorders and Obesity: A Comprehensive Handbook* (pp. 16-21). New York, NY: The Guilford Press.
- Bowen, G.A. (2009). Document analysis as a qualitative research method. *Qualitative Research Journal*, 9(2), 27-40.
- Brown, K. (1996). *A content analysis of weight control information contained in selected seventh and eighth grade health textbooks* (Doctoral dissertation). Retrieved from ProQuest Dissertations and Theses.
- Brown, L.B. (2009). Teaching the “Health At Every Size” paradigm benefits future fitness and health professionals. *Journal of Nutrition Education and Behavior*, 41(2), 144-145.
- Brownell, K.D., Puhl, R., Schwartz, M.B., & Rudd, L. (2005). *Weight bias: Nature, consequences, and remedies*. New York, NY: The Guilford Press.
- Brownell, K.D., & Rodin, J. (1994). The dieting maelstrom: Is it possible and advisable to lose weight? *American Psychologist*, 49(9), 781-791.
- Buchwald, H., Avidor, Y., Braunwald, E., Jensen, M.D., Pories, W., Fahrenbach, K., & Schoelles, K. (2004). Bariatric surgery: A systematic review and meta-analysis. *Journal of the American Medical Association*, 292(14), 1724-1737.
- Burgard, D. (2005). Blinded by BMI. *Health at Every Size*, 19(1), 45-53.
- Burrows, L., & Wright, J. (2007). Prescribing practices: Shaping healthy children in schools. *International Journal of Children's Rights*, 15, 83-98.
- Butryn, M.L., Phelan, S., Hill, J.O., & Wing, R.R. (2007). Consistent self-monitoring of weight: A key component of successful weight loss maintenance. *Obesity*, 15(12), 3091-3096.
- Calle, E.E., Thun, M.J., Petrelli, J.M., Rodriguez, C., & Heath, C.W. (1999). Body-mass index

- and mortality in a prospective cohort of U.S. adults. *The New England Journal of Medicine*, 341(15), 1097-1105.
- Cameron, D. (2001). *Working with spoken discourse*. London: Sage Publications, Ltd.
- Campbell, D.T., & Stanley, J.C. (1963). *Experimental and quasi-experimental designs for research*. Boston, MS: Houghton Mifflin.
- Campos, P., Saguy, A., Ernsberger, P., Oliver, E., & Gaesser, G. (2006). The epidemiology of overweight and obesity: Public Health Crisis or Moral Panic? *International Journal of Epidemiology*, 35, 55-60.
- Carr, W., & Kemmis, S. (2009). Educational action research: A critical approach. In S.E. Noffke & B. Somekh (Eds.), *The SAGE Handbook of Educational Action Research* (pp. 74-84). Los Angeles, CA: SAGE Publications.
- Cash, T.F. (2002). The management of body image problems. In C.G. Fairburn & K.D. Brownell (Eds.), *Eating disorders and obesity: A comprehensive handbook* (pp. 599-603). New York, NY: The Guilford Press.
- Cassell, D., & Gleaves, D.H. (2006). *The encyclopedia of obesity and eating disorders*. New York, NY: Facts on File.
- Centers for Disease Control and Prevention. (n.d.) *Using the BMI-for-age growth charts*. Retrieved from <http://www.cdc.gov/nccdphp/dnpa/growthcharts/training/modules/module1/glossary/glossary.htm>
- Centers for Disease Control and Prevention. (2008). *About the BRFSS*. Retrieved from <http://www.cdc.gov/brfss/about.htm>
- Centers for Disease Control and Prevention. (2011a). About the National Health and Nutrition Examination Survey. Retrieved from http://www.cdc.gov/nchs/nhanes/about_nhanes.htm

- Centers for Disease Control and Prevention. (2011b). *Adult obesity facts*. Retrieved from www.cdc.gov/obesity/data/adult.html
- Centers for Disease Control and Prevention. (2011c). *Characteristics of an effective health education curriculum*. Retrieved from <http://www.cdc.gov/healthyyouth/characteristics/index.htm>
- Centers for Disease Control and Prevention. (2011d). *Halting the epidemic by making health easier: At a glance 2010*. Retrieved from http://www.cdc.gov/chronicdisease/resources/publications/aag/pdf/2011/Obesity_AAG_WEB_508.pdf
- Centers for Disease Control and Prevention. (2011e). *Insufficient sleep is a public health epidemic*. Retrieved from <http://www.cdc.gov/Features/dsSleep/>
- Centers for Disease Control and Prevention. (2011f). Prescription painkiller overdoses in the US. *CDC Vital Signs*. Retrieved from <http://www.cdc.gov/VitalSigns/PainkillerOverdoses/>
- Centers for Disease Control and Prevention. (2011g). School health guidelines to promote healthy eating and physical activity. *Morbidity and Mortality Weekly Report*, 60(RR-5), 1-78. Retrieved from <http://www.cdc.gov/healthyyouth/npao/strategies.htm>
- Centers for Disease Control and Prevention. (2012). *Coordinated school health*. Retrieved from <http://www.cdc.gov/healthyyouth/cshp/index.htm>
- Cereda, E., Malavazos, A.E., Caccialanza, R., Rondanelli, M., Fatati, G., & Barichella, M. (2011). Weight cycling is associated with body weight excess and abdominal fat accumulation: A cross-sectional study. *Clinical Nutrition*, 30, 718-723.
- Chambliss, H.O., Finlay, C.E., & Blair, S.N. (2004). Attitudes toward obese individuals among exercise science students. *Medicine and Science in Sports and Exercise*, 36(3), 468-474.
- Chua, Jr., S.C., & Leibel, R.L. (2002). Body weight regulation: Neural, endocrine, and autocrine

- mechanisms. In T.A. Wadden & A.J. Stunkard (Eds), *Handbook of Obesity Treatment* (pp. 19-41). New York, NY: The Guilford Press.
- Cliff, K., & Wright, J. (2010). Confusing and contradictory: Considering obesity discourse and eating disorders as they shape body pedagogies in HPE. *Sport, Education and Society*, *15*(2), 221-233.
- Conrad, P. (1992). Medicalization and social control. *Annual Review of Sociology*, *18*, 209-232.
- Crandall, C.S. (1994). Prejudice against fat people: Ideology and self-interest. *Journal of Personality and Social Psychology*, *66*(5), 882-894.
- Crandall, C.S., & Reser, A.H. (2005). Attributions and weight-based prejudice. In K.D. Brownell, R.M. Puhl, M.B. Schwartz, & L. Rudd, (Eds.), *Weight Bias* (pp. 83-96). New York, NY: The Guilford Press.
- Creswell, J.W. (2007). *Qualitative inquiry and research design: Choosing among five approaches*. Thousand Oaks, CA: Sage Publications.
- Cundiff, D.K. (2006). BMI: A poor surrogate for diet and exercising in assessing risk of death. *International Journal of Obesity*, *30*, 1173-1175.
- DeJong, W. (1980). The stigma of obesity: The consequences of naïve assumptions concerning the causes of physical deviance. *Journal of Health and Social Behavior*, *21*, 75-87.
- Diaz, V.A., Mainous, A.G., & Everett, C.J. (2005). The association between weight fluctuation and mortality: Results from a population-based cohort study. *Journal of Community Health*, *30*(3), 153-165.
- Diedrichs, P.C., & Barlow, F.K. (2011). How to lose weight bias fast! Evaluating a brief anti-weight bias intervention. *British Journal of Health Psychology*, *16*, 846-861.
- Dignan, M.B. (1995). *Measurement and evaluation of health education*. Springfield, IL: Charles

C. Thomas.

Discourse. (n.d.). In *Merriam-Webster's online dictionary*. Retrieved from <http://www.merriam-webster.com/dictionary/discourse>

Donnelly, J.E., Blair, S.N., Jakicic, J.M., Manore, M.M., Rankin, J.W., & Smith, B.K. (2009). Appropriate physical activity intervention strategies for weight loss and prevention of weight regain for adults. *Medicine and Science in Sports and Exercise*, *41*(2), 459-471.

Douglas, D. (2010). The war against obesity. *The Crisis*, *117*(2), 26-30.

Droyvold, W.B., Nilsen, T.I.L., Lydersen, S., Midthjell, K., Nilsson, P.M., Nilsson, J.A., & Holmen, J. (2005). Weight change and mortality: The Nord-Trondelag Health Study. *Journal of Internal Medicine*, *257*, 338-345.

Drury, C.A.A., & Louis, M. (2002). Exploring the association between body weight, stigma of obesity, and health care avoidance. *Journal of the American Academy of Nurse Practitioners*, *14*(12): 554-561.

Eknoyan, G. (2006). A history of obesity, or how what was good became ugly and then bad. *Advances in chronic kidney disease*, *13*(4), 421-427.

Eknoyan, G. (2008). Adolphe Quetelet (1796-1874) – the average man and indices of obesity. *Nephrology Dialysis Transplantation*, *23*(1), 47-51.

Engeland, A., Bjorge, T., Selmer, R.M., & Tverdal, A. (2003). Height and body mass index in relation to total mortality. *Epidemiology*, *14*, 293-299.

Ernsberger, P., & Haskew, P. (1987). Health implications of obesity: An alternative view. *Journal of Obesity and Weight Regulation*, *6*(2), 58-137.

Evans, E.W., & Sonnevile, K.R. (2009). BMI report cards: Will they pass or fail in the fight against pediatric obesity? *Current Opinion in Pediatrics*, *21*, 431-436.

- Evans, J., Rich, E., Davies, B., & Allwood, R. (2008). *Education, disordered eating and obesity discourse: Fat fabrications*. New York, NY: Routledge.
- Fabricatore, A.N., & Wadden, T.A. (2003). Treatment of obesity: An overview. *Clinical Diabetes*, 21(2), 67-72.
- Fabricatore, A.N., Wadden, T.A., & Foster, G.D. (2005). Bias in health care settings. In K.D. Brownell, R.M. Puhl, M.B. Schwartz, & L. Rudd, (Eds.), *Weight Bias: Nature, Consequences, and Remedies* (pp. 29-41). New York, NY: The Guilford Press.
- Ferrance, E. (2000). *Action research*. Retrieved from http://www.lab.brown.edu/pubs/themes_ed/act_research.pdf
- Field, A.E., Austin, S.B., Taylor, C.B., Malspeis, S., Rosner, B., Rockett, H.R.,...Colditz, G.A. (2003). Relation between dieting and weight change among preadolescents and adolescents. *Pediatrics*, 112, 900-906.
- Field, A.E., Barnoya, J., & Colditz, G.A. (2002). Epidemiology and health and economic consequences of obesity. In T.A. Wadden & A.J. Stunkard (Eds.), *Handbook of Obesity Treatment* (pp. 3-18). New York, NY: The Guilford Press.
- Field, A.E., Malspeis, S., & Willett, W.C. (2009). Weight cycling and mortality among middle-aged or older women. *Archives of Internal Medicine*, 169(9), 881-886.
- Field, A.E., Manson, J.E., Taylor, C.B., Willett, W.C., & Colditz, G.A. (2004). Association of weight change, weight control practices, and weight cycling among women in the Nurses' Health Study II. *International Journal of Obesity*, 28, 1134-1142.
- Finkelstein, L.M., Demuth, R.L.F., & Sweeney, D.L. (2007). Bias against overweight job applicants: Further explorations of when and how. *Human Resource Management*, 46(2), 203-222.

- Fishman, S.G.B. (1998). Life in the Fat Underground. *Radiance*, 53. Retrieved from http://www.radiancemagazine.com/issues/1998/winter_98/fat_underground.html
- Flegal, K.M., Carroll, M.D., Ogden, C.L., & Curtin, L.R. (2010). Prevalence and trends in obesity among US adults, 1999-2008. *Journal of the American Medical Association*, 303(3), 235-241.
- Flegal, K.M., Graubard, B.L., Williamson, D.F., & Gail, M.H. (2005). Excess deaths associated with underweight, overweight, and obesity. *Journal of the American Medical Association*, 293(15), 1861-1867.
- Forrest, K.Y.Z., & Stuhldreher, W.L. (2007). Patterns and correlates of body image dissatisfaction and distortion among college students. *American Journal of Health Studies*, 22(1), 18-25.
- Foucault, M. (1972). *The archaeology of knowledge and the discourse on language*. London: Routledge.
- Franz, M.J., VanWormer, J.J., Crain, A.L., Boucher, J.L., Histon, T., Caplan, W.,...Pronk, N.P. (2007). Weight-loss outcomes: A systematic review and meta-analysis of weight-loss clinical trials with a minimum 1-year follow-up. *Journal of the American Dietetic Association*, 107, 1755-1767.
- Fraser, L. (2009). The inner corset: A brief history of fat in the United States. In E. Rothblum & S. Solovay (Eds.), *The Fat Studies Reader* (pp. 11-14). New York, NY: New York University Press.
- Fraser, S., Maher, J.M., & Wright, J. (2010). Between bodies and collectivities: Articulating the action of emotion in obesity epidemic discourse. *Social Theory & Health*, 8(2), 192-209.
- Friedman, K.E., Reichmann, S.K., Costanzo, P.R., Zelli, A., Ashmore, J.A., & Musante, G.J.

- (2005). Weight stigmatization and ideological beliefs: Relation to psychological functioning in obese adults. *Obesity Research, 13*(5), 907-916.
- Friend, S., Bauer, K.W., Madden, T.C., & Neumark-Sztainer, D. (2012). Self-weighing among adolescents: Associations with body mass index, body satisfaction, weight control behaviors, and binge eating. *Journal of the Academy of Nutrition and Dietetics, 112*, 99-103.
- Gaesser, G.A. (1996). *Big fat lies: The truth about your weight and your health*. New York, NY: Fawcett Columbine
- Gallagher, D., Visser, M., Sepulveda, D., Pierson, R.N., Harris, T., & Heymsfield, S.B. (1996). How useful is body mass index for comparison of body fatness across age, sex, and ethnic groups? *American Journal of Epidemiology, 143*(3), 228-239.
- Gapinski, K.D., Schwartz, M.B. & Brownell, K.D. (2006). Can television change anti-fat attitudes and behavior? *Journal of Applied Biobehavioral Research, 11*(1), 1-28.
- Gard, M., & Wright, J. (2005). *The obesity epidemic: Science, morality and ideology*. New York, NY: Taylor & Francis Group.
- Gee, J.P. (2011). *How to do discourse analysis: A toolkit*. New York, NY: Routledge.
- Gee, J.P., & Handford, M. (2012). Introduction. In J.P. Gee & M. Handford (Eds.), *The Routledge handbook of discourse analysis* (pp. 1-6). London, England: Routledge.
- Greene, J.C., Caracelli, V.J., & Graham, W.F. (1989). Toward a conceptual framework for mixed-method evaluation designs. *Educational Evaluation and Policy Analysis, 11*(3), 255-274.
- Griffiths, M. (2009). Action research for/as/mindful of social justice. In S.E. Noffke

- & B. Somekh (Eds.), *The SAGE handbook of educational action research* (pp. 85-97).
Los Angeles, CA: SAGE Publications.
- Grodner, M. (1992). "Forever dieting": Chronic dieting syndrome. *Journal of Nutrition Education, 24*(4), 207-210.
- Groven, K.S., Raheim, M., & Engelsrud, G. (2010). "My quality of life is worse compared to my earlier life": Living with chronic problems after weight loss surgery. *International Journal of Qualitative Studies on Health and Well-being, 5*(4), 5553.
doi:10.3402/qhw.v5i4.5553
- Gu, D., He, J., Duan, X., Reynolds, K., Wu, X., Chen, J.,... Whelton, P.K. (2006). Body weight and mortality among men and women in China. *Journal of the American Medical Association, 295*(7), 776-783.
- Hague, A.L., & White, A.A. (2005). Web-based intervention for changing attitudes of obesity among current and future teachers. *Journal of Nutrition Education and Behavior, 37*, 58-66.
- Harris, M.B., Walters, L.C., & Washull, S. (1991). Altering attitudes and knowledge about obesity. *The Journal of Social Psychology, 131*(6), 881-884.
- Harvey, E.L., Summerbell, C.D., Kirk, S.F.L., & Hills, A.J. (2002). Dietitians' views of overweight and obese people and reported management practices. *Journal of Human Nutrition and Dietetics, 15*: 331-347.
- Hawks, S.R., & Gast, J.A. (2000). The ethics of promoting weight loss. *Healthy Weight Journal, 14*(2), 25-26.
- Hawks, S.R., Smith, T.S., Thomas, H.G., Christley, H.S., Meinzer, N., & Pyne, A. (2008). The

- forgotten dimensions in health education research. *Health Education Research*, 23(2), 319-324.
- Hayden-Wade, H.A., Stein, R.I., Ghaderi, A., Saelens, B.E., Zabinski, M.F., & Wilfley, D.E. (2005). Prevalence, characteristics, and correlates of teasing experiences among overweight children vs. non-overweight peers. *Obesity Research*, 13(8): 1381-1392.
- Hennings, A., Hilbert, A., Thomas, J., Siegfried, W., & Rief, W. (2007). Reduction of stigma against obese people: Effects of an educational film [Abstract]. *Psychotherapie, Psychosomatik, Medizinische Psychologie*, 57(9-10), 359-363.
- Herndon, A.M. (2005). Collateral damage from friendly fire?: Race, nation, class and the “war against obesity”. *Social Semiotics*, 15(2), 127-141.
- Heuer, C.A., McClure, K.J., & Puhl, R.M. (2011). Obesity stigma in online news: A visual content analysis. *Journal of Health Communication*, 16(9), 976-987.
- Higgins, L.C., & Gray, W. (1998). Changing the body image concern and eating behaviour of chronic dieters: The effects of a psychoeducational intervention. *Psychology and Health*, 13, 1045-1060.
- Hill, J.O. (2002). The nature of the regulation of energy balance. In C.G. Fairburn & K.D. Brownell (Eds.), *Eating Disorders and Obesity: A Comprehensive Handbook* (pp. 67-71). New York, NY: The Guilford Press.
- Hill, J.O., Wyatt, H., Phelan, S., & Wing, R. (2005). The National Weight Control Registry: Is it useful in helping deal with our obesity epidemic? *Journal of Nutrition Education and Behavior*, 37, 206-210.
- Horgen, K.B., & Brownell, K.D. (2002). Confronting the toxic environment: Environmental and

- public health actions in a world crisis. In T.A. Wadden & A.J. Stunkard (Eds.), *Handbook of Obesity Treatment* (pp. 95-106). New York, NY: The Guilford Press.
- Howell, D.C. (2007). *Statistical Methods for Psychology*. Belmont, CA: Thomson Wadsworth.
- Ingram, D.D., & Mussolino, M.E. (2010). Weight loss from maximum body weight and mortality: The Third National Health and Nutrition Examination Survey Linked Mortality File. *International Journal of Obesity*, 34, 1044-1050.
- International Size Acceptance Association. (n.d.). *Frequently asked questions*. Retrieved from <http://www.size-acceptance.org/faq.html>
- Irving, L.M. (2000). Promoting size acceptance in elementary school children: The EDAP puppet program. *Eating Disorders*, 8, 221-232.
- James, W.P.T. (2002). A world view of the obesity problem. In C.G. Fairburn & K.D. Brownell (Eds), *Eating Disorders and Obesity: A Comprehensive Handbook* (pp. 411-416). New York, NY: The Guilford Press.
- Johnson, C. (2002). Obesity, weight management, and self-esteem. In T.A. Wadden & A.J. Stunkard (Eds.), *Handbook of Obesity Treatment* (pp. 480-493). New York, NY: The Guilford Press.
- Johnson, R.B., & Onwuegbuzi, A.J. (2004). Mixed methods research: A research paradigm whose time has come. *Educational Researcher*, 33(7), 14-26.
- Karelis, A.D., St. Pierre, D.H., Conus, F., Rabasa-Lhoret, R., & Poehlman, E.T. (2004). Metabolic and body composition factors in subgroups of obesity: What do we know? *Journal of Clinical Endocrinology and Metabolism*, 89(6), 2569-2575.
- Keys, A., Fidanza, F., Karvonen, M.J., Kimura, N., & Taylor, H.L. (1972). Indices of relative weight and obesity. *Journal of Chronic Disease*, 25, 329-343.

- Kline, G. (2001). Analyzing BMI: Can it measure individual risk? *Healthy Weight Journal*, 15(1), 10-13.
- Koop, C.E. (1997, September 19). In spite of diet drug withdrawal, the war on obesity must continue says Dr. C. Everett Koop [Press release]. *Shape Up America!*. Retrieved from http://www.shapeup.org/about/arch_pr/091997.php
- Kopelman, P. (2001). Developing an action plan for obesity education. *International Journal of Obesity*, 25(S4), S16-S19.
- Korkeila, M., Rissanen, A., Kaprio, J., Sorensen, T.I.A., & Koskenvuo, M. (1999). Weight-loss attempts and risk of major weight gain: A prospective study in Finnish adults. *American Journal of Clinical Nutrition*, 70, 965-975.
- Krefting, L. (1991). Rigor in qualitative research: The assessment of trustworthiness. *American Journal of Occupational Therapy*, 45(3), 214-222.
- Kushner, R. (2002). Defining the scope of the problem of obesity. In D.H. Bessesen & R. Kushner (Eds.), *Evaluation & Management of Obesity* (pp.1-4). Philadelphia, PA: Hanley & Belfus, Inc.
- Larkin, J.C., & Pines, H.A. (1979). No fat persons need apply: Experimental studies of the overweight stereotype and hiring preference. *Sociology of Work and Occupations*, 6(3), 312-327.
- Latner, J.D., & Schwartz, M.B. (2005). Weight bias in a child's world. In K.D. Brownell, R.M. Puhl, M.B. Schwartz, & L. Rudd, (Eds.), *Weight Bias: Nature, Consequences, and Remedies* (pp. 54-67). New York, NY: The Guilford Press.
- Leahy, D., & Harrison, L. (2008). Weighing it up: Thinking about the implications of school based obesity prevention initiatives. *ACHPER Healthy Lifestyles Journal*, 55(1), 19-22.

- LeBesco, K. (2001). Queering fat bodies/politics. In J.E. Braziel & K. LeBesco (Eds.), *Bodies Out of Bounds: Fatness and Transgression* (pp. 74-87). Berkeley, CA: University of California Press.
- Leibowitz, S.F. (2002). Central physiological determinants of eating behavior and body weight. In C.G. Fairburn & K.D. Brownell (Eds.), *Eating Disorders and Obesity: A Comprehensive Handbook* (pp. 5-10). New York, NY: The Guilford Press.
- Leichter, H.M. (2003). "Evil choices" and "personal choices": Assigning responsibility for health in the 20th century. *Milbank Quarterly*, 81(4), 603-626.
- Linde, J.A., Jeffery, R.W., French, S.A., Pronk, N.P., & Boyle, R.G. (2005). Self-weighting in weight gain prevention and weight loss trials. *Annals of Behavioral Medicine*, 30, 210–216.
- Lissner, L., O'Dell, P.M., D'Agostino, R.B., Stokes, J., Kreger, B.E., Blenager, A.J., & Brownell, K.D. (1991). Variability of body weight and health outcomes in the Framingham population. *The New England Journal of Medicine*, 324(26), 1839-1844.
- Maggard, M.A., Shugarman, L.R., Suttorp, M., Maglione, M., Sugarman, H.J., & Livingston, E.E. (2005). Meta-analysis: Surgical treatment for obesity. *Annals of Internal Medicine*, 142, 547-599.
- Malnick, S.D.H., & Knobler, H. (2006). The medical complications of obesity. *QJM: Monthly Journal of the Association of Physicians*, 99, 565-579.
- Mann, T., Tomiyama, A.J., Westling, E., Lew, A.M., Samuels, B., & Chatman, J. (2007). Medicare's search for effective obesity treatments. *American Psychologist*, 62(3), 220-233.
- Manore, M.M. (1996). Chronic dieting in active women: What are the health consequences?

- Women's Health Issues*, 6(6), 332-341.
- Maranto, C.L., & Stenoien, A.F. (2000). Weight discrimination: A multidisciplinary analysis. *Employee Responsibilities and Rights Journal*, 12(1), 9-24.
- Maxwell, J.A. (2005). *Qualitative research design: An interactive approach*. Thousand Oaks, CA: Sage Publications.
- McAuley, P.A., & Blair, S.N. (2011). Obesity paradoxes. *Journal of Sports Sciences*, 29(8), 773-782.
- McClure, K.J., Puhl, R.M., & Heuer, C.A. (2011). Obesity in the news: Do photographic images of obese persons influence antifat attitudes? *Journal of Health Communication*, 16, 359-371.
- McCormack, L.A., Laska, M.N., Gray, C., Veblen-Mortenson, S., Barr-Anderson, D., & Story, M. (2011). Weight-related teasing in a racially diverse sample of sixth-grade children. *Journal of the American Dietetic Association*, 111, 431-436.
- McDermott, R.J., & Sarvela, P.D. (1999). *Health education evaluation and measurement: A practitioner's perspective*. Highstown, NJ: WCB/McGraw-Hill.
- McKenzie, J.F., Neiger, B.L., & Thackeray, R. (2009). *Planning, implementing, and evaluating health promotion programs: A primer*. San Francisco, CA: Pearson Education.
- Melville, D.S., & Cardinal, B.J. (1997). Are overweight physical educators at a disadvantage in the labor market? A random survey of hiring personnel. *Physical Educator*, 54(4), 216-221.
- Mercurio, A., & Rima, B. (2011). Watching my weight: Self-weighing, body surveillance, and body dissatisfaction. *Sex Roles*, 65, 47-55.
- Merriam, S.B. (2009). *Qualitative research: A guide to design and implementation*. San

- Francisco, CA: Jossey-Bass.
- Miller, W.C. (1999). How effective are traditional dietary and exercise interventions for weight loss? *Medicine & Science in Sports & Exercise*, *31*, 1129-1134.
- Minkler, M. (1999). Personal responsibility for health? A review of the arguments and the evidence at century's end. *Health Education and Behavior*, *26*(1), 121-140.
- Mohammed, B.S., Cohen, S., Reeds, D., Young, V.L., & Klein, S. (2008). Long-term effects of large-volume liposuction on metabolic risk factors for coronary heart disease. *Obesity*, *16*(12), 2648-2651.
- Mokdad, A.H., Serdula, M.K., Dietz, W.H., Bowman, B.A., Marks, J.S., & Koplan, J.P. (1999). The spread of the obesity epidemic in the United States, 1991-1998. *Journal of the American Medical Association*, *282*(16), 1519-1522.
- Morrison, T.G., Roddy, S., & Ryan, T.A. (2009). Methods for measuring attitudes about obese people. In D.B. Allison & M.L. Baskin (Eds.), *Handbook of assessment methods for eating behaviors and weight-related problems: Measures, theory, and research* (pp. 79-113). Los Angeles, CA: Sage Publications.
- Moyers, S.B. (2005). Medications as adjunct therapy for weight loss: Approved and off-label agents in use. *Journal of the American Dietetic Association*, *105*, 948-959.
- Muennig, P. (2008). I think therefore I am: Perceived ideal weight as a determinant of health. *American Journal of Public Health*, *98*(3), 501-506.
- Musher-Eizenman, D.R., Holub, S.C., Miller, A.B., Goldstein, S.E., & Edwards-Leeper, L. (2004). Body size stigmatization in preschool children: The role of control attributions. *Journal of Pediatric Psychology*, *29*(8): 613-620. doi: 10.1093/jpepsy/jsh063
- National Education Association. (1994). *Report on size discrimination*. Retrieved from

<http://www.lectlaw.com/files/con28.htm>

National Heart, Lung, and Blood Institute. (2010). *What are overweight and obesity?* Retrieved from <http://www.nhlbi.nih.gov/health/health-topics/topics/obe/>

National Institutes of Health/National Heart, Lung, and Blood Institute. (1998). *Clinical guidelines on the identification, evaluation, and treatment of overweight and obesity in adults: The evidence report*. (NIH Publication No. 98-4083). Retrieved from http://www.nhlbi.nih.gov/guidelines/obesity/ob_gdlns.pdf

National Institutes of Health. (2007). *Obesity, physical activity, and weight-control glossary*. NIH Publication No. 02-4976. Retrieved from <http://www.niddk.nih.gov/publications/glossary/MthruZ.htm#O>

Neighbors, L.A., & Sobal, J. (2007). Prevalence and magnitude of body weight and shape dissatisfaction among university students. *Eating Behaviors*, 8, 429-439.

Neumark-Sztainer, D. (2005). Can we simultaneously work toward the prevention of obesity and eating disorders in children and adolescents? *International Journal of Eating Disorders*, 38, 220-227.

Neumark-Sztainer, D. (2009). The interface between the eating disorders and obesity fields: Moving toward a model of shared knowledge and collaboration. *Eating and Weight Disorders*, 14, 51-58.

Neumark-Sztainer, D., Wall, M.M., Haines, J.I., Story, M.T., Sherwood, N.E., & van den Berg, P.A. (2007). Shared risk and protective factors for overweight and disordered eating in adolescents. *American Journal of Preventive Medicine*, 33(5), 359-369.

Neumark-Sztainer, D., Wall, M., Story, M., & Standish, A.R. (2012). Dieting and unhealthy

- weight control behaviors during adolescence: Associations with 10-year changes in body mass index. *Journal of Adolescent Health, 50*, 80-86.
- Neutens, J.J., & Rubinson, L. (2002). *Research techniques for the health sciences*. San Francisco, CA: Pearson Education.
- Nilsson, P.M., Nilsson, J.A., Hedblad, B., Berglund, G., & Lindgarde, F. (2002). The enigma of increased non-cancer mortality after weight loss in healthy men who are overweight or obese. *Journal of Internal Medicine, 252*, 70-78.
- O'Brien, K.S., Latner, J.D., Halberstadt, J., Hunter, J.A., Anderson, J., & Caputi, P. (2008). Do antifat attitudes predict antifat behaviors? *Obesity, 16*(Suppl 2), S87-S92.
- O'Brien, K.S., Puhl, R.M., Latner, J.D., Mir, A.S., & Hunter, J.A. (2010). Reducing anti-fat prejudice in preservice health students: A randomized trial. *Obesity, 18*, 2138-2144.
- Ogden, C.L., Carroll, M.D., Bit, B.K., & Flegal, K.M. (2012). *Prevalence of obesity in the United States, 2009-2010*. NCHS data brief, no. 82. Hyattsville, MD: National Center for Health Statistics. Retrieved from <http://www.cdc.gov/nchs/data/databriefs/db82.pdf>
- Ogden, C.L., Yanovski, S.Z., Carroll, M.D., & Flegal, K.M. (2007). The epidemiology of obesity. *Gastroenterology, 132*, 2087-2102.
- Ogden, J., & Whyman, C. (1997). The effect of repeated weighing on psychological state. *European Eating Disorders Review, 5*, 121-130.
- Olsen, D. (2012, April 15). Studies find gastric bypass cures many diabetes cases. *The State Journal-Registrar*. Retrieved from <http://www.sj-r.com/top-stories/x876169412/Studies-find-gastric-bypass-cures-many-diabetes-cases>
- O'Rourke, T. (2006). Philosophical reflections on health education and health promotion: Shifting sands and ebbing tides. *The Health Education Monograph Series, 23*(1), 7-10.

- Papas, M.A., Alberg, A.J., Ewing, R., Helzlsouer, K.J., Gary, T.L., & Klassen, A.C. (2007). The built environment and obesity. *Epidemiologic Review*, 29, 129-143.
- Parham, E.S. (1999). Promoting body size acceptance in weight management counseling. *Journal of the American Dietetic Association*, 99(8), 920-925.
- Patton, G.C., Selzer, R., Doffey, C., Carlin, J.B., & Wolfe, R. (1999). Onset of adolescent eating disorders: Population based cohort study over 3 years. *British Medical Journal*, 318, 765-768.
- Pearce, M.J., Boergers, J., & Prinstein, M.J. (2002). Adolescent obesity, overt and relational peer victimization, and romantic relationships. *Obesity Research*, 10(5), 386-393.
- Pearl, R.L., Puhl, R.M., & Brownell, K.D. (2012). Positive media portrayals of obese persons: Impact on attitudes and image preferences. *Health Psychology*. doi: 10.1037/a0027189
- Pedersen, P.J., & Ketcham, P.L. (2009). Exploring the climate for overweight and obese students in a student health setting. *Journal of American College Health*, 57(4), 465-480.
- Persky, S., & Eccleston, C.P. (2011). Impact of genetic causal information on medical students' clinical encounters with an obese virtual patient: Health promotion and social stigma. *Annals of Behavioral Medicine*, 41(3), 363-372. doi: 10.1007/s12160-010-9242-0
- Peshkin, A. (1988). In search of subjectivity – one's own. *Educational Researcher*, 17(7), 17-22.
- Peters, J.C., Wyatt, H.R., Donahoo, W.T., & Hill, J.O. (2002). From instinct to intellect: The challenge of maintaining healthy weight in the modern world. *Obesity Reviews*, 3, 69-74.
- Philipson, T.J., & Posner, R.A. (2010, July 31). Fat new world. *The Wall Street Journal*, p. A11.
- Polinko, N.K., & Popovich, P.M. (2001). Evil thoughts but angelic actions: Responses to overweight job applicants. *Journal of Applied Social Psychology*, 31(5), 905-924.
- Pollack, A. (2012, July 17). F.D.A. approves Qsymia, a weight-loss drug. *The New York Times*.

- Retrieved from <http://www.nytimes.com/2012/07/18/business/fda-approves-qsymia-a-weight-loss-drug.html>
- Popovich, P.M., Everton, W.J., Campbell, K.L., Godinho, R.M., Kramer, K.M., & Mangan, M.R. (1997). Criteria used to judge obese persons in the workplace. *Perceptual and Motor Skills*, 85(3 pt 1), 859-866.
- Pories, W.J., & Behsay, J.E. (2002). Surgery for obesity: Procedures and weight loss. In C.G. Fairburn & K.D. Brownell (Eds.), *Eating Disorders and Obesity: A Comprehensive Handbook*, (pp.562-567). New York, NY: The Guilford Press.
- Preidt, R. (2012, June 25). Diabetes can make a comeback after weight-loss surgery: Study. *Medline Plus*. Retrieved from http://www.nlm.nih.gov/medlineplus/news/fullstory_126594.html
- Prentice, A.M., & Jebb, S.A. (2001). Beyond body mass index. *Obesity Reviews*, 2, 141-147.
- Price, R.A. (2002). Genetics and common obesities: Background, current status, strategies, and future prospects. In T.A. Wadden & A.J. Stunkard (Eds.), *Handbook of Obesity* (pp. 73-94). New York, NY: The Guilford Press.
- Provencher, V., Begin, C., Tremblay, A., Mongeau, L., Corneau, L., Dodin, S.,...Lemeiux, S. (2009). Health-at-every-size and eating behaviors: 1-year follow-up results of a size acceptance intervention. *Journal of the American Dietetic Association*, 109, 1854-1861.
- Puhl, R., & Brownell, K.D. (2001). Bias, discrimination, and obesity. *Obesity Research*, 9(12), 788-805.
- Puhl, R.M., & Brownell, K.D. (2003). Psychosocial origins of obesity stigma: Toward changing a powerful and pervasive bias. *Obesity Reviews*, 4: 213-227.
- Puhl, R., & Brownell, K.D. (2006). Confronting and coping with weight stigma: An investigation

- of overweight and obese adults. *Obesity*, 14(10), 1802-1815.
- Puhl, R.M., Schwartz, M.B., & Brownell, K.D. (2005). Impact of perceived consensus in stereotypes about obese people: A new approach for reducing bias. *Health Psychology*, 24(5), 517-525.
- Rail, G., Holmes, D., & Murray, S.J. (2010). The politics of evidence on ‘domestic terrorists’: Obesity discourses and their effects. *Social Theory and Health*, 8(3), 259-279.
- Rankinen, T., Zuberi, A., Chagnon, Y.C., Weisnagel, S.J., Argyropoulos, G., Walts, B.,...
Bouchard, C. (2006). The Human Obesity Gene Map: The 2005 update. *Obesity*, 14, 529-644.
- Ravussin, E. (2002). Energy expenditure and body weight. In C.G. Fairburn & K.D. Brownell (Eds.), *Eating Disorders and Obesity: A Comprehensive Handbook* (pp. 55-61). New York, NY: The Guilford Press.
- Rich, E., & Evans, J. (2005). ‘Fat ethics’ – The obesity discourse and body politics. *Social Theory & Health*, 3, 341-358.
- Riegelman, R.K., & Albertine, S. (2011). Undergraduate public health at 4-year institutions: It’s here to stay. *American Journal of Preventive Medicine*, 40(2), 226-231.
- Robinson, B.E., Bacon, J.G., & O’Reilly, J. (1993). Fat phobia: Measuring, understanding, and changing anti-fat attitudes. *International Journal of Eating Disorders*, 14(4), 467-480.
- Robinson, S. (2006). Victimization of obese adolescents. *Journal of School Nursing*, 22(4): 201-206.
- Roehling, M.V. (1999). Weight-based discrimination in employment: Psychological and legal aspects. *Personnel Psychology*, 52(4), 969-1016.
- Roehling, M.V. (2002). Weight discrimination in the American workplace: Ethical issues and

- analysis. *Journal of Business Ethics*, 40, 177-189.
- Rogge, M.M., Greenwald, M., & Golden, A. (2004). Obesity, stigma, and civilized oppression. *Advances in Nursing Science*, 27(4), 301-315.
- Romero-Corral, A., Somers, V., Sierra-Johnson, J., Korenfeld, Y., Boarin, S., Korinek, J.,... Lopez-Jimenez, F. (2010). Normal weight obesity: A risk factor for cardiometabolic dysregulation and cardiovascular mortality. *European Heart Journal*, 31, 737-746.
- Rosenblatt, R.A. (2001, December 14). Surgeon General takes stern stance on obesity. *Los Angeles Times*. Retrieved from <http://articles.latimes.com/2001/dec/14/news/mn-14788>
- Rukavina, P.B., Li, W., & Rowell, M.B. (2008). A service learning based intervention to change attitudes toward obese individuals kinesiology pre-professionals. *Social Psychology of Education*, 11, 95-112.
- Russell-Mayhew, S. (2006). Stop the war on weight: Obesity and eating disorder prevention working together toward health. *Eating Disorders*, 14, 253-263.
- Saguy, A.C., & Riley, K.W. (2005). Weighing both sides: Morality, mortality, and framing contests over obesity. *Journal of Health Politics, Policy and Law*, 30(5), 869-921.
- Sarlio-Lahteenkorva, S., & Lahelma, E. (1999). The association of body mass index with social and economic disadvantage in women and men. *International Journal of Epidemiology*, 28, 445-449.
- Sartore, M.L., & Cunningham, G.B. (2007). Weight discrimination, hiring recommendations, person – job fit, and attributions: Fitness-industry implications. *Journal of Sport Management*, 21, 172-193.
- Savage, J.S., Hoffman, L., & Birch, L.L. (2009). Dieting, restraint, and disinhibition predict women's weight change over 6 y. *American Journal of Clinical Nutrition*, 90, 33-40.

- Schvey, N.A., Puhl, R.M., & Brownell, K.D. (2011). The impact of weight stigma on caloric consumption. *Obesity, 19*(10), 1957-1962.
- Schwartz, M.B., Chambliss, H.O., Brownell, K.D., Blair, S.N., & Billington, C. (2003). Weight bias among health professionals specializing in obesity. *Obesity Research, 11*(9): 1033-1039.
- Shank, G.D. (2006). *Qualitative research: A personal skills approach*. Upper Saddle River, NJ: Pearson Education.
- Shelley, K., O'Hara, L., & Gregg, J. (2010). The impact on teachers of designing and implementing a Health at Every Size curriculum unit. *Asia-Pacific Journal of Health, Sport, and Physical Education, 1*(3/4), 21-28.
- Sherry, B., Blanck, H.M., Galuska, D.A., Pan, L., Dietz, W.H., & Balluz, L. (2010). State-specific obesity prevalence among adults - United States, 2009. *Vital Signs, 59*(30), 951-955. Retrieved from http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5930a4.htm?s_cid=mm5930a4_w
- Sibbald, B. (2002). Obesity may soon be leading cause of preventable death in US. *Canadian Medical Association Journal, 166*(5), 642.
- Smith, T., & Hawks, S.R. (2006). Intuitive eating, diet composition, and the meaning of food in healthy weight promotion. *American Journal of Health Education, 37*(3), 130-136.
- Sobal, J. (1995). The medicalization and demedicalization of obesity. In D. Maurer & J. Sobal (Eds.), *Eating Agendas: Food and Nutrition as Social Problems* (pp. 67-90). New York, NY: Aldine de Gruyter.
- Sontag, S. (1978). *Illness as metaphor*. New York, NY: Farrar, Straus and Giroux.
- Sorensen, T.I.A., Rissanen, A., Korkeila, M., & Kaprio, J. (2005). Intention to lose weight,

- weight changes, and 18-y mortality in overweight individuals without co-morbidities. *PLoS Medicine*, 2(6), 510-520.
- Southern Illinois University Carbondale. (2011). *Southern Illinois University Carbondale 2011-2012 catalog*. Retrieved from <http://www.collegesource.org/displayinfo/catalink.asp?pid={874AE9A0-F9C1-4E12-BF07-E3368B7A8F0E}&oig={A5326F6F-4F6B-4573-9246-FC26967625ED}&vt=5>
- Southern Illinois University Carbondale. (2012). *SIUC research profile*. Retrieved from <http://vcresearch.siu.edu/profile.html>
- Southern Illinois University Carbondale. (2013). *About SIUC*. Retrieved from <http://www.siu.edu/about-siu/index.php>
- Spear, B.A. (2006). Does dieting increase the risk for obesity and eating disorders? *Journal of the American Dietetic Association*, 106(4), 523-525.
- Stearns, P.N. (2002). *Fat history: Bodies and Beauty in the modern west*. New York, NY: New York University Press.
- Stice, E., Marti, C.N., & Durant, S. (2011). Risk factors for onset of eating disorders: Evidence of multiple risk pathways from an 8-year prospective study. *Behaviour Research and Therapy*, 49, 622-627.
- Swinburn, B., Egger, G., & Raza, F. (1999). Dissecting obesogenic environments: The development and application of a framework for identifying and prioritizing environmental interventions for obesity. *Preventive Medicine*, 29, 563-570.
- Sykes, H., & McPhail, D. (2008). Unbearable lessons: Contesting fat phobia in physical education. *Sociology of Sport Journal*, 25, 66-96.
- Teachman, B.A., & Brownell, K.D. (2001). Implicit anti-fat bias among health professionals: Is

- anyone immune? *International Journal of Obesity*, 25, 1525-1531.
- Teachman, B.A., Gapinski, K.D., Brownell, K.D., Rawlins, M., & Jeyaram, S. (2003). Demonstrations of implicit anti-fat bias: The impact of providing causal information and evoking empathy. *Health Psychology*, 22(1), 68-78.
- Tiefel, H.O. (1978). The language of medicine and morality: The bias of words. *Hastings Center Report*, 8, 11-13.
- Tomer, J. (2011). What causes obesity? And why has it grown so much? *Challenge*, 54(4), 22-49.
- Treichler, P.A. (1987). AIDS, homophobia, and biomedical discourse: An epidemic of signification. *AIDS: Cultural Analysis/Cultural Activism*, 43, 31-70.
- U.S. Department of Agriculture. (2012). *National school lunch program*. Retrieved from <http://www.fns.usda.gov/cnd/lunch/>
- U.S. Food and Drug Administration. (2010a). *Meridia (sibutramine): Market withdrawal due to risk of serious cardiovascular events*. Retrieved from http://www.fda.gov/Safety/MedWatch/SafetyInformation/SafetyAlertsforHumanMedicalProducts/ucm228830.htm?utm_campaign=Google2&utm_source=fdaSearch&utm_medium=website&utm_term=sibutramine&utm_content=4
- U.S. Food and Drug Administration. (2010b). *Weight-Loss Drugs and Risk of Liver Failure*. Retrieved from http://www.fda.gov/ForConsumers/ConsumerUpdates/ucm213401.htm?utm_campaign=Google2&utm_source=fdaSearch&utm_medium=website&utm_term=medication%20for%20weight%20loss&utm_content=1
- U.S. Food and Drug Administration. (2012a). *FDA approves Belviq to treat some overweight or obese adults*. Retrieved from <http://www.fda.gov/NewsEvents/Newsroom/Press>

Announcements/ucm309993.htm

U.S. Food and Drug Administration. (2012b). *FDA approves weight-management drug Qsymia.*

Retrieved from <http://www.fda.gov/NewsEvents/Newsroom/PressAnnouncements/ucm312468.htm>

U.S. Preventive Services Task Force. (2003). Screening for obesity in adults: Recommendations and rationale. *Annals of Internal Medicine, 139*(11), 930-932.

U.S. Preventive Services Task Force. (2010). Screening for obesity in children and adolescents:

U.S. Preventive Services Task Force recommendation statement. *Pediatrics, 125*(2), 361-367.

Van den Berg, P., & Neumark-Sztainer, D. (2007). Fat 'n happy 5 years later: Is it bad for overweight girls to like their bodies? *Journal of Adolescent Health, 41*(4), 415-417.

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

Vartanian, L.R., & Shaprow, J.G. (2008). Effects of weight stigma on exercise motivation and behavior: A preliminary investigation among college-aged females. *Journal of Health Psychology, 13*(1), 131-138.

Veselak, K.E. (2001). Historical steps in the development of the modern school health program. *Journal of School Health, 71*(8), 369- 372. (Reprinted from (1959). *Journal of School Health, 29*(7), 262-269.)

Volger, S., Vetter, M.L., Dougherty, M., Panigrahi, E., Egner, R., Webb, V.,...Wadden, T.A. (2012). Patients' preferred terms for describing their excess weight: Discussing obesity in clinical practice. *Obesity, 20*(1), 147-150.

Wadden, T.A., & Didi, E. (2003). What's in a name? Patients' preferred terms for describing

- obesity. *Obesity Research*, 11(9), 1140-1146.
- Wake, M. (2009). Issues in obesity monitoring, screening and subsequent treatment. *Current Opinion in Pediatrics*, 21, 811-816.
- Wann, M. (2009). Foreward: Fat studies: An invitation to revolution. In E. Rothblum & S. Solovay (Eds.), *The fat studies reader* (pp. xi-xxv). New York, NY: New York University.
- Warburton, D.E.R., Nicol, C.W., & Bredin, S.S.D. (2006). Health benefits of physical activity: The evidence. *Canadian Medical Association Journal*, 174(6), 801-809.
- Wardlaw, M.K. (2005). A New You: Health for Every Body: Helping adults adopt a health-centered approach to well-being. *Journal of Nutrition Education and Behavior*, 37, S103-S106.
- Weight-control Information Network. (2008). *Understanding adult obesity*. Retrieved from <http://win.niddk.nih.gov/publications/PDFs/understandingobesityrev.pdf>
- Weight-control Information Network. (2010). *Prescription medication for the treatment of obesity*. NIH Publication No. 07-4191. Retrieved from <http://win.niddk.nih.gov/publications/prescription.htm>
- Weight-control Information Network. (2011). *Bariatric surgery for severe obesity*. NIH Publication No. 08-4006. Retrieved from <http://win.niddk.nih.gov/publications/gastric.htm>
- Weight Realities Division of the Society for Nutrition Education. (2003). Guidelines for childhood obesity prevention programs: Promoting healthy weight in children. *Journal of Nutrition Education and Behavior*, 35(1), 1-4.
- Welch, R., & Wright, J. (2011). Tracing discourses of health and the body: Exploring pre-service

- primary teachers' constructions of 'healthy' bodies. *Asia-Pacific Journal of Teacher Education*, 39(3), 199-210.
- Weston, M., & Bliss, D. (2005). Changing media images of weight. In K.D. Brownell, R.M. Puhl, M.B. Schwartz, & L. Rudd, (Eds.), *Weight Bias: Nature, Consequences, and Remedies* (pp. 265-274). New York, NY: The Guilford Press.
- Wiese, H.J.C., Wilson, J.F., Jones, R.A., & Neises, M. (1992). Obesity stigma reduction in medical students. *International Journal of Obesity*, 16, 859-868.
- Wilson, G.T., & Brownell, K.D. (2002). Behavioral treatment for obesity. In C.G. Fairburn & K.D. Brownell (Eds.), *Eating Disorders and Obesity: A Comprehensive Handbook* (pp. 524-528). New York, NY: The Guilford Press.
- Wing, R.R., & Phelan, S. (2005). Long-term weight loss maintenance. *American Journal of Clinical Nutrition*, 82(suppl), 222S-225S.
- Wing, R.R., Tate, D.F., Gorin, A.A., Raynor, H.A., & Fava, J.L. (2006). A self-regulation program for maintenance of weight loss. *New England Journal of Medicine*, 355(15), 1563-1571.
- Witham, M.D., & Avenall, A. (2010). Interventions to achieve long-term weight loss in obese older people: A systematic review and meta-analysis. *Age and Ageing* 39(2):176-84.
- World Health Organization. (2011a). *Controlling the global obesity epidemic*. Retrieved from <http://www.who.int/nutrition/topics/obesity/en/>
- World Health Organization. (2011b). *Obesity and overweight. Fact sheet No. 311*. Retrieved from <http://www.who.int/mediacentre/factsheets/fs311/en/index.html>
- World Health Organization. (2011c). *WHO report on the global tobacco epidemic, 2011: Warning about the dangers of tobacco*. Retrieved from <http://www.who.int/tobacco>

/global_report/2011/en/

Wu, T., Gao, X., Chen, M., & van Dam, R.M. (2008). Long-term effectiveness of diet-plus-exercise interventions vs. diet-only interventions for weight loss: A meta-analysis.

Obesity Reviews, 10, 313-323.

Yaari, S., & Goldbourt, U. (1998). Voluntary and involuntary weight loss: Associations with long term mortality in 9,228 middle-aged and elderly men. *American Journal of*

Epidemiology, 148(6), 546-555.

Appendix A

E-mail Solicitation Request for Pilot Interview

From: Teresa Drake

Subject: Research Request

Dear _____:

I am a doctoral student in the Department of Health Education and Recreation at Southern Illinois University Carbondale. My dissertation involves developing and evaluating a curriculum module for personal health classes that addresses health and weight.

You were selected to participate in this study because you have taught Foundations of Human Health (HED 101). Your e-mail address was obtained from department administrative staff.

I would like to invite you to participate in an interview. The purpose of the interview is to understand your ideas and values about health and weight.

The interview will take 30 to 60 minutes of your time and conducted at a time convenient for you. Your participation is voluntary and you may withdraw at any time. Your responses during the interview will be audiotaped in a private session and will be transcribed by me. All your responses will be kept confidential within reasonable limits.

If you are willing to participate, please reply to this email stating you will participate. If you do not wish to participate, please reply stating you do not wish to participate and your address will be removed from future mailings. If you do not respond to this email, you will be contacted once more during the next two weeks.

Questions about this study can be directed to me or my advisor, Dr. Ogletree:

Teresa Drake
(217) 556 – 5425
teresadrake@hotmail.com

Roberta Ogletree
(217) 453 - 2777
bobbie@siu.edu

Thank you for taking the time to assist me in this research.

Teresa Drake, MS RD
Doctoral Candidate
Southern Illinois Univeristy Carbondale
Dept of Health Education and Recreation

This project has been reviewed and approved by the SIUC Human Subjects Committee. Questions concerning your rights as a participant in this research may be addressed to the Committee Chairperson, Office of Sponsored Projects Administration, SIUC, Carbondale, IL 62901-4709. Phone (618) 453-4533. E-mail: siuhsc@siu.edu

Appendix B
Pilot Interview Consent Form

I, _____, agree to participate in this research study being conducted by Teresa Drake, a graduate student at Southern Illinois University-Carbondale.

The purpose of this interview is to understand your ideas and values about health and weight.

The interview will take approximately 30-60 minutes of your time. Participation is voluntary. You can withdraw from the study at any time without penalty or refuse to answer any question during the interview.

Your responses during the interview will be audiotaped in a private session. I will announce when the recording begins and stops at the conclusion. All your responses will be kept confidential within reasonable limits and will be transcribed by me.

All reports based on this research and written by the researcher will maintain the confidentiality of individuals in the study. You will not be identified by name but given a pseudonym to protect your identity. The list of code names will be kept separate from the recordings. I will be the only person to have access to the code list and recordings. At the conclusion of the research study, all recordings will be destroyed.

If you have any questions about the study, please contact me or my advisor, Dr. Ogletree:

Teresa Drake
(217) 556-5425
tdrake@siu.edu

Dr. Roberta Ogletree
618-453-2777
bobbie@siu.edu

Thank you for taking the time to assist me in this research.

I have read the information above and agree to participate in this study. I also know that my responses will be audiotaped. I agree / disagree (circle one) that Ms. Drake can directly quote me in her paper. I understand a copy of this form will be made available to me for reference and contact information.

Signature of Participant _____ Date _____

This project has been reviewed and approved by the SIUC Human Subjects Committee. Questions concerning your rights as a participant in this research may be addressed to the Committee Chairperson, Office of Research Development and Administration, SIUC, Carbondale, IL 62901-4709. Phone (618) 453-4533. E-mail: siuhsc@siu.edu

Appendix C

E-mail Solicitation Request for Interview

From: Teresa Drake

Subject: Research Request

Dear _____:

I am a doctoral student in the Department of Health Education and Recreation at Southern Illinois University Carbondale. My dissertation involves developing and evaluating a curriculum module for personal health classes that addresses health and weight.

You were selected to participate in this study because you are currently teaching Foundations of Human Health (HED 101). Your e-mail address was obtained from department administrative staff.

I would like to invite you to participate in an interview. The purpose of the interview is to understand your ideas and values about health and weight.

The interview will take 30 to 60 minutes of your time and conducted at a time convenient for you. Your participation is voluntary and you may withdraw at any time. Your responses during the interview will be audiotaped in a private session and will be transcribed by me. All your responses will be kept confidential within reasonable limits.

If you are willing to participate, please reply to this email stating you will participate. If you do not wish to participate, please reply stating you do not wish to participate and your address will be removed from future mailings. If you do not respond to this email, you will be contacted once more during the next two weeks.

Questions about this study can be directed to me or my advisor, Dr. Ogletree:

Teresa Drake	Roberta Ogletree
(217) 556 – 5425	(217) 453 - 2777
teresadrake@hotmail.com	bobbie@siu.edu

Thank you for taking the time to assist me in this research.

Teresa Drake, MS RD
Doctoral Candidate
Southern Illinois Univeristy Carbondale
Dept of Health Education and Recreation

This project has been reviewed and approved by the SIUC Human Subjects Committee. Questions concerning your rights as a participant in this research may be addressed to the Committee Chairperson, Office of Sponsored Projects Administration, SIUC, Carbondale, IL 62901-4709. Phone (618) 453-4533. E-mail: siuhsc@siu.edu

Appendix D

Interview Consent Form

I, _____, agree to participate in this research study being conducted by Teresa Drake, a graduate student at Southern Illinois University-Carbondale.

The purpose of this interview is to understand your ideas and values about health and weight.

The interview will take approximately 30-60 minutes of your time. Participation is voluntary. You can withdraw from the study at any time without penalty or refuse to answer any question during the interview.

Your responses during the interview will be audiotaped in a private session. I will announce when the recording begins and stops at the conclusion. All your responses will be kept confidential within reasonable limits and will be transcribed by me.

All reports based on this research and written by the researcher will maintain the confidentiality of individuals in the study. You will not be identified by name but given a pseudonym to protect your identity. The list of code names will be kept separate from the recordings. I will be the only person to have access to the code list and recordings. At the conclusion of the research study, all recordings will be destroyed.

If you have any questions about the study, please contact me or my advisor, Dr. Ogletree:

Teresa Drake
(217) 556-5425
tdrake@siu.edu

Dr. Roberta Ogletree
618-453-2777
bobbie@siu.edu

Thank you for taking the time to assist me in this research.

I have read the information above and agree to participate in this study. I also know that my responses will be audiotaped. I agree / disagree (circle one) that Ms. Drake can directly quote me in her paper. I understand a copy of this form will be made available to me for reference and contact information.

Signature of Participant _____ Date _____

This project has been reviewed and approved by the SIUC Human Subjects Committee. Questions concerning your rights as a participant in this research may be addressed to the Committee Chairperson, Office of Research Development and Administration, SIUC, Carbondale, IL 62901-4709. Phone (618) 453-4533. E-mail: siuhsc@siu.edu

Appendix E

Interview Protocol

At the time of the interview, participants will be asked to complete a brief questionnaire to collect demographic data, educational level, and areas of interest.

What is your age? _____ years

What is your sex? MALE FEMALE (*please circle one*)

What is your racial/ethnic background?

- _____ Asian
- _____ Black (nonHispanic)
- _____ Hispanic
- _____ White (nonHispanic)
- _____ Other (specify) _____

Have you previously taught HED 101 at this university? YES NO (*please circle one*)

Please list any degrees that you have. For example, BS in Chemistry; MS in Family and Consumer Sciences.

What are your areas of professional interest? (e.g., nutrition, sexuality, public policy)

The researcher will announce the start of audio recording.

1. Can you tell me what health, or being healthy, means to you?

What are some ways you can tell if a person is healthy?

2. Do you think there is a connection between health and weight? In what ways?

Can a fat person be healthy?

What can an obese person do to be healthy?

What do you think about dieting?

3. Can you tell me about a time teaching weight management that was uncomfortable or challenging to you?

Do you think the students are ever uncomfortable with the topic?

How did you determine this?

4. What information should be covered in HED 101 regarding weight?

If they have taught 101 before, what have you covered regarding weight in the past?

How would you introduce topics of weight management?

Should eating disorders be covered in 101? What material would be important to cover during that time?

Appendix F

Biographical Sketches of Curriculum Reviewers

Expert Panelist:

Darson Rhodes, PhD, CHES

Assistant Professor, Department of Exercise and Health Sciences, Truman State University

Dr. Rhodes is a health educator, experienced in curriculum development, including nutrition curriculum, with professional interest in the personal and social competence of college students.

Expert Panelist:

Brandi Schumacher, MEd

Doctoral Student, Department of Curriculum and Instruction, Southern Illinois University Carbondale

Ms. Schumacher is an expert in curriculum design.

Appendix G

Curriculum Reviewer Checklist

Please rate the curriculum module on the following areas by marking each statement as “inadequate”, “fair”, or “good”. Please provide comments or suggestions for improvement in areas rated “inadequate” or “fair”.

Learning Objectives:

	Inadequate	Fair	Good
Clearly written and measurable.			
Address concepts and skills supportive of positive health outcomes.			
Address cognitive, affective, and skills domains.			

Comments:

Teacher Materials:

	Inadequate	Fair	Good
Background information provided to ensure instructor has sufficient knowledge of topic.			
Step-by-step procedures provided to implement the lessons.			
Essential learning materials, handouts, and instructional tools are provided.			

Comments:

Instructional Strategies and Materials:

	Inadequate	Fair	Good
Interactive, experiential methods to actively engage students are used.			
Culturally relevant and respectful of all aspects of diversity.			
Developmentally appropriate for target students.			

Comments:

Content:

	Inadequate	Fair	Good
Theoretical framework is described.			
Accurate, current, and research based.			
Presents balanced view of topic.			
Promotion of positive health norms and values.			

Comments:

Evaluation:

	Inadequate	Fair	Good
Includes evaluation tools such as checklists, rubrics, or instruments.			
Clearly linked to objectives.			

Comments:

Appendix H

Biographical Sketches of Instrument Reviewers

- Expert Panelist: **Joanne Ikeda, MA, RD**
Nutritionist Emeritus, Department of Nutrition Sciences, University of California, Berkeley
Ms. Ikeda is a Registered Dietitian and expert in the Health At Every Size philosophy.
- Expert Panelist: **Karla Kennedy-Hagan, PhD, RD, LDN**
Chair and Associate Professor, School of Family and Consumer Sciences, Eastern Illinois University
Dr. Kennedy-Hagan is a Registered Dietitian and professor within dietetics. She has served on the university's Eating Disorder Team and has experience developing nutrition and weight management programs.
- Expert Panelist: **Brandye Nobiling, PhD, CHES**
Assistant Professor, Health and Sport Sciences, Salisbury University
Dr. Nobiling is a professor and health educator experienced in survey methods.

Appendix I

Instrument Reviewer Checklist

Health and Weight Attitudes Scale Reviewer Checklist

Thank you for taking time to review this survey instrument. I greatly appreciate your feedback!

The purpose of the instrument is to assess the attitudes of instructors and students toward Health At Every Size[®] (HAESSM) principles in an introductory personal health class.

The five principles of HAESSM as outlined by the Association for Size Diversity and Health were used to guide instrument development and are listed below:

- “Recognizing that health and well-being are multi-dimensional and that they include physical, social, spiritual, occupational, emotional, and intellectual aspects
- Promoting all aspects of health and well-being for people of all sizes
- Promoting eating in a manner which balances individual nutritional needs, hunger, satiety, appetite, and pleasure
- Promoting individually appropriate, enjoyable, life-enhancing physical activity, rather than exercise that is focused on a goal of weight loss
- Accepting and respecting the diversity of body shapes and sizes (ASDAH, 2012).”

Four to five Likert-type items and one open-ended question were developed for each principle, or content area. The instrument is expected to take less than 15 minutes to complete, and pre- and post-tests will be administered by the researcher.

Please mark whether the item is appropriate as is and should be retained, needs to be revised, or should be removed from the instrument. Please provide suggestions if an item needs to be revised. Included is space for your comments on each item. Feel free to provide general comments at the end as well.

Health and Weight Attitudes Scale

The purpose of this survey is to assess attitudes about health and weight. The terms “fat” and “thin” are used to describe body shapes or sizes, similar to “tall” and “short”. These terms are not meant to be derogatory nor are they medical terms.

Retain Revise Remove

Comments:

Directions:

Please mark each statement below according to how much you agree or disagree with it by placing an “X” in the corresponding box. There are no right or wrong answers. Please try to answer each as honestly as possible. Some of the statements are followed with an open ended question for you to explain a little further. Please do not leave any items blank.

Retain Revise Remove

Comments:

1. A person’s health is determined by the physical state of the body.

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree

Retain Revise Remove

Comments:

2. A person’s weight can determine their health.

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree

Retain Revise Remove

Comments:

3. The condition of the body is only one aspect of health.

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree

[_____ Retain](#) [_____ Revise](#) [_____ Remove](#)

Comments:

4. Health is the absence of disease.

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree

[_____ Retain](#) [_____ Revise](#) [_____ Remove](#)

Comments:

5. In your opinion, what does it mean to be healthy?

[_____ Retain](#) [_____ Revise](#) [_____ Remove](#)

Comments:

6. Healthy people sometimes have excess fat.

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree

[_____ Retain](#) [_____ Revise](#) [_____ Remove](#)

Comments:

7. Being thin is beneficial to health.

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree

[_____ Retain](#) [_____ Revise](#) [_____ Remove](#)

Comments:

8. Thin people are healthier than fat people.

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree

_____ Retain _____ Revise _____ Remove

Comments:

9. Fat people do not need to lose weight to be healthy.

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree

_____ Retain _____ Revise _____ Remove

Comments:

10. People need to control their weight for good health.

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree

_____ Retain _____ Revise _____ Remove

Comments:

11. How do you think a person's weight is related to their health?

_____ Retain _____ Revise _____ Remove

Comments:

12. Thin people should diet to maintain their weight.

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree

[_____ Retain](#) [_____ Revise](#) [_____ Remove](#)

Comments:

13. Fat people should diet to lose weight.

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree

[_____ Retain](#) [_____ Revise](#) [_____ Remove](#)

Comments:

14. Fat people should ignore their hunger sometimes.

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree

[_____ Retain](#) [_____ Revise](#) [_____ Remove](#)

Comments:

15. Fat people should eat until they are full.

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree

[_____ Retain](#) [_____ Revise](#) [_____ Remove](#)

Comments:

16. How do you think dieting relates to health?

[_____ Retain](#) [_____ Revise](#) [_____ Remove](#)

Comments:

17. People should exercise to control their weight.

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree

_____ Retain _____ Revise _____ Remove

Comments:

18. Fat people can be physically fit.

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree

_____ Retain _____ Revise _____ Remove

Comments:

19. Physically fit people are generally thin.

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree

_____ Retain _____ Revise _____ Remove

Comments:

20. People should not be encouraged to exercise to lose weight.

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree

_____ Retain _____ Revise _____ Remove

Comments:

21. Please explain why you chose the response you did to the above statement, #20.

Retain Revise Remove

Comments:

22. People should be encouraged to accept their bodies.

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree

Retain Revise Remove

Comments:

23. Being thin is desirable.

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree

Retain Revise Remove

Comments:

24. Society should be more accepting of fat people.

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree

Retain Revise Remove

Comments:

25. Fat people should not be encouraged to accept their bodies.

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree

Retain Revise Remove

Comments:

26. Please explain why you chose the response you did to the above statement, #25.

Retain Revise Remove

Comments:

What is your age? _____ years

Retain Revise Remove

Comments:

What is your sex? MALE FEMALE (*please circle one*)

Retain Revise Remove

Comments:

What is your racial/ethnic background?

Black (non Hispanic)

Hispanic

White (non Hispanic)

Asian

Other (specify) _____

Retain Revise Remove

Comments:

How would you describe your body shape or size? _____

Retain Revise Remove

Comments:

Thank you!

Appendix J

Consent Form for Pilot Survey

My name is Teresa Drake. I am a graduate student at Southern Illinois University Carbondale.

I am asking you to participate in my research study. The purpose of my study is to assess attitudes about health and weight. You were selected to participate in piloting the survey because you are enrolled in a health education class.

Participation is voluntary and you can withdraw at any time without penalty. You must be at least 18 years of age to participate. If you choose to take part in the study, you will be asked to complete a short survey about your opinions on health and weight. The survey will take approximately 10 minutes of your time.

All your responses will be kept confidential within reasonable limits. You have been assigned a number in order to match participation in a follow-up survey. The list of names and assigned numbers will be kept in a secure location separate from the surveys. After completion of the follow-up survey, the list of names and numbers will be destroyed. I will take all reasonable steps to protect your identity. Only those directly involved with this project will have access to the data.

Completion of the survey indicates your voluntary consent to participate in this study.

If you have any questions about the study, please contact me or my advisor, Dr. Ogletree.

Teresa Drake
Graduate Student
(217) 556-5425
teresadrake@hotmail.com

Roberta Ogletree
Professor
(618) 453-2777
bobbie@siu.edu

Thank you for taking the time to assist me in this research.

This project has been reviewed and approved by the SIUC Human Subjects Committee. Questions concerning your rights as a participant in this research may be addressed to the Committee Chairperson, Office of Sponsored Projects Administration, SIUC, Carbondale, IL 62901-4709. Phone (618) 453-4533. E-mail: siuhsc@siu.edu

Appendix K
Health and Weight Attitudes Scale

The purpose of this survey is to assess attitudes about health and weight. The terms “fat” and “thin” are used to describe body shapes or sizes, similar to “tall” and “short”. These terms are not meant to be derogatory.

Directions:

Please mark each statement below according to how much you agree or disagree with it by circling the corresponding letters. There are no right or wrong answers. Please try to answer each as honestly as possible. Some of the statements are followed with an open-ended question for you to explain a little further. Please do not leave any items blank.

Strongly Disagree = **SD** Disagree = **D** Neutral = **N** Agree = **A** Strongly Agree = **SA**

1. A person’s health is determined by the physical/biological state of the body. SD D N A SA

2. A person’s weight can determine his/her overall health. SD D N A SA

3. The physical condition of the body is only one aspect of health. SD D N A SA

4. Health is the absence of disease. SD D N A SA

5. In your opinion, what does it mean to be healthy? _____

6. Healthy people sometimes have excess fat. SD D N A SA

7. Being thin is beneficial to health. SD D N A SA

8. Thin people are healthier than fat people. SD D N A SA

9. Fat people do not need to lose weight to be healthy. SD D N A SA

10. People need to control their weight for good health. SD D N A SA

11. How do you think a person's weight is related to their health? _____

12. Thin people should diet to maintain their weight. SD D N A SA

13. Fat people should diet to lose weight. SD D N A SA

14. Fat people should ignore their hunger sometimes to manage their weight. SD D N A SA

15. How do you think dieting relates to health? _____

16. People should exercise to control their weight. SD D N A SA

17. Fat people can be physically fit. SD D N A SA

18. Physically fit people are generally thin. SD D N A SA

19. People should not be encouraged to exercise to lose weight. SD D N A SA

20. Please explain why you chose the response you did to the above statement, #19. _____

21. People of all sizes should be encouraged to accept their bodies. SD D N A SA

22. Being thin is desirable. SD D N A SA

23. Society should be more accepting of fat people. SD D N A SA

24. Fat people should not be encouraged to accept their bodies. SD D N A SA

25. Please explain why you chose the response you did to the above statement, #24. _____

What is your age? _____ years

What is your sex? MALE FEMALE (*please circle one*)

What is your racial/ethnic background?

_____ Black (non Hispanic)

_____ Hispanic

_____ White (non Hispanic)

_____ Asian

_____ Other (specify) _____

How would you describe your body shape or size? _____

Do you want to: lose weight maintain weight gain weight (*please circle one*)

THANK YOU!

Appendix L

Survey Consent Form

My name is Teresa Drake. I am a graduate student at Southern Illinois University Carbondale.

I am asking you to participate in my research study. The purpose of my study is to assess attitudes about health and weight. You were selected to participate in the survey because you are enrolled in Foundations of Human Health.

Participation is voluntary and you can withdraw at any time without penalty. You must be at least 18 years of age to participate. If you choose to take part in the study, you will be asked to complete a short survey about your opinions on health and weight. The survey will take approximately 10 minutes of your time.

All your responses will be kept confidential within reasonable limits. You have been assigned a number in order to match participation in a follow-up survey. The list of names and assigned numbers will be kept in a secure location separate from the surveys. After completion of the follow-up survey, the list of names and numbers will be destroyed. I will take all reasonable steps to protect your identity. Only those directly involved with this project will have access to the data.

Completion of the survey indicates your voluntary consent to participate in this study.

If you have any questions about the study, please contact me or my advisor, Dr. Ogletree.

Teresa Drake
Graduate Student
(217) 556-5425
teresadrake@hotmail.com

Roberta Ogletree
Professor
(618) 453-2777
bobbie@siu.edu

Thank you for taking the time to assist me in this research.

This project has been reviewed and approved by the SIUC Human Subjects Committee. Questions concerning your rights as a participant in this research may be addressed to the Committee Chairperson, Office of Sponsored Projects Administration, SIUC, Carbondale, IL 62901-4709. Phone (618) 453-4533. E-mail: siuhsc@siu.edu

Appendix M

E-mail Solicitation Request for Focus Group

From: Teresa Drake

Subject: Research Request

Dear _____:

I am a doctoral student in the Department of Health Education and Recreation at Southern Illinois University Carbondale. My dissertation involves developing and evaluating a curriculum module for personal health classes that addresses health and weight.

You were selected to participate in this study because you are currently teaching Foundations of Human Health (HED 101). Your e-mail address was obtained from department administrative staff.

I would like to invite you to participate in a **focus group**. The purpose of the focus group is to gather information about your experience teaching the Healthy Bodies module in HED 101. The focus group will take 30 to 60 minutes of your time. Your participation is voluntary and you may withdraw at any time. Your responses during the focus group will be audiotaped and transcribed by me. All your responses will be kept confidential within reasonable limits.

If you are willing to participate, please reply to this email stating you will participate. If you do not wish to participate, please reply stating you do not wish to participate and your address will be removed from future mailings. If you do not respond to this email, you will be contacted once more during the next week.

Questions about this study can be directed to me or my advisor, Dr. Ogletree:

Teresa Drake
(217) 556 – 5425
teresadrake@hotmail.com

Roberta Ogletree
(217) 453 - 2777
bobbie@siu.edu

Thank you for taking the time to assist me in this research.

Teresa Drake, MS RD
Southern Illinois Univeristy Carbondale
Dept of Health Education and Recreation

This project has been reviewed and approved by the SIUC Human Subjects Committee. Questions concerning your rights as a participant in this research may be addressed to the Committee Chairperson, Office of Sponsored Projects Administration, SIUC, Carbondale, IL 62901-4709. Phone (618) 453-4533. E-mail: siuhsc@siu.edu

Appendix N

Focus Group Consent Form

I, _____, agree to participate in this research study being conducted by Teresa Drake, a graduate student at Southern Illinois University-Carbondale.

The purpose of this focus group is to examine your experiences teaching a Health At Every Size® curriculum module.

The focus group will take approximately 60 minutes of your time. Participation is voluntary. You can withdraw from the study at any time without penalty or refuse to answer any question during the focus group.

Your responses during the focus group will be audiotaped. I will announce when the recording begins and stops at the conclusion. All your responses will be kept confidential within reasonable limits and will be transcribed by me. However, since a focus group involves a group process, all members of the group will be privy to the discussions that occur during the session; therefore, absolute confidentiality on the part of the participants, themselves, may be difficult to ensure.

All reports based on this research and written by the researcher will maintain the confidentiality of individuals in the study. You will not be identified by name but given a pseudonym to protect your identity. The list of code names will be kept separate from the recordings. I will be the only person to have access to the code list and recordings. At the conclusion of the research study, all recordings will be destroyed.

If you have any questions about the study, please contact me or my advisor, Dr. Ogletree:

Teresa Drake
(217) 556-5425
tdrake@siu.edu

Dr. Roberta Ogletree
618-453-2777
bobbie@siu.edu

Thank you for taking the time to assist me in this research.

I have read the information above and agree to participate in this study. I also know that my responses will be audiotaped. I agree / disagree (circle one) that Ms. Drake can directly quote me in her paper. I understand a copy of this form will be made available to me for reference and contact information.

Signature of Participant _____ Date _____

This project has been reviewed and approved by the SIUC Human Subjects Committee. Questions concerning your rights as a participant in this research may be addressed to the Committee Chairperson, Office of Research Development and Administration, SIUC, Carbondale, IL 62901-4709. Phone (618) 453-4533. E-mail: siuhsc@siu.edu

Appendix O

Focus Group Protocol

At the time of the focus group, participants will be provided a consent form detailing the procedures. Their signature will indicate voluntary, informed consent to proceed.

The researcher will announce the start of audio recording.

1. Can you tell me about your experience teaching the health at every size curriculum module?

Possible probes:

- What went well?
- What was challenging about the topic or procedures?
- Do you have any suggestions for improvement?
- What did you like about the module?
- How did the students respond to the material?

2. Do you think your perspective on health and weight changed after teaching the new module?
If so, in what ways?

VITA

Graduate School
Southern Illinois University Carbondale

Teresa Jane Drake

teresadrake@hotmail.com

Illinois State University
Bachelor of Science, Chemistry, August 1999

Eastern Illinois University
Master of Science, Family and Consumer Science: Dietetics, December 2003

Special Honors and Awards:

Donald N. Boydston Graduate Scholarship, Southern Illinois University Foundation and College of Education & Human Services, 2010

Frances E. Fischer Memorial Scholarship, American Dietetic Association Foundation, 2008

Dissertation Title:

Development and Evaluation of a Healthy Bodies Curriculum Module for College Personal Health

Major Professor: Roberta Ogletree

Publications:

Drake, T., Morris, A.M., & Ogletree, R.J. (2011). The Student Monograph: 26 years at a glance. *The Health Education Monograph Series*, 28(3), 66-72.