

POSITIVE HEALTH EDUCATION: A MIXED METHODS STUDY ON THE  
EFFICACY OF ADDING SELF-COMPASSION AND RESILIENCE  
TO A NON-DIET WORKSITE WELLNESS PROGRAM

by

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## ABSTRACT

The purpose of this study was to determine the efficacy of and participant experiences with the Live Health Positive (LHP) program, a positive health education program that aimed to improve psychological wellbeing and physical health behaviors by incorporating lessons from non-diet approaches, resilience, and self-compassion. This program was implemented with employees of an institute of higher education in northern Utah. The study employed a mixed methods experimental design. Employees were randomized to either the LHP program or a non-diet comparison program (NDP); 29 participants completed the study (LHP: 17, NDP: 12). Surveys conducted at three time-points (pretest, posttest, follow-up) and focus groups were used to evaluate the program and understand participants' experiences.

This dissertation is presented in a three-article format. Chapters 2, 3, and 4 are intended for publication in health education literature. Chapter 2 is a commentary on the need to include psychological wellbeing modules in health education programs due to its relationship with health-enhancing behaviors and improved physiological function.

Chapter 3 presents participants' experiences with the LHP program. Participants reported high levels of program satisfaction, particularly in regards to connectedness, self-awareness, and self-kindness.

Chapter 4 compares the outcomes of the LHP and NDP programs. Intuitive eating

significantly improved in both groups from pretest to posttest (LHP:  $M = .615$ , 95% CI [0.305, 0.925],  $p < .001$ ; NDP:  $M = .522$ , 95% CI [0.186, 0.858],  $p = .003$ ), and from pretest to follow-up (LHP:  $M = .518$ , 95% CI [0.177, 0.858],  $p = .003$ ; NDP:  $M = .445$ , 95% CI [0.185, 0.705],  $p = .002$ ). In addition, enjoyment motivations for physical activity significantly improved in the LHP group from pretest to posttest ( $M = 1.084$ , 95% CI [0.380, 1.788],  $p = .002$ ). At posttest, the LHP group reported significantly higher enjoyment motivations for engaging in physical activity than NDP,  $M = .751$ , 95% CI [0.108, 1.393],  $t(25.528) = 2.403$ ,  $p = .024$ . Participants' experiences with maintaining health behavior changes are also described, including themes of lifestyle barriers, support needs, resonance to course content, and standing up for one's needs.

Finally, Chapter 5 summarizes the study and offers directions for future research on positive health education programs.

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## CHAPTER 1

### INTRODUCTION

As of 2012, approximately half of all adults in America suffer from at least one chronic illness, including heart disease and diabetes; this amounts to 117 million people (Center for Disease Control and Prevention [CDC], 2014). Modifiable health risk behaviors, such as lack of exercise and poor nutrition, are associated with these chronic illnesses (CDC, 2014); obesity is associated with chronic health conditions as well (CDC, 2012a). As a result, nutrition, exercise, and weight management behaviors have become the foci of many health education programs seeking to prevent and treat disease and improve health.

While nutrition and exercise are important contributors to health, there are at least two problems with becoming overly focused on these behaviors. First, this narrow view of health limits the potential impact of health interventions by overlooking psychological aspects of wellbeing. Second, the focus on changing physical behaviors is often used as a justification for recommending weight loss programs, even though weight loss programs have a poor track record for improving health.

### **A Narrow Approach**

The first problem with overemphasizing nutrition, exercise, and weight management behaviors is that it promotes a narrow understanding of what it means to be “healthy.” Chronic disease is generally understood as a physical health problem, caused by physical health behaviors, so health interventions are often designed to be physically based as well. However, health is more than the absence of physical illness—it is also the presence of positive mental health (World Health Organization [WHO], 1948).

In addition to having intrinsic value (Herrman, Saxena & Moodie, 2005), psychological wellbeing may impact health outcomes as powerfully as physical health practices do. A review by Pressman and Cohen (2005) identified prospective and experimental studies relating psychological wellbeing and physical health and found “virtually unanimous” (p. 931) support that positive emotion was associated with less risk of illness and injury, and better health in general. Kim, Sun, Park, Kubzansky, and Peterson (2013) found that, among older adults with heart disease, having greater purpose in life was associated with reduced risk of heart attack. Lyubomirsky, King, and Diener (2005) found that psychological wellbeing is associated with health-enhancing behaviors.

Baruth et al. (2011), noticing the relationship between psychological wellbeing and health behaviors, recommended implementing activities to improve psychological wellbeing as a pre-intervention to teaching other health behaviors to help make those habits more sustainable. Even if one were only concerned with physical health outcomes, the relevance of psychological wellbeing to chronic disease prevention and health promotion makes it important to include in health education programs.

### **Ineffective Weight Loss Programs**

The second problem with focusing too intently on nutrition, exercise, and weight management behaviors is that it encourages the implementation of weight loss programs that do not work. Due to the association between obesity and chronic disease (CDC, 2012a), weight loss programs address modifiable health risk behaviors in a way that promotes weight loss (e.g., caloric restriction and exercise for weight control) as a strategy for helping overweight and obese persons attain a healthy weight and avoid chronic disease. Unfortunately, this traditional weight loss approach carries several concerns.

First, in spite of well-intentioned efforts to help people be healthier, the traditional weight loss paradigm rarely results in long-term maintenance of weight loss. Approximately 95% of people who attempt weight loss regain all of the weight after 3 to 5 years (Ikeda et al., 2005); most of them also gain additional pounds above their pre-diet weight (Mann et al., 2007). Ory (2010) notes that “of the maintenance studies available, primarily in the weight-loss field, there is clear evidence that few improvements are sustained long-term” (p. 648).

Second, in addition to being unsustainable, a review by Bacon and Aphramor (2011) found that traditional approaches to weight management (i.e., dieting) are either ineffective or harmful, and sometimes both. For instance, weight cycling is associated with hypertension, insulin resistance, and poor cardiovascular outcomes (Bacon & Aphramor, 2011). Prescribing a treatment that potentially damages health raises an ethical concern, especially when it is not proven that weight loss prolongs health or longevity in the first place (Bacon, 2007).

Third, the focus on weight loss can interfere with psychological wellbeing as well. For instance, labeling foods as “good” or “bad” moralizes dietary choices and can result in feelings of guilt and shame when a “bad” food is consumed (Gast & Hawks, 1998). Another problem arises from promoting weight loss as a measure of success—considering that weight regain is almost guaranteed, this expectation sets people up for a sense of failure.

### **A Positive Health Education Paradigm**

An alternative to implementing health programs that isolate nutrition and exercise behaviors or promote weight loss is to design programs that align with positive health. A fundamental principle of positive health is that the interconnectedness of the mind and body must be considered in any discussion of wellbeing. Positive health is therefore not solely a medical diagnosis, but also a philosophical understanding of what the “good life” entails (Ryff & Singer, 1998). Applying positive health concepts to health education would result in *positive health education*, in which psychological wellbeing is considered as important as the physical behaviors one seeks to change.

### **Positive Health Education Program Models**

A variety of disciplines offer evidence-based programs and activities that align with positive health education by supporting both physical and psychological wellbeing, including the non-diet approach, resilience, and self-compassion.



## **The Non-Diet Approach**

Non-diet approaches offer a means to promote healthy nutrition and exercise habits while also supporting psychological wellbeing. Non-diet approaches are unlike traditional weight management programs in that they are weight-neutral and emphasize self-acceptance, joyful movement (rather than exercise for the purpose of weight loss), and intuitive eating (instead of calorie restriction). In addition, non-diet approaches share a respect for size diversity and do not harbor hidden weight loss agendas in the promotion of healthy lifestyles. The Association for Size Diversity and Health (ASDAH) publishes guidelines for the non-diet approach (“HAES® Principles,” 2015), which fall under their trademarked name, Health At Every Size® (HAES®).<sup>1</sup> The HAES philosophy asserts that by accepting oneself, including body shape and weight, people can focus on healthy behaviors that improve both physical health and psychological wellbeing.

Non-diet programs have great potential for improving health. A noteworthy randomized clinical trial compared the effects of a HAES program and a traditional weight loss program on obese, female chronic dieters (Bacon et al., 2002). A 2-year follow-up of this study (Bacon, Stern, Van Loan & Keim, 2005) found that participants in the HAES group had maintained their weight and sustained improvements in physiological measures (e.g., cholesterol, blood pressure), physical activity levels, and psychological outcomes (i.e., depression and self-esteem). The participants in the weight loss group did not experience any of these long-term improvements. Similar outcomes have been found in other studies of the non-diet approach, including improvements in

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<sup>1</sup> Health At Every Size and HAES are registered trademarks of the Association for Size Diversity and Health; these trademarks are used with permission.

physiological measures and physical activity (Rapoport, Clark & Wardle, 2000), eating behaviors (Provencher et al., 2009), self-esteem and depression (Ciliska, 1998).

**Non-Diet program curricula.** One can get a sense of what a typical non-diet program entails from the academic literature (Bacon et al., 2005; Provencher et al., 2009; Ciliska, 1998; Steinhardt, 1999; Wardlaw, 2005), books (Bacon, 2008; Kratina, King & Hayes, 2003), and other programs promoting the HAES philosophy (WIN the Rockies, 2011). These programs address the following health-centric topics in an effort to improve quality of life and health.

- **Intuitive eating.** Tribole and Resch (2003) explain the intuitive eating style as eating in response to the body's hunger and satiety signals. This includes honoring hunger, feeling fullness, and choosing satisfying foods. Additionally, intuitive eating removes moral labels from foods (e.g., good and bad foods) so that no foods are forbidden. In theory, as a person learns to become an intuitive eater, they will recognize that healthier foods feel better in their body and give them more energy; this will lead to a preference for foods with good nutrition quality. A literature review by Van Dyke and Drinkwater (2013) found that intuitive eating is positively associated with indicators of psychological health (e.g., self-esteem, body image), and may be related to improved dietary intake as well.
- **Joyful movement.** Non-diet programs promote “enjoyable physical activity” as opposed to promoting exercise for the purpose of weight loss (Kratina, King & Hayes, 2003). This shifts the focus away from weight control, and toward “improved quality of life” (Robison et al, 2007, p. 187). Examples of

joyful movement may include gardening, walking one's dog, or playing Frisbee. Promoting joyful movement is a worthwhile endeavor considering that "regular physical activity is one of the most important things [a person] can do for [their] health" (CDC, 2011).

- Body acceptance. Body acceptance is often addressed in non-diet programs through discussions about body image, the media, and changing negative self-talk (WIN the Rockies, 2011; HAES Curriculum, 2013; Bacon, 2008). Bacon and Aphramor (2011) underscore the connection between "learning to value [one's] body as [it is] right now, even when this differs from a desired weight or shape" and a strengthened "ability to take care of [oneself] and sustain improvements in health behaviors" (p. 7).

### **Enhancing the Non-Diet Approach**

Non-diet approaches offer a good model for promoting nutrition and exercise behaviors in a way that supports psychological wellbeing. However, a drawback of non-diet programs is that they may be perceived as an alternative to dieting, rather than as a general healthy lifestyle approach. Designing non-diet programs to have a more equal balance between "diet alternative" behaviors (e.g., eating and exercise) and other aspects of multidimensional health may help non-diet approaches appeal to a more size diverse audience, while also increasing the potential for non-diet programs to affect psychological wellbeing. One way to accomplish greater balance might be to add more learning and behavior change objectives that specifically address psychological wellbeing. Examples of evidence-based programs that have successfully increased

psychological wellbeing can be found in other disciplines, including resilience training and self-compassion.

**Resilience training.** Resilience is the ability to thrive in the face of adversity, and numerous resilient qualities have been identified that serve as protective factors and enable this growth, including hope, optimism, and self-efficacy (Richardson, 2002; Windle, 2011). It is the goal of resiliency training to help individuals identify and access these resilient qualities, or personal strengths. Waite and Richardson (2004) implemented a resilience training program and found that it led to significant improvements in participants' psychological wellbeing (i.e., self-esteem and purpose in life).

Resilience theory may further support psychological wellbeing by addressing intrinsic motivation, which is highly associated with wellbeing (SDT, 2012). Intrinsic motivation occurs “when a person is motivated from within” to do something for its own sake (“Self-Determination Theory” [SDT], 2012). Motivational forces are presented in the third wave of resiliency inquiry as resilient drives (Richardson, 2002), and include essential resilience (the drive to meet one's physical needs), and spiritual resilience (including the drives to explore, feel valued, live within one's moral framework, and have meaning in life). Similar to intrinsic motivation in SDT, resilience theory views the resilient drives as intrinsic motivators that people pursue for their own sake (i.e., the sense of fulfillment that results from acting on the drive).

**Self-compassion.** Improvements in self-compassion may also be important to health, as a study by Hall, Row, Wuensch and Godley (2013) found support for the contribution of self-compassion to both psychological and physical wellbeing. The construct of self-compassion is comprised of three components: self-kindness, common

humanity, and mindfulness (Neff, 2003). Self-kindness involves being kind and understanding toward oneself rather than harshly self-critical. Common humanity reflects recognizing one's experiences as part of the larger human condition rather than feeling separated or isolated. Mindfulness is described as "holding painful thoughts and feelings in balanced awareness rather than over-identifying with them" (Neff, 2003, p.85).

Self-compassion offers benefits beyond the focus on body acceptance that is taught in non-diet programs. By addressing self-criticism in general, rather than only in respect to appearance, self-compassion may have greater ability to affect the wellbeing of participants.

### **Study Purpose**

The importance of psychological wellbeing merits further attention in health education programs. Non-diet approaches promote nutrition and exercise behaviors in a way that aligns with the concept of positive health education; however, increasing the amount of time dedicated to promoting psychological wellbeing could enhance non-diet programs. Therefore, resilience, self-compassion, and the non-diet approach were combined into a positive health education program, named "Live Health Positive." The purpose of this study was to determine the efficacy of and participant experiences with the Live Health Positive (LHP) program, and to compare the outcomes of the LHP intervention with the standard non-diet program on which it was based.

### **Study Aims**

The overarching aims of this dissertation study are to: (1) improve health-related attitudes and behaviors through the LHP intervention; (2) understand participants' experiences with the LHP program; and (3) compare participant outcomes and experiences with the LHP program against a standard non-diet health education program.

### **Research Questions**

The following research questions were addressed in this study:

1. Does each intervention increase positive affect, intuitive eating behavior, physical activity level, enjoyment motivations for exercise, self-compassion, and self-rated health, and decrease negative affect, among participants at a worksite in northern Utah, over time?
2. Are there significant decreases in positive affect, intuitive eating behavior, physical activity level, enjoyment motivations for exercise, self-compassion, and self-rated health, or significant increases in negative affect, among participants at a worksite in northern Utah, from posttest to follow-up?
3. Are there differences in outcomes between groups at posttest or follow-up?
4. What are participants' experiences with the Live Health Positive program?

### **Study Design**

This study employed a mixed methods experimental design. Surveys conducted at three time-points (pretest, posttest, follow-up) and focus groups were used to evaluate the program and understand participants' experiences within the program.

## Dissertation

This dissertation follows the three-article format and includes three publishable articles. The first article, presented in Chapter 2, will be submitted as a commentary to *Health Education and Behavior*. This article argues for the need to include psychological wellbeing modules in health education programs. The second article, presented in Chapter 3, describes the results of two focus groups during which participants' experiences with the LHP program were explored; this will be submitted as a brief report to *Health Psychology*. The third article, presented in Chapter 4, is a mixed methods study comparing the LHP program with the standard non-diet program on which it is based, and will be submitted to the *American Journal of Health Promotion*. Chapter 5 includes a summary of the study and offers directions for future research.

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## CHAPTER 2

### POSITIVE HEALTH EDUCATION: DESIGNING HEALTH EDUCATION PROGRAMS THAT PROMOTE PSYCHOLOGICAL WELLBEING

#### **Abstract**

Health education programs are often rooted in the physical realm, and changing physical habits—namely eating, exercise, and smoking behaviors—has become the goal of many programs seeking to prevent and treat disease and improve health. While these behaviors are important to health, the interconnectedness of the mind and body makes psychological wellbeing an important contributor to health as well. In addition to having intrinsic value, psychological wellbeing is associated with health-enhancing behaviors and improved physiological function. An alternative to the more physically-based approach is to design health interventions that align with positive health. A fundamental principle of positive health is that the interconnectedness of the mind and body must be considered in any discussion of wellbeing. Future health education programs should build upon the traditional approach of targeting physical health habits by looking to positive psychology, self-compassion, resilience, and other fields that offer evidence-based practices for improving psychological wellbeing.

## **Introduction**

Chronic disease is a problem in America that affects nearly one out of every two adults and is responsible for seven of the top 10 leading causes of death (Center for Disease Control and Prevention [CDC], 2014). Modifiable health risk behaviors that are associated with these diseases have been identified, chief among them lack of exercise, poor nutrition, and tobacco use (CDC, 2014). Since these behaviors are changeable, they have become the targets of many health education interventions seeking to prevent and treat disease and improve health. Often times, they are the only targets.

While the above-mentioned behaviors are important for health, this model of health promotion is generally rooted in the physical realm. Chronic disease is often approached as a physical health problem, caused by physical health behaviors, so the solution is physically based as well—eat well, exercise, do not smoke. However, it is more complex than that—there is a mind-body connection that ties mental health to physical health outcomes. Research shows that emotion and psychological wellbeing may impact health outcomes as powerfully as physical practices alone. Furthermore, health is often defined as more than the absence of physical illness, but the presence of positive mental health (World Health Organization [WHO], 1948).

The purpose of this article is to emphasize the importance of psychological wellbeing for health, including its relationship to health behaviors and physiological functioning. Then, the need to include psychological wellbeing in interventions aimed at both chronic disease prevention and positive health promotion will be discussed.

## Psychological Wellbeing

While the precise definition of psychological wellbeing is often debated, most agree that it consists of hedonic and eudaimonic components (Ryan & Deci, 2001). The hedonic aspect emphasizes the importance of happiness for wellbeing, and aligns closely with the concept of subjective wellbeing. Subjective wellbeing is comprised of life satisfaction, and the balance between positive affect (e.g., happiness, joy, contentment) and negative affect (e.g., stress, depression, anger, anxiety, guilt, shame; Diener, Suh, Lucas & Smith, 1999).

The other aspect of psychological wellbeing, eudaimonia, is concerned with meaning in life and realizing one's potential (Ryan & Deci, 2001). Proponents of the eudaimonic perspective of wellbeing assert that psychological wellbeing extends beyond feelings of happiness. Ryff's (1989) theoretically-derived definition of psychological wellbeing is rooted in eudaimonia, and is comprised of six factors: self-acceptance, positive relations with others, autonomy, environmental mastery, purpose in life, and personal growth.

For the purposes of this paper, *psychological wellbeing* will be used as an all-encompassing term, ranging from happiness to purpose in life, in order to capture the variations of this construct as they appear in the literature; this term will be used interchangeably with *positive affect*. Regardless of the precise definition, psychological wellbeing is considered an integral part of health that has intrinsic value (Herrman, Saxena & Moodie, 2005), and is therefore worth promoting in health programs. However, the need to add psychological wellbeing to health interventions extends beyond its intrinsic value, as it is relevant to health outcomes even if physical health were the only

concern.

### **Health Behaviors**

Positive affect is associated with making health-enhancing choices. Happy people are more likely to exercise regularly, follow a healthy diet, sleep well, and avoid smoking and alcohol abuse (Lyubomirsky, King & Diener, 2005; Pressman & Cohen, 2005; Steptoe, Dockray & Wardle, 2009). On the flip side, those experiencing negative affect may be more likely to choose harmful behaviors. Distressed individuals are more likely to use alcohol and drugs, engage in less exercise, are less likely to eat or sleep well (Kiecolt-Glaser, McGuire, Robles & Glaser, 2002), and are more likely to use tobacco (Kassel, Stroud & Paronis, 2003).

Although the relationship between health behaviors and psychological wellbeing is likely bidirectional, some research hints at causality. For instance, a study by Carels (2007) revealed that a person's mood in the morning influences their physical activity initiation later that day, with those experiencing a better morning mood more likely to engage in exercise. Baruth et al. (2011) considered the relationship between emotional outlook on life and the likelihood of following a physician's advice to become regularly active, and found that initially sedentary men who had a more positive outlook on life increased their physical activity significantly more than men with a negative outlook. Happy people may also be more confident in their ability to engage in health-promoting behaviors (Salovey, Rothman, Detweiler & Steward, 2000).

The relationship between mood and health behaviors is worth considering when planning health interventions. Some researchers have even suggested boosting

psychological wellbeing as a pre-intervention to teaching other health behaviors to help make those habits more sustainable (Baruth et al., 2011; Boehm, Vie & Kubza 2012).

### **Psychoneuroimmunology**

While the relationship between psychological wellbeing and improved health may be partially explained by the increased likelihood of engaging in healthy behaviors, studies that have controlled for this still found that positive affect predicts better health (e.g., Kubzansky & Thurston, 2007; Siahpush, Spittal & Singh, 2008). This suggests that the relationship between psychological wellbeing and health goes beyond health practices and functions at a cellular level.

The field of psychoneuroimmunology includes research on how the mind and body communicate with each other, and studies of the “bidirectional communications among the nervous system, the endocrine [system], and immune system, as well as the implications of these linkages for physical and mental health” (Ziemssen & Kern, 2007, p. 8). The fight-or-flight response illustrates this connection, as even an imagined stressor can result in increased blood pressure and heart rate (Edlin & Golanty, 2010).

While the precise mechanisms comprising the mind-body connection are still under investigation, research by Pert (1999) showed that the endocrine system responds to a person’s thoughts and feelings. Specifically, emotions can enhance or suppress the immune system by altering neuropeptides (messenger hormones) that interact with receptors on immune cells (Seaward, 2009). This suggests that positive and negative emotion can play an important role in the immune response. Subsequent studies have supported this, verifying that physical functioning cannot be separated from mental



health.

### **Positive Affect**

Psychological wellbeing is associated with better health. A review by Pressman and Cohen (2005) identified prospective and experimental studies relating positive affect and physical health and found “virtually unanimous” (p. 931) support that positive affect was associated with less risk of illness and injury, and better health in general. In an illustrative study by Ostir, Markides, Peek and Goodwin (2001), higher positive affect at baseline predicted reduced risk of stroke incidence. This association held after adjusting for BMI, smoking status, and other demographic variables, and was independent of negative affect. A meta-analysis of prospective studies by Chida and Steptoe (2008) also found that positive psychological wellbeing is associated with reduced mortality, and that the protective effect of positive emotion is independent of negative affect.

Examples of improved health outcomes also come from the eudaimonic end of the psychological wellbeing spectrum. Kim, Sun, Park, Kubzansky, and Peterson (2013) found that, among older adults with heart disease, having greater purpose in life at baseline was associated with reduced risk of heart attack. This held true even when health habits, heart disease severity, and negative affect were controlled for, suggesting that purpose in life may be a separate protective factor. Similarly, individuals with higher levels of emotional vitality have been shown to be at reduced risk for developing coronary heart disease (Kubzansky & Thurston, 2007).

Although the mechanisms linking psychological wellbeing to better health are still being explored, possible causal explanations are emerging. For instance, positive affect

influences how quickly the cardiovascular system recovers after exposure to stress or negative emotion (Dockray & Steptoe, 2010). Changes in inflammation (Breines et al., 2014; Friedman, Hayney, Love, Singer & Ryff, 2007; Steptoe, O'Donnell, Badrick, Kumari & Marmot, 2008), immune system function (Cohen, Doyle, Turner, Alper & Skoner, 2003), and hormone regulation (Pressman & Cohen, 2005) may also play a role.

### **Negative Affect**

Compared to positive affect, considerably more research has focused on how negative affect impacts health (Ryff, Singer & Love, 2004). While negative emotion can be useful at times and should not be suppressed (Diener & Chan, 2011; Salovey et al., 2000), chronic negative affect can increase risk of developing chronic disease.

Rozanski, Blumenthal, and Kaplan (1999) found “convincing evidence” (p. 2192) that psychosocial factors, such as depression and chronic stress, significantly contribute to coronary artery disease. Hopelessness and shame may also negatively impact health (Dickerson, Kemeny, Aziz, Kim & Fahey, 2004; Rozanski et al., 1999).

Interestingly, negative emotions can stimulate production of molecules that promote inflammation. These inflammatory molecules are linked to chronic conditions, including heart disease and type 2 diabetes, and thereby suggest a possible mechanism by which negative affect could lead to adverse health outcomes (Kiecolt-Glaser et al., 2002).

### **Increasing Wellbeing**

Given the growing evidence base that psychological wellbeing is essential for good health, the next question of importance to health education specialists is whether it

is a useful intervention target—that is, can psychological wellbeing be increased through interventions. While genetics and life circumstances appear to contribute to an individual's positive affect level, there is also a percentage that can be changed (Lyubomirsky, Sheldon & Schkade, 2005). A sample of intervention studies that have demonstrated increases in psychological wellbeing are highlighted below.

### **Signature Strengths**

Researchers in the field of positive psychology, who are interested in the relationship between positive psychological states and improved health and quality of life (Seligman & Csikszentmihalyi, 2000), are finding that interventions using signature strengths increase psychological wellbeing. Signature strengths are recognized as personally fulfilling (Park, Peterson & Seligman, 2004), and include creativity, persistence, kindness, and humor. Interventions that develop signature strengths can successfully increase subjective wellbeing (Mitchell, Stanimirovic, Klein & Vella-Brodrick, 2009; Proyer, Ruch & Buschor, 2012; Seligman, Steen, Park & Peterson, 2005).

### **Gratitude**

Gratitude has been the focus of positive psychology interventions as well. Emmons and McCullough (2003) found that asking participants to complete self-guided activities that were designed to enhance gratitude, such as listing one's blessings, led to increased positive affect and greater satisfaction with life.

### **Self-Compassion**

Self-compassion, which involves being kind and understanding toward oneself (Neff, 2003), is also of interest to positive psychologists. A review article by Barnard and Curry (2011) highlighted studies showing that self-compassion is correlated with greater positive affect, and that it can be raised through interventions. For example, an 8-week workshop that specifically targeted self-compassion by training participants how to deal with difficult emotions led to improved self-compassion and life satisfaction, as well as decreased depression, anxiety, and stress (Neff & Germer 2012).

### **Resilience Training**

Studies of resilience also show that psychological wellbeing can be increased with training. Resilience is the ability to thrive in the face of adversity, and numerous resilient qualities have been identified that serve as protective factors and enable this growth, including hope, optimism, and self-efficacy (Richardson, 2002; Windle, 2011). It is the goal of resiliency training to help individuals identify and access these resilient qualities, or personal strengths. Waite and Richardson (2004) implemented a resilience training program and found that it led to enhanced resilient qualities, including significant improvements in participants' self-esteem and purpose in life.

It is interesting to note that the interventions described above often improve physical health habits as well, even when these behaviors are not targeted. For instance, qualitative data gathered from resilience training revealed some participants credited the program with their ability to quit smoking or initiate a fitness program (Waite & Richardson, 2004). Additionally, practicing gratitude has been shown to improve sleep

quality and duration, increase exercise, and lead to fewer reports of uncomfortable physical symptoms (Emmons & McCullough, 2003).

### **Designing Health Education Programs**

Since psychological wellbeing has intrinsic value, is associated with health-enhancing behaviors and improved physiological function, and can be increased through interventions, it is worthwhile to address as part of health education programs. Even if one were only concerned with physical health outcomes, the relevance of psychological wellbeing to chronic disease prevention and health promotion cannot be ignored.

Future programs need to build upon the traditional approach of targeting nutrition, exercise, and smoking behaviors by looking to positive psychology, resilience, and other fields that have been shown to improve psychological wellbeing. As discussed above, several intervention strategies exist that can be integrated into health education program design, each with its own set of evidence-based activities. For instance, signature strengths can be included in a healthy lifestyle program by encouraging participants to indulge their curiosity (Proyer et al., 2012). Self-compassion can be increased by incorporating loving-kindness meditations or by assigning participants to write themselves a letter from the perspective of a compassionate friend (Neff & Germer 2012). Resilient qualities can be built by helping participants explore their childlike energy, altruistic nature, and intuition (Richardson & Waite, 2002). Each of these activities lends themselves well to inclusion in health education programming.

## Conclusion

Traditional approaches to health promotion have often been rooted in the physical realm, and changing physical habits—namely eating, exercise, and smoking behaviors—are often the primary intervention targets and outcome measures. Unfortunately, the focus on physical aspects can have unintended consequences. For instance, labeling foods as “good” or “bad” as a strategy for improving dietary habits moralizes food choices, with the possible unintended effect of promoting feelings of guilt and shame among those who consume a “bad” food (Gast & Hawks, 1998). In addition, promoting weight loss as an attainable measure of success, even though 95% of those who attempt weight loss will regain the weight (Ikeda et al., 2005), sets people up for a sense of failure. Ironically, even if the behavior is changed in the short run (studies indicate that diet and exercise behavior changes are rarely maintained long-term [Ory, Smith, Mier & Wernicke, 2010]), health and wellbeing may be compromised as a result of these negative emotions. While increasing negative affect is assuredly not the intent of health interventions, happiness and purpose in life need to be recognized as being as valuable to health as a good cholesterol level and in-range blood pressure.

An alternative approach is to design health interventions that align with positive health. A fundamental principle of positive health is that the interconnectedness of the mind and body must be considered in any discussion of wellbeing. Positive health is therefore not solely a medical diagnosis, but also a philosophical understanding of what the “good life” entails (Ryff & Singer, 1998). This is the direction that health education should head—positive health education, where improving psychological wellbeing is considered as important as the physical behaviors one seeks to change.

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## CHAPTER 3

### PROMOTING PSYCHOLOGICAL WELLBEING WITHIN A NON-DIET HEALTH EDUCATION PROGRAM: A BRIEF REPORT OF WOMEN'S EXPERIENCES

#### **Abstract**

The purpose of this study was to explore participants' experiences with a non-diet health education program that included resilience and self-compassion modules to promote psychological wellbeing. Twelve women employed by an institute of higher education participated in focus groups after completing the experimental program. Three major themes described the participants' experiences with the intervention: connectedness, self-awareness, and self-kindness. Results of this feasibility study suggest that including psychological wellbeing modules in a healthy lifestyle intervention is a promising approach for improving overall wellbeing.

#### **Introduction**

Psychological wellbeing is recognized as an integral part of health (Herrman, Saxena & Moodie, 2005), yet it is often absent from the curricula of healthy lifestyle interventions aimed at chronic disease prevention. Instead, efforts to prevent chronic disease have predominantly focused on modifiable health risk behaviors rooted in

physical aspects of health (e.g., eating and exercise habits). However, a review by Pressman and Cohen (2005) indicates that emotion and psychological wellbeing may impact health outcomes as powerfully as physical practices alone. Psychological wellbeing, which consists of both hedonic and eudaimonic aspects (Ryan & Deci, 2001) that include subjective wellbeing (Diener, Suh, Lucas & Smith, 1999), self-acceptance, positive relations with others, and personal growth (Ryff, 1989), could therefore be valuable to include in healthy lifestyle programs.

Support for using a more holistic approach in health behavior interventions is found in the literature. For instance, happiness is associated with making health-enhancing choices such as exercising regularly, following a healthy diet, sleeping well, and avoiding smoking and alcohol abuse (Lyubomirsky, King & Diener, 2005; Pressman & Cohen, 2005; Steptoe, Dockray & Wardle, 2009). Due to a potentially causal relationship between health behaviors and psychological wellbeing, some researchers suggest boosting psychological wellbeing as a pre-intervention to teaching other health behaviors to help make those habits more sustainable (Baruth et al., 2011; Boehm, Vie & Kubza 2012). Programs using signature strengths (Seligman, Steen, Park & Peterson, 2005), self-compassion (Neff & Germer 2012), and resilience training (Waite & Richardson, 2004) indicate that it is possible to improve psychological wellbeing with training.

To investigate the potential benefits of including psychological wellbeing in a healthy lifestyle intervention, a positive health education program, named “Live Health Positive” (LHP), was implemented that combined resilience, self-compassion, and non-diet approaches (which have also been shown to improve physical and psychological

wellbeing [Bacon & Aphramor 2011]). The purpose of the present study was to explore participants' experiences with the LHP program, in order to better understand the feasibility of this approach from the participants' perspectives.

### **Methods**

The present study is part of a larger mixed methods design that compared two health interventions using the non-diet approach. The present evaluation of the LHP program uses only the subset of focus groups that included participants randomized to the LHP treatment condition.

### **Setting and Participants**

The Institutional Review Boards at both the University of Utah and Salt Lake Community College approved the research. Current English-speaking employees at an institute of higher education in northern Utah, age 18 years or older, of all genders, were eligible for this study. The intervention was implemented April–June 2014; focus groups were conducted in October 2014.

All 17 people who participated in the LHP intervention (all female, 32–64 years of age) were invited to participate in the focus groups. The 12 who could attend were divided into two groups based on their availability.

### **Intervention**

Participants completed a 10-week intervention prior to their focus group. The intervention was taught in weekly 1-hour sessions that included lecture, group discussion, hands-on experiences, and take-home activities.

The program began with resilience training (Richardson & Waite, 2002), which aims to help individuals identify and access resilient qualities (e.g., hope, joy, self-efficacy) that promote personal thriving (Richardson, 2002; Windle, 2011). (Positive psychologists often call these “the traits that make life worth living” [Snyder & Lopez, 2007].) A series of activities helped participants experience the ecobiopsychospiritual nature of their health and the “motivational forces” within them (Richardson, 2002, p.308), sometimes called resilient drives. Next, the three components of self-compassion (i.e., self-kindness, common humanity, and mindfulness; Neff, 2003) were explored, with an emphasis on being kind and understanding toward oneself. The second half of the intervention focused on physical health habits that are taught in non-diet programs, namely intuitive eating (i.e., honoring hunger, feeling fullness, and choosing satisfying foods [Tribole & Resch, 2003]); intuitive exercise (listening to the body’s needs for both movement and rest); and engaging in enjoyable physical activity.

### **Study Design and Procedures**

Qualitative methods were used in this study because they allow for in-depth exploration and feedback. Focus groups were chosen for the qualitative research method because they are helpful in program evaluation (Krueger & Casey, 2009). Each group was scheduled to last 2 hours.

The study’s lead author (AS) moderated the focus groups, along with an assistant moderator. AS, who was also the course instructor, had established good rapport with the participants during program implementation.

Participants received a consent cover letter before the focus groups began.

Participants were reminded that the discussion would be audio recorded and their identities would be kept confidential. The moderator shared guidelines to foster a safe environment and emphasized the need to respect the privacy of participants' comments. Participants were encouraged to share both positive and negative experiences.

A semistructured interview format was used, with a menu of open-ended interview questions (Table 3.1) and probes to better understand participants' experiences with the program.

### **Qualitative Data Analysis**

This research is approached from a constructivist paradigm (Lincoln, Lynham & Guba, 2011). The analysis was led by the first author, who transcribed the audio recordings verbatim, removed identifiers, checked transcriptions for accuracy, and entered the data into NVivo (QSR International, 2012). Thematic analysis, as described by Braun and Clarke (2006), was used to code the data. Detailed readings of the focus group transcripts using a general inductive approach (Thomas, 2006) led to the creation of data-driven codes. Memo-writing was used throughout the analysis (Marshall & Rossman, 2006).

After the initial coding, codes were arranged into potential themes and subthemes. Themes that described the participants' experiences with the intervention were selected for the present analysis. Transcripts were read chronologically, by individual participant, and horizontally by question, to identify additional confirming and disconfirming cases. Thematic mapping aided in understanding the relationships between codes, subthemes, and themes. Then, themes were refined to improve internal homogeneity and external



heterogeneity. Three other researchers experienced with qualitative techniques, including the assistant moderator, provided peer debriefings and review.

The results are presented using a qualitative descriptive framework in conjunction with thematic coding. Qualitative description stays close to the surface of the data, with the goal of providing “straight descriptions of phenomena” (Sandelowski, 2000, p. 339).

## **Results**

The following three major themes describe the participants’ main experiences with the intervention.

### **Feeling Connected to Classmates**

Many of the participants felt connected to the other women in their class. The participants described the connection as feeling accepted, feeling less alone, and feeling a deeper sense of closeness.

At one end of the connectedness spectrum, a few women reported feeling like the class was a safe place, where they were accepted rather than judged. One woman shared that she felt supported by the people in her class, “like I could say this out loud.” Another woman described the class as “a safe place to be.”

Many women also enjoyed the frequent in-class discussions, which provided opportunities for sharing stories that helped reduce feelings of being alone. As one woman articulated, “it's like, okay I'm not alone, I'm not crazy...these are normal behaviors.”

At the other end of the connectedness spectrum, some women felt a true

“closeness” and sense of “camaraderie” with their classmates, like it was “my team, my people.” One woman was “surprised at how much I actually miss the group so early in the group” because she “really felt like they were my friends.”

The sense of connectedness experienced during the class was followed by a “let down when it ended.” The abrupt end to the relationships formed during the class was the main program dissatisfaction for some participants, who wished continued social support had been facilitated. However, others thought checking-in via e-mail would have been sufficient.

### **Developing Self-Awareness**

Most of the women in the focus groups experienced greater self-awareness through the course. This self-awareness touched upon biopsychosocial domains as participants learned to listen to their body, discern physical cues from emotions, pay attention to their self-talk, and recognize their intrinsic strengths and drives.

Intuitive eating, including recognition of hunger and fullness signals, was “the biggest epiphany” for many participants. One woman was amazed to hear a classmate would sometimes forget to eat, until she realized, “I am exactly like that....that was a shock to me...that was one of the biggest things that I learned about myself...and it was great because I'm a lot better about it now.”

Many participants also became more aware of their emotions and how emotions differed from other bodily cues. As one woman explained, “I need to eat when I'm hungry and not just because I'm tired or I'm irritated or I'm lonely...if it's something else then do I need to do something else to address it.” Another woman shared that she “never

realized that being tired could make me want to put food in my mouth.”

For some, this sense of self-awareness had been lurking in the background and became more clear through the class: “I didn't understand the signal, it was in Chinese and I don't speak Chinese, but now it's in English or Farsi, whatever, French, I can understand it.”

The increase in self-awareness was not limited to food and emotions. One woman shared that, “I've been noticing more and more that when I've been sitting at work, it's like yeah, I've gotta move, and I just can't sit still anymore.” Another became aware of her self-talk and stated, “I'm mean to myself.” Others tuned in to their signature strengths and resilient drives by noticing a connection with nature (“I'm suddenly cultivating this patch of wild roses in my backyard”), a higher power, (“that's one of my strengths which I'd been neglecting”), or their playful “inner child.” One woman shared how becoming more aware of the spiritual side of health made the course content feel more relevant to her: “I think you brought everything into me...you made me look at myself as a whole person, yes, I have, you know, a spiritual side and I have all these things going on, oh, okay, and the light bulbs went on.”

Although the enhanced sense of self-awareness was strong for many participants, some thought the topics of intuitive eating and resilience training “felt rushed” and did not allow enough time for practice or internalization.

### **Practicing Self-Kindness**

All three components of self-compassion were presented in the LHP program, but experiences with self-kindness dominated the focus group discussions. Most women had

started taking steps to practice self-kindness in their lives, and many perceived this as the most valuable aspect of the course. As one woman put it, “to be kind to yourself, I think that was the, that was just, the whole class for me, that was the aha moment.” Another woman described, “that self compassion, because it's like, you just realize, wait, you would never say that to anyone, why are you saying it to yourself...it was inspirational for me.”

The topic of self-compassion meant different things to different people. For some, it was simply “the realization, or letting myself say, it's okay to fail once in a while.” For another, reflecting on self-kindness helped her realize how hard she was pushing herself and the impact it was having on her life: “I started, you know, taking a look at, my days, and I always took work home...after the class I, I started, I really shifted you know and I said I can't keep doing this, I can't keep this pace up and...my family misses me.” The perspective shift that accompanied her newfound self-kindness was especially meaningful for her:

My son just passed away, just suddenly and, and knowing that I had had that time, 'cause I had not been working like I had been, I had the time with him...I really saw that how I was missing, what I was missing all those years, and when he passed away, I didn't have as much regret...I was really grateful for that shift, and that shift will continue, and you know, because I see how fragile life is... I really attribute it to the class, because I really started thinking about what am I doing, how am I doing my life, what am I, am I taking time for me, and I wasn't, and so I was exhausted, so I didn't have time for me or anybody else, and so it really made me, you know, more conscious of that, and so that I made shifts in how I was doing life.

Another woman began practicing self-kindness by standing up for herself: “You have every right to count and matter, and...if I feel that somebody's taking advantage of me and they shouldn't, I let them know and this is something that I haven't done for 55 years, so it's, I am a new person in many ways.” Later, she went on to share why this was a

valuable experience for her, “I've taken a different perspective in my life and it's so much calmer, I feel so much better I, I enjoy life so much more.”

Developing self-kindness was an ongoing process for many, and while most did not feel it was second nature at the time of the focus group, they were becoming “more open to hearing it from others.”

### **Discussion**

Results of this feasibility study suggest that including psychological wellbeing modules in a healthy lifestyle intervention is a promising approach for improving overall wellbeing. Participants experienced high levels of program satisfaction, particularly in regards to connectedness, self-awareness, and self-kindness. These experiences map onto elements of psychological wellbeing, suggesting that their psychological wellbeing improved through the intervention. For instance, increases in subjective wellbeing (reported as happiness), self-acceptance (experienced as self-kindness), and positive relations with others (e.g., connectedness with classmates) occurred; personal growth (e.g., perspective shifts) may have taken place as well.

The increase in self-kindness that participants experienced was an important outcome, as a study by Hall, Row, Wuensch and Godley (2013) found support for the role of self-compassion in psychological and physical wellbeing. In addition, participants' enhanced self-awareness fostered healthier habits, such as reduced emotional eating. Intuitive eating improvements are also noteworthy, as a literature review by Van Dyke and Drinkwater (2013) found that this eating style may be related to improved dietary intake. The connectedness participants felt also has implications for improved health due

to the link between a person's social integration and reduced risk for disease (Cohen & Janicki-Deverts, 2009).

Participants' main dissatisfaction with the program was its length, as several women felt the content was rushed and they would have liked extended support following the program.

### **Limitations and Future Studies**

Although this study supports the potential for including psychological wellbeing in healthy lifestyle interventions, the study did have limitations. First, the sample size was small. Second, participants were all females employed by a higher education institution; this limits the transferability of findings. Future studies should recruit more participants and consider how this program is perceived by men, minorities, and members of communities outside of higher education.

The timing of the focus groups is also worth considering. The 3-month delay between the end of the program and the focus groups allowed for rich conversations about how participants applied the program in their lives. While this timing was useful for discovering these changes and general program impressions, participants sometimes had difficulty recalling specific activities from the program. For a more detailed process evaluation of specific course content and behavior change techniques, a shorter time lapse may be preferable.

Connectedness was of major importance to participants and should also be explored in future studies, with special attention to the type of connectedness and its relationship to outcomes such as attrition, psychological wellbeing, and behavior change.

In addition, it would be interesting to know if connectedness can be replicated in a virtual setting as more wellness programs begin to be offered online.

The qualitative methods used in this study allowed for important insights into participant experiences with this positive health education intervention, and indicate that promoting psychological wellbeing alongside intuitive eating and exercise behaviors is a promising approach. Future studies of this program will need to include more participants, and from more diverse backgrounds, to further explore its appropriateness for other audiences and potential to improve health.

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Table 3.1

Focus Group Interview Guide

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1. What topics and activities did you like?
  2. Did you experience a turning point while taking the class?
  3. What topics and activities did you dislike?
  4. Were any ideas or changes suggested in class that you did not find meaningful?
  5. Were there any changes that were difficult to stick with after the class ended?\*
  6. Were any changes easy to make part of your daily life?\*
  7. In what ways has your quality of life been affected by the class?
  8. All things considered, what was most valuable to you about this class and why?
- 

\*Responses to these questions are analyzed in a separate study.

## CHAPTER 4

### A MIXED METHODS STUDY COMPARING THE EFFICACY OF TWO NON-DIET HEALTH EDUCATION PROGRAMS

#### **Abstract**

The purpose of this study was to compare two versions of a non-diet health education program offered at a worksite in order to evaluate the efficacy of a health education program that combined resilience and self-compassion with a non-diet approach, named “Live Health Positive” (LHP). A mixed methods embedded design was used in this analysis, with greater emphasis placed on the quantitative results. The intervention was implemented at an institute of higher education in northern Utah. Twenty-nine participants attended one of two treatment conditions: the LHP program or a non-diet comparison program (NDP). Repeated measures ANOVA and independent samples t-tests, and their nonparametric equivalents, were used to assess changes in intuitive eating, exercise level and enjoyment, self-compassion, positive and negative affect, and self-rated health; focus groups provided additional insights to participants’ experiences with sustaining health behavior changes. Intuitive eating significantly improved in both groups from pretest to posttest (LHP:  $M = .615$ , 95% CI [0.305, 0.925],  $p < .001$ ; NDP:  $M = .522$ , 95% CI [0.186, 0.858],  $p = .003$ ), and from pretest to follow-up (LHP:  $M = .518$ , 95% CI [0.177, 0.858],  $p = .003$ ; NDP:  $M = .445$ , 95%

CI [0.185, 0.705],  $p=.002$ ). Enjoyment motivations for physical activity significantly improved from pretest to posttest in the LHP group only ( $M = 1.084$ , 95% CI [0.380, 1.788],  $p=.002$ ); LHP reported higher enjoyment motivations than NDP,  $M=.751$ , 95% CI [0.108, 1.393],  $t(25.528) = 2.403$ ,  $p=.024$ . Behavioral maintenance was affected by lifestyle barriers to change, the need for support during the change process, resonance with course content, and the ability to stand up for one's health-related needs.

### **Introduction**

Concerns about the obesity “epidemic” (CDC, 2011) and its association with chronic illnesses (CDC, 2012) have led to obesity prevention programs that promote weight loss behaviors (e.g., caloric restriction and exercise). Although weight loss programs are well-intentioned, weight loss is almost always regained within 3 to 5 years (Ikeda et al., 2005) and few improvements are sustained long-term (Ory, Smith, Mier & Wernicke, 2010).

Given that many of the positive health outcomes that are associated with weight loss more likely result from the healthy lifestyle adaptations (e.g., nutrition quality, physical activity) that accompany it, rather than the weight reduction itself (Bacon & Aphramor, 2011), there is reason to focus on healthy lifestyle habits in general rather than using weight status as a marker for health or program success. Non-diet approaches (e.g., Health At Every Size®) embrace the health-centered paradigm, which prioritizes healthy behaviors that improve both physical health and psychological wellbeing.

## **The Non-Diet Approach**

Non-diet approaches are unlike traditional weight management programs in that they are weight-neutral and emphasize self-acceptance, joyful movement (rather than exercise for the purpose of weight loss), and intuitive eating (instead of calorie restriction). In addition, non-diet approaches share a respect for size diversity and do not harbor hidden weight loss agendas in the promotion of healthy lifestyles.

Non-diet approaches have great potential to improve health and quality of life. Studies of non-diet programs have demonstrated improvements in physiological measures and physical activity (Rapoport, Clark & Wardle, 2000), eating behaviors (Provencher et al., 2009), and self-esteem and depression (Ciliska, 1998). Bacon, Stern, Van Loan and Keim (2005) found that the non-diet approach “enables participants to maintain long-term (2 years) behavior change” (p. 936), along with improvements in physical and psychological health.

A drawback of non-diet programs is that they may be perceived as an alternative to dieting, rather than as a general healthy lifestyle approach. This may limit participation to those who believe they have a “weight problem.” However, people of all body sizes can benefit from interventions focused on developing a healthy relationship with food, exercise, and self. For instance, a study by Wildman (2008) found that 23.5% of adults with a “normal” BMI are metabolically abnormal (i.e., displaying symptoms such as high blood pressure and insulin resistance). If people with “normal” BMI classification assume they are in good health based on their weight status, they may miss out on programs that could benefit them.

Designing non-diet programs to have a more equal balance between “diet

alternative” behaviors (e.g., eating and exercise) and other aspects of multidimensional health may help non-diet approaches appeal to a more size diverse audience. One way to accomplish greater balance might be to add more learning and behavior change objectives that specifically address psychological wellbeing.

### **Study Purpose**

In order to explore the possibility of shifting non-diet programs from a “diet alternative” to a more general healthy lifestyle program, additional learning modules related to psychological wellbeing (e.g., resilience, self-compassion) were added to a non-diet approach; the resulting program was named “Live Health Positive.”

The purpose of this study was to compare two versions of a non-diet health education program offered at a worksite in order to evaluate the efficacy of the Live Health Positive program. The following research questions were addressed: Does each intervention improve intuitive eating, exercise enjoyment, physical activity level, self-compassion, positive and negative affect, and self-rated health, over time? Are improvements sustained from posttest to follow-up? Are there differences in outcomes between groups? What are participants’ experiences with the program?

### **Methods**

#### **Study design**

A mixed methods embedded design was used in this analysis, with greater emphasis placed on the quantitative results. Mixed methods studies allow for greater depth of understanding than using either method alone (Creswell & Plano Clark, 2007). In this study, qualitative methods were used to enhance the quantitative results, explain

trends in the data, and better understand participants' experiences with changing their health behaviors.

### **Setting and Participants**

The Institutional Review Boards at both the University of Utah and Salt Lake Community College approved the research. The intervention was implemented at an institute of higher education in northern Utah. Current English-speaking employees, age 18 years or older, of all genders, were eligible for this study. There were no exclusions based on BMI.

Using statistical software G\*Power (Faul, Erdfelder, Lang & Buchner, 2007), it was determined that a sample of 26 participants per group should allow for sufficient power when significance is set to  $\alpha=.05$ , and power  $(1-\beta) = 0.8$ ; a moderate effect size ( $f=0.25$ ) was assumed (Bush, Rossy, Mintz & Schopp, 2013; Emmons & McCullough, 2003; Neff & Germer, 2013).

### **Study Procedures**

The intervention was implemented April–June 2014, with a 3-month follow up period. Employees enrolled online through their on-site wellness program, and were randomized to a treatment condition. Employees were then asked to confirm whether they consented to the study and could attend their assigned class time. Participants were not informed of the differences between the interventions.

Participants completed a testing battery prior to the first program session (pretest), within 10 days of completing the last program session (posttest), and 3 months after the

last program session (follow-up). All surveys were completed online using REDCap software (Harris et al., 2009). Focus groups were conducted in October 2014, after the follow-up surveys were completed.

### **Treatment conditions**

Participants were randomly assigned to one of two treatment conditions, both of which used a non-diet approach and were taught in weekly 1-hour sessions for 10 weeks. The lead author (AS) was the instructor for both interventions. Each program session included lecture, group discussion, hands-on experiences, and take-home activities. Both interventions taught intuitive eating (i.e., honoring hunger, feeling fullness, and choosing satisfying foods [Tribole & Resch, 2003]); intuitive exercise (listening to the body's needs for both movement and rest); and finding enjoyable forms of physical activity. The topics for each intervention condition are presented in Table 4.1; key differences are described below.

**Standard non-diet program (NDP).** The program began by presenting research that supports the non-diet approach, such as the pitfalls of using BMI as a health indicator and the lack of evidence showing that weight loss prolongs life. Then, self-acceptance was addressed through discussions about body image, including accepting and appreciating one's body.

**Live Health Positive (LHP).** The program began with resilience training (Richardson & Waite, 2002), which aims to help individuals identify and access resilient qualities (e.g., hope, joy, self-efficacy) that promote personal thriving (Richardson, 2002; Windle, 2011). A series of activities helped participants experience the



multidimensionality of their health and the “motivational forces” within them (Richardson, 2002, p.308), sometimes called resilient drives. Next, the three components of self-compassion (i.e., self-kindness, common humanity, and mindfulness; Neff, 2003) were explored, with an emphasis on being kind and understanding toward oneself in all life domains.

## **Quantitative Methods**

**Measures.** The following self-report measures were used in this study.

- Intuitive eating scale-2 (IES-2; Tylka, 2013). This 23-item scale ( $\alpha=0.87$  for women, and  $\alpha=0.89$  for men) assesses intuitive eating behaviors, with subscales for reliance on hunger and satiety cues, eating for physical rather than emotional reasons, giving oneself unconditional permission to eat, and body-food choice congruence. Each item is scored from “strongly disagree” (1) to “strongly agree” (5); the average is computed for a final score.
- Motives for physical activity measure–revised (MPAM-R; Ryan, Frederick, Lepes, Rubio & Sheldon, 1997). The MPAM-R assesses the reasons why people engage in physical activity (e.g., exercising for fun) and is comprised of five subscales; only the interest/enjoyment subscale ( $\alpha=0.92$ ) was used in this study. Each item is rated on a 7-point Likert scale, ranging from “not at all true for me” (1) to “very true for me” (7); the average is computed for a final score.
- Stanford leisure-time activity categorical item (L-Cat 2.2; Kiernan, Schoffman, Lee, Brown, Fair, Perri & Haskell, 2013). This tool is a single-

item measure comprising six descriptive categories of physical activity, ranging from inactive (1) to very active (6). It was developed to provide a brief tool that assesses activity levels and is sensitive to change. When evaluated with overweight and obese women, it had adequate concurrent criterion validity with mean daily pedometer steps at 6 months.

- Self-compassion scale–short form (SCS-SF; Raes, Pommier, Neff & Van Gucht, 2011). The SCS-SF ( $\alpha=0.86$ ) is comprised of 12 items that reflect the components of self-compassion: self-kindness, common humanity, and mindfulness. Subjects are prompted to consider “how [they] typically act toward [them]self in difficult times.” Each item is rated on a 5-point Likert scale, ranging from “almost never” (1) to “almost always” (5); the scale average is computed for a final score. The short form has a strong correlation ( $r=0.98$ ) with the full version of the Self-Compassion Scale.
- Positive and negative affect scale (PANAS; Watson, Clark & Tellegen, 1988). This 20-item questionnaire evaluates mood with a 5-point scale that assesses the degree to which a person experiences a variety of positive and negative emotions that are described as single-word statements (e.g., upset, guilty, proud). Each item is scored from “very slightly or not at all” (1) to “extremely” (5), and the items are scored in two categories—positive affect and negative affect; the summation of each subscale was used in the analysis. The instrument has good internal consistency ( $\alpha=0.87$  for a time period of “the past few weeks”; Watson et al., 1988).
- Single-item self-reported health. A single-item from the National Health

Interview Survey prompts, “In general, would you say your health is,” and is rated “poor” (1) through “excellent” (5). Use of this item is recommended by the Stanford Patient Education Research Center (n.d.).

**Statistical methods and data analysis.** This study used an experimental mixed design, with a between-groups factor of intervention type (LHP, NDP), and a within-groups factor of time (pre, post, follow-up), to evaluate the efficacy of the Live Health Positive and standard non-diet program interventions.

Statistical analyses were performed using the Statistical Package for the Social Sciences (SPSS) version 22.0 (IBM Corp., 2013). Significance was set at  $p=.05$  for all tests. First, the data were screened by checking for missing variables, outliers, and whether underlying assumptions were met. Baseline differences were assessed by either independent  $t$ -test or Mann Whitney U test to verify randomization.

A one-way repeated measures ANOVA with a within-groups factor of time (pre, post, follow-up) was conducted for each intervention group to assess changes in the outcome variables over time; when post hoc analysis was needed, pairwise comparisons were conducted with a Bonferroni adjustment. When a nonparametric alternative to this test was needed, the Friedman test was conducted.

To assess differences between groups, change scores were calculated on each outcome variable to control for baseline values. Then, independent  $t$ -tests were conducted; when a nonparametric alternative was needed, the Mann Whitney U test was used.

## **Qualitative Methods**

Focus groups were chosen for the qualitative research method because they are helpful in program evaluation, and should be considered when a researcher seeks to clarify quantitative data, or is interested in the range of ideas or feelings people have about something (Krueger & Casey, 2009). All participants who completed the study were invited to participate in the focus groups, which were scheduled to last 2 hours.

The study's lead author (AS) moderated the focus groups, along with an assistant moderator. AS had established good rapport with the participants as the course instructor. Before the focus groups began, the moderator shared guidelines to foster a safe environment, including respect for confidentiality, and encouraged participants to share both positive and negative experiences.

A semistructured interview format was used, with a menu of open-ended interview questions (Table 4.2) and probes to better understand participants' experiences with the program.

**Qualitative data analysis.** This research is approached from a constructivist paradigm (Lincoln, Lynham & Guba, 2011) in which one person's experience is not given more value as "truth" than another.

The analysis was led by the first author, who transcribed the audio recordings verbatim, removed identifiers, checked transcriptions for accuracy, and entered the data into NVivo (QSR International, 2012). Thematic analysis, as described by Braun and Clarke (2006), was used to code the data. Detailed readings of the focus group transcripts using a general inductive approach (Thomas, 2006) led to the creation of data-driven codes. Memo-writing was used throughout the analysis (Marshall & Rossman, 2006).

After the initial coding, codes were arranged into potential themes and subthemes. For the purpose of this article, themes that described the participants' experiences with changing their health behaviors were selected for further analysis. Transcripts were read chronologically, by individual participant, and horizontally by question, to identify confirming and disconfirming cases. Then, themes were refined to improve internal homogeneity and external heterogeneity. The assistant moderator participated in peer debriefings and review to further refine the themes. In addition, quotes were selected to enhance the quantitative findings.

The results are presented using a qualitative descriptive framework in conjunction with thematic coding. Qualitative description stays close to the surface of the data, with the goal of providing "straight descriptions of phenomena" (Sandelowski, 2000, p. 339).

## **Results**

At the time the intervention began, 46 participants had been randomized to the two intervention groups. Among those, 15 dropped out of the study without attending the first class session. Another 2 participants, assigned to the NDP group, withdrew after the first class (1 cited a scheduling conflict, the other gave no response). There was no further attrition, and 29 participants completed the study (LHP: 17, NDP: 12). Twenty-four participants attended a focus group (LHP: 12, NDP: 12). The participants from each intervention condition were divided into two focus groups, with 5-7 participants in each.

Among the participants who completed the surveys, 8 people had missing data on one or two items of the entire testing battery. Upon visual inspection, these items were missing at random. Since these items came from multi-item instruments, the missing

items were substituted with the participant's subscale mean in order to calculate a total scale score. There were no extreme outliers in the data, as assessed by inspection of a boxplot. The dependent variables were normally distributed at each time point, as assessed by Shapiro-Wilk's test ( $p > .05$ ), with the following exceptions: the LCat-2.2 and self-rated health single-item measures; and the negative affect subscale of PANAS for the NDP group at Time 2. Since ANOVA is robust to violations of normality, this test was still used for the PANAS subscale. However, the single-item measures were treated as ordinal variables and nonparametric tests were used. The study design ensured that the assumption of independence of observations was met.

There were no significant differences between groups on any of the outcome or demographic variables at baseline among those who completed the program. Participant characteristics are presented in Table 4.3, and baseline values for each group are shown in Table 4.4.

Descriptive statistics for the dependent variables and results of the statistical tests are presented in Tables 4.4–4.5. Trends in the data over time are displayed in Figures 4.1–4.5. Statistically significant results, along with complementary qualitative data, are discussed below.

### **Intuitive Eating**

A one-way repeated measures ANOVA revealed significant changes in intuitive eating over time in both groups (LHP: Wilk's  $\Lambda = .363$ ,  $p < .001$ , multivariate partial eta squared = .637; NDP: Wilk's  $\Lambda = .288$ ,  $p = .002$ , multivariate partial eta squared = .712); the magnitude of the difference was large in both groups. Post hoc analysis indicated that

intuitive eating significantly improved from pretest to posttest (LHP:  $M = .615$ , 95% CI [0.305, 0.925],  $p < .001$ ; NDP:  $M = .522$ , 95% CI [0.186, 0.858],  $p = .003$ ), and from pretest to follow-up (LHP:  $M = .518$ , 95% CI [0.177, 0.858],  $p = .003$ ; NDP:  $M = .445$ , 95% CI [0.185, 0.705],  $p = .002$ ), but not from posttest to follow-up.

Focus group findings confirmed the strong impact of intuitive eating lessons on the participants, as many echoed the comment, “I think that’s the thing...I came away with that was the strongest.” While some were “still having trouble with” recognizing their hunger, most were “learning to listen to those cues.” Several reported giving themselves unconditional permission to eat, and found that savoring treats helped them to be “conscious of it, so I don’t eat five or six of them.” Some even found themselves “craving certain things that are really healthy for me...I crave broccoli and I crave green vegetables and I want those things too.”

### **Physical Activity**

**Physical activity motivation.** A one-way repeated measures ANOVA revealed significant changes in enjoyment motivations for engaging in physical activity over time in the LHP group (Wilk’s  $\Lambda = .485$ ,  $p = .004$ , multivariate partial eta squared = .515); the magnitude of the difference was large. Post hoc analysis indicated that enjoyment motivations significantly improved from pretest to posttest ( $M = 1.084$ , 95% CI [0.380, 1.788],  $p = .002$ ). The intervention did not lead to statistically significant changes in enjoyment motivations over time for the NDP group.

There was a statistically significant difference between the LHP and NDP groups regarding enjoyment motivations for engaging in physical activity, with LHP reporting

higher enjoyment motivations than NDP at posttest,  $M=.751$ , 95% CI [0.108, 1.393],  $t(25.528) = 2.403$ ,  $p=.024$ . The magnitude of the difference was large ( $d=.862$ ). This represented the only statistical between-group difference in this study.

During the focus groups, participants from both interventions shared their experiences with trying to find joy in physical activity. Some liked the idea that “you don’t have to go get on the treadmill, you don’t have to start lifting weights, find something that you like.” One woman who found an activity she liked said, “I have found a lot more joy in my life, instead of making exercise a drudgery.” While some were successful in identifying an activity they enjoyed, others were still “trying to find that one thing that really gives [them] the extra joy and the happiness.” While the focus groups did not reveal obvious differences between groups regarding enjoyment of physical activity, the majority of people who stated they were still searching for an activity they liked were in the NDP group.

**Physical activity level.** There were no statistically significant changes in physical activity levels over time, as determined by a Friedman test.

Focus group data helped explain the statistical findings. While some participants had physical activity routines that stayed consistent throughout the study, others reported both increasing and decreasing activity levels. Some participants shared stories of becoming more active by “dance walking” with family members, or beginning to “walk every day on my lunch now.” For others, the topic of intuitive exercise seemed to give them permission to take a break from physical activity. One shared, “if I feel like exercising I listen, and I do it and if I feel like resting that’s you know, another listening thing.” Another person “dropped both [exercise] classes and I’ve never done that



before...I realized that is what I needed.”

### **Self-Compassion**

A one-way repeated measures ANOVA revealed the interventions did not lead to statistically significant changes in self-compassion over time for either group. Although not statistically significant, this was the only variable to continue to improve with time (Figure 4.4).

Self-kindness, especially the realization that “I would never say that to my friends,” was “the biggest take away of this class” for many participants. Increased self-acceptance led to improved relationships for many participants; these outcomes were not measured by the quantitative instruments. One woman said, “I think my relationship with my husband is better, because I feel more comfortable with myself.” Another stated, “accepting who I am for me has made me more confident...about myself, my abilities, my life, my relationships”; this included relationships with her mom, boyfriend, and kids.

### **Positive and Negative Affect**

A one-way repeated measures ANOVA revealed there were no statistically significant changes in positive or negative affect over time in LHP or NDP. In the focus groups, both positive and negative changes in mood were reported. A couple of people mentioned feeling “happier,” having less anxiety (e.g., over their weight), and feeling less guilt over food choices as a result of the program. One shared, “my depression's been a lot better, and I've actually had less of my medication over the summer.”

Increases in negative mood following the program may be partially explained by

the major stressors and tragedies some participants experienced during the follow-up period, including the deaths of loved ones.

### **Self-Rated Health**

There were no statistically significant changes in self-reported health ratings over time, as determined by a Friedman test. However, a few participants reported feeling healthier during the focus groups, saying, “I’m healthier...I eat healthier and I feel better,” or “I’m more healthier now than I used to be.”

### **Behavior Change and Sustainability**

The interventions had similar sustainability outcomes, as repeated measures ANOVA and Friedman tests indicated there were no statistically significant changes in any of the outcome variables from posttest to follow-up in either group. However, many variables followed a trend in which improvements measured at posttest “slipped” during the follow-up period (Figures 4.1–4.3, and 4.5). During the focus groups, questions related to behavior change maintenance were of particular interest in order to better understand why this trend occurred. The following four major themes describe participants’ main experiences with the process of changing their health behaviors.

**Encountering lifestyle barriers to change.** Barriers resulting from participants’ lifestyles presented several challenges that interfered with their ability to adopt and sustain new behaviors. Lifestyle barriers included many well-known factors, such as stress (“it helped until I got really stressed and forgot all about the class”); energy (“all the things that I want to do hinge on my energy level”); and time (“physical activity, that

one for me is still hard and I think a lot of it is my lifestyle”).

**Need for support during the change process.** Participants wanted more support, including time to build self-efficacy and ongoing support following the class, to help them turn new health behaviors and attitudes into sustainable habits. Some participants thought “there just wasn’t enough time to practice the new material.” Others thought “the most difficult part” was that they no longer had “that constant reminder” of the things they learned in class. However, some participants felt the interactive class format supported skill development: “other [classes] that we’ve done, you go in and they spew out data and then they turn you loose and you’re gone, this gave us an opportunity to be active in the whole process of what we were learning.”

**Resonating to program lessons.** Participants’ sense of connection with the program material was an important factor for whether they retained the information and chose to implement it in their lives. As one person shared, “the things that were important to me I was able to incorporate pretty quickly.” Another participant described both her experiences of resonance, and lack thereof, with topics from the class:

Some things...I don’t think that’s particularly useful to me because I don’t feel it, I found that I can have the sense to just, let those things go because I can’t use them, and uh, just hold onto the things that the light bulb went on and I can say that, that’s me, I feel that and that is something that I can adhere to, it’s not gonna be something that I’m gonna change this behavior because I have to write this list or I have to do this or I have to do that, cause those things never stick, but if it’s something that hits me in the core, then I’ll, everything will adapt because that’s *me*.

On the other hand, topics that did not resonate were quickly forgotten, as one person explained, “I really only stuck to the stuff that really, I wanted to put on here [my notes].”

**Standing up for health-related needs.** Several participants discussed the need to stand up for their needs as they began to make changes in their health behaviors. One

participant relayed her experience learning to stand up for her needs: “to be that assertive and say and develop some would say the confidence to say, this is the way I’m doing this, this is what I want to do, for my health, that took effort.” Another participant described the process of becoming more self-compassionate: “I need to learn to stand up still to my bosses...have some fear, but that is the next step.” For another woman, concern about what other people thought interfered with her ability to stand up for her needs and honor her hunger: “they’re going to look at you weird when you’re on the front lines of all the students there and it’s like oh sorry I have to go eat something my stomach’s growling.” On the other hand, some participants already felt confident to stand up for themselves: “I have my exercise room too, and I don’t care what anybody says about it.”

### **Discussion**

The similarities in results between groups suggest that both interventions in this study can be effective in fostering healthy lifestyle changes when non-diet programs are made available to people of all body sizes. Considering the growing interest in worksite wellness programs and the stigmatizing consequences of weight management classes, the ability to offer a health class that appeals to people of all sizes may aid in making health programs more accessible and less stigmatizing.

Both interventions in this study significantly increased intuitive eating over time. Intuitive eating improvements may be related to improved dietary intake (Van Dyke & Drinkwater, 2013). The LHP intervention also had significant increases at posttest for physical activity enjoyment motivations. This is important, as enjoyment of physical activity is associated with greater exercise adherence (Ryan, Frederick, Lepes, Rubio &

Sheldon, 1997). Enjoyment motivation for physical activity was the only variable for which the LHP and NDP programs differed. While it is only possible to speculate as to why this difference was measured, discussions in the LHP group regarding how to harness the resilient drives to discover personally enjoyable physical activities may have played a role.

The results from the focus groups suggest that important changes related to self-compassion also occurred, even though they were not statistically significant. Improvements in self-compassion may be important to health, as a study by Hall, Row, Wuensch and Godley (2013) found support for the role of self-compassion in psychological and physical wellbeing.

There were no statistically significant changes in positive affect, negative affect, physical activity level, or self-rated health. It is possible that the small sample size (approximately half of what the power analysis called for) may have contributed to the lack of significant findings.

This study also provided insight to the reasons for the slip in behavior change that could help improve future programs. These challenges with behavioral maintenance included encountering lifestyle barriers to change; need for support during the change process; experiences with resonating to course content; and standing up for one's health-related needs.

### **Limitations**

Limitations to this study include small sample size and limited generalizability. Future studies should recruit more participants, including more males, and consider how

this type of program is perceived by minorities and members of communities outside of higher education.

Threats to validity may have been present in this study. The employee wellness coordinator at the host site was familiar with non-diet approaches and incorporated that philosophy in the worksite's employee wellness program. It is not known how many participants in this study might have participated in wellness program offerings that taught overlapping content. There is also the possibility of diffusion of treatment between groups, even though efforts were made to reduce this threat.

### **Future Directions**

Both interventions were well-received by participants, so the choice of intervention may be best determined by the program's main objective. The standard non-diet approach may be most useful when seeking to offer an alternative to dieting or to decrease weight stigma by addressing myths about obesity. The modifications used in the Live Health Positive program may be best when a general healthy lifestyle program is desired that can be implemented with a size diverse audience. Future studies should follow-up on these two approaches to explore participant experiences in greater depth. It would also be interesting to compare results across BMI categories, to see if people of a particular body size have more success with behavior change or resonate more strongly to one program versus another.

This study also offered insights to choice of measurement instruments and factors in behavior change sustainability that could provide direction for future studies.

**Measurement selection.** The mixed methods design revealed some concerns

regarding the appropriateness of the measures selected for this study. When paradigm shifts were occurring (i.e., changing how one defines exercise and health), the single-item measures used in this study may have been more sensitive to changes in participants' worldview, than to changes in behavior. For instance, it is possible that the structure of the L-Cat 2.2 would make it difficult to detect whether participants changed their exercise intensity, as opposed to frequency or duration, as a result of learning about intuitive exercise.

A similar concern occurred with the self-rated health measure. Those who participated in the NDP class learned the science about being healthy at any size, which shifted their perspective on what it means to be healthy. In the LHP class, there was a shift toward viewing health more holistically, in terms of body, mind, and spirit. This may cause the measure to reflect changes in one's definition of health rather than more objective health changes. Mixed methods may be especially useful for evaluating programs that seek to change participants' personal paradigms.

Finally, instruments that measure eudaimonic wellbeing (e.g., meaning in life and realizing one's potential [Ryan & Deci, 2001]) may be better for assessing changes in psychological wellbeing, as mood may be too strongly swayed by day-to-day occurrences.

**Sustainability research.** Ory, Smith, Mier and Wernicke (2010) discussed the potential relevance of resonance to behavior change, and suggested allowing “participants to select the intervention strategy that best resonates with them” (p. 657). Participants in the present study confirmed the importance of resonance as a factor in behavior change, and future studies should look at how to present program content in a way that speaks to participants. This tailoring may need to go beyond stages of change,

gender, age, or culture.

The need to stand up for one's health-related needs in order to implement new health behaviors may also warrant further attention. Some of the participants cited fear or worry as an obstacle to standing up for their needs, which hints at the need for courage to make changes in one's life. There is limited consensus on the definition of courage, including whether the presence of fear is a prerequisite to categorizing an action as courageous (Rate, Clarke, Lindsay & Sternberg, 2007). While "general courage" involves actions that would be considered courageous by anyone's standards, the more relevant factor in health programs may be the necessity of personal courage, which involves "actions that are courageous only in the context of an individual's life" (Pury, Kowalski & Spearman, 2007, p.113). Future studies could investigate the role of courage in the behavior change process and, if present, explore how to address it in health interventions.

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Table 4.1

| Topics Presented in the Non-Diet Standard and Live Health Positive Interventions |   |   |
|--|---|---|
| Module   | Standard Non-Diet Program   | Live Health Positive  |
| 1  | Research supporting the nondiet approach.                                   | Resilience training to explore intrinsic motivational forces and the multidimensionality of health. |
| 2  | Self-acceptance, with an emphasis on accepting and appreciating one's body. | Self-compassion, with an emphasis on the self-kindness construct.                                   |
| 3  | Intuitive eating, intuitive exercise, and joyful movement.                  | Intuitive eating, intuitive exercise, and joyful movement.  |

Table 4.2

Focus Group Interview Guide

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1. What topics and activities did you like?
  2. Did you experience a turning point while taking the class?
  3. What topics and activities did you dislike?
  4. Were any ideas or changes suggested in class that you did not find meaningful?
  5. Were there any changes that were difficult to stick with after the class ended?
  6. Were any changes easy to make part of your daily life?
  7. In what ways has your quality of life been affected by the class?
  8. All things considered, what was most valuable to you about this class and why?
-

Table 4.3

## Characteristics of the LHP and NDP Program Participants

| Characteristic | LHP            | NDP            | <i>p</i> -value |
|----------------|----------------|----------------|-----------------|
|                | Mean (SD)      |                |                 |
| Age            | 52.9<br>(10.4) | 49.8<br>(11.5) | .464            |
|                | <i>N</i>       |                | <i>p</i> -value |
| Gender         |                |                | .339            |
|                | Female         | 17             | 11              |
|                | Male           | 0              | 1               |
|                | Total          | 17             | 12              |
| BMI            |                |                | .278            |
|                | Normal weight  | 3              | 2               |
|                | Overweight     | 1              | 5               |
|                | Obese          | 13             | 5               |

Note: BMI *p*-value calculated based on group means.

Table 4.4

Intuitive Eating, Physical Activity Enjoyment, Self-Compassion and Affect by Treatment Condition Over Time, and Between-Group Comparisons

| Measure     | Mean (SD)         |                   |                   | Repeated Measures ANOVA <sup>a</sup> |            | Independent Samples t-test <sup>b</sup> |                  |
|-------------|-------------------|-------------------|-------------------|--------------------------------------|------------|---|------------------|
|             | Pre-test          | Post-test         | Follow-up         | <i>F</i>                             | $\eta^2_p$ | <i>t</i>                                | Cohen's <i>d</i> |
| IES-2       |                   |                   |                   |                                      |            |   |                  |
| LHP         | 3.012<br>(.519)   | 3.627<br>(.385)   | 3.529<br>(.431)   | 13.186***                            | .637       | .547                                    | .209             |
| NDP         | 3.000<br>(.498)   | 3.522<br>(.476)   | 3.445<br>(.455)   | 12.354**                             | .712       |   |                  |
| MPAMR_enjoy |                   |                   |                   |                                      |            |   |                  |
| LHP         | 4.151<br>(1.610)  | 5.235<br>(.842)   | 4.664<br>(1.676)  | 7.952**                              | .515       | 2.403*                                  | .862             |
| NDP         | 4.548<br>(1.260)  | 4.881<br>(1.209)  | 4.821<br>(1.271)  | 2.280                                | .313       |   |                  |
| SCS-SF      |                   |                   |                   |                                      |            |   |                  |
| LHP         | 3.039<br>(.703)   | 3.358<br>(.522)   | 3.446<br>(.582)   | 3.013                                | .287       | .381                                    | .144             |
| NDP         | 2.938<br>(.470)   | 3.167<br>(.435)   | 3.257<br>(.476)   | 2.853                                | .363       |   |                  |
| PANAS PA    |                   |                   |                   |                                      |            |   |                  |
| LHP         | 31.601<br>(7.021) | 35.536<br>(6.252) | 31.484<br>(8.406) | 2.940                                | .282       | .473                                    | .180             |
| NDP         | 31.583<br>(5.351) | 34.417<br>(4.602) | 33.167<br>(5.589) | 1.381                                | .216       |   |                  |
| PANAS NA    |                   |                   |                   |                                      |            |   |                  |
| LHP         | 19.301<br>(7.390) | 17.824<br>(8.633) | 18.824<br>(6.287) | .238                                 | .031       | .387                                    | .146             |
| NDP         | 19.667<br>(3.750) | 16.917<br>(6.445) | 20.417<br>(7.982) | .896                                 | .152       |   |                  |

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

<sup>a</sup>Within-group multivariate test results

<sup>b</sup>Between-group comparisons at post-intervention, using change scores from baseline ( $t_2-t_1$ )

PA = positive affect subscale

NA = negative affect subscale

Table 4.5

Physical Activity Level and Self-Rated Health by Treatment Condition Over Time, and Between-Group Comparisons

|                   | Median (Range) |           |           | Friedman ANOVA | Mann Whitney U <sup>a</sup> |        |
|-------------------|----------------|-----------|-----------|----------------|-----------------------------|--------|
|                   | Pretest        | Post-test | Follow-up | $\chi^2$       | $U$                         | $z$    |
| L-Cat 2.2         |                |           |           |                |                             |        |
| LHP               | 2 (1-6)        | 3 (2-5)   | 3 (2-6)   | 2.513          | 74.000                      | -1.327 |
| NDP               | 3 (2-6)        | 3 (1-4)   | 3 (2-5)   | 1.185          |                             |        |
| Self-Rated Health |                |           |           |                |                             |        |
| LHP               | 3 (1-4)        | 3 (2-4)   | 3 (1-4)   | 4.000          | 90.500                      | -.625  |
| NDP               | 3 (2-4)        | 3 (3-4)   | 3 (2-4)   | .400           |                             |        |

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

<sup>a</sup>Between-group comparisons at postintervention, using change scores from baseline ( $t_2-t_1$ )



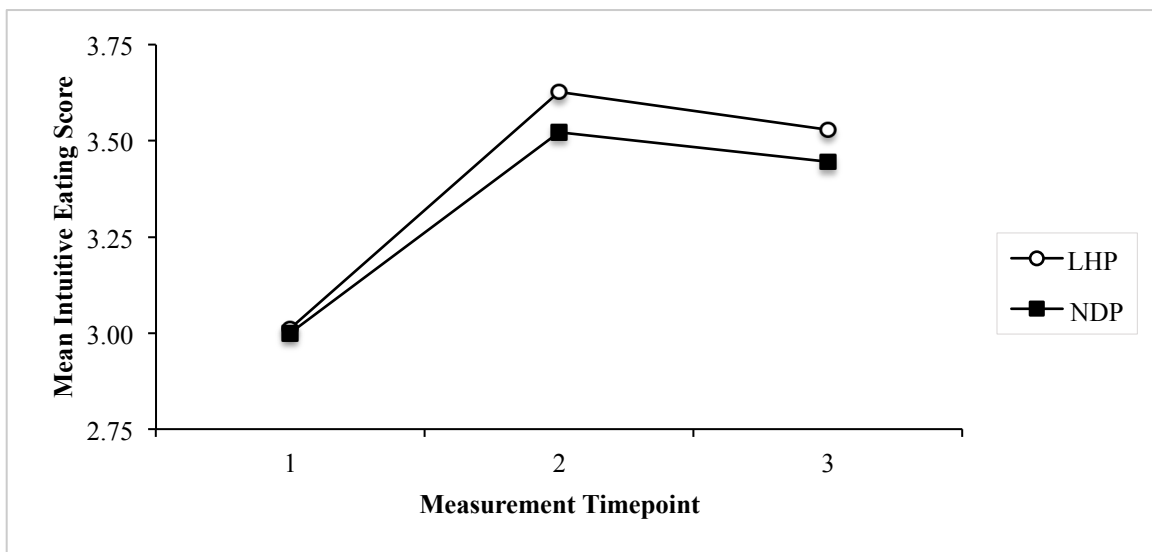


Figure 4.1. Changes in intuitive eating scores over time for the Live Health Positive (LHP) and standard non-diet program (NDP) groups.

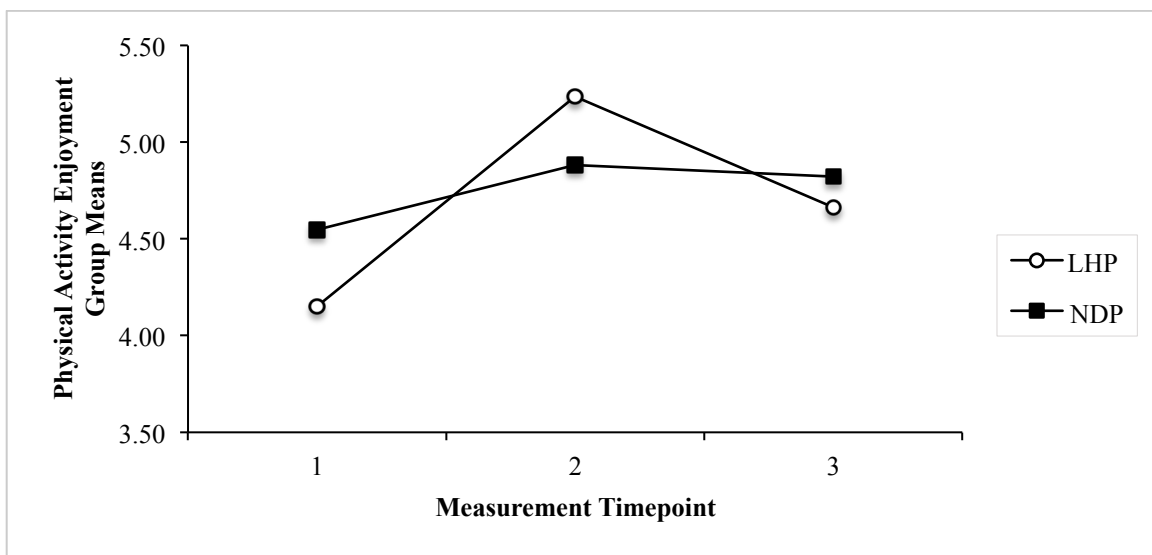


Figure 4.2. Changes in enjoyment motivations for physical activity over time for the Live Health Positive (LHP) and standard non-diet program (NDP) groups.

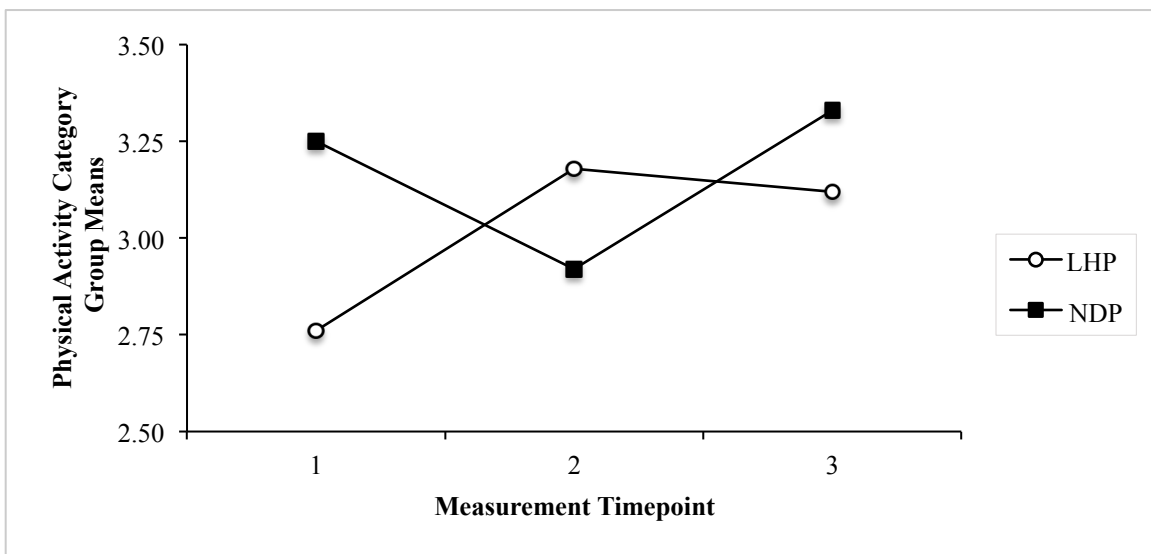


Figure 4.3. Changes in physical activity category (i.e., level) over time for the Live Health Positive (LHP) and standard non-diet program (NDP) groups.

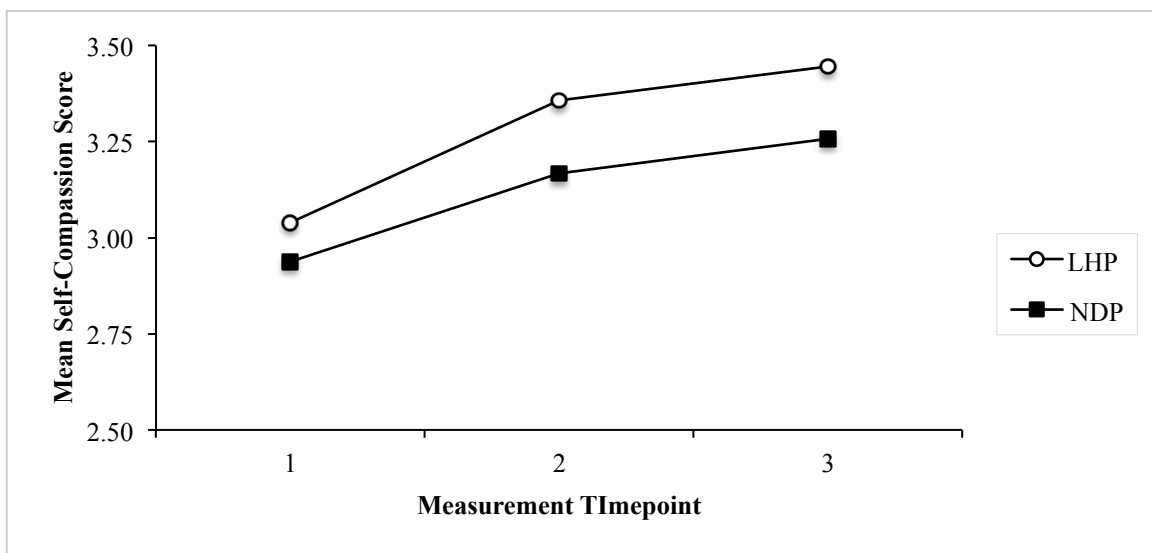


Figure 4.4. Changes in self-compassion scores over time for the Live Health Positive (LHP) and standard non-diet program (NDP) groups.

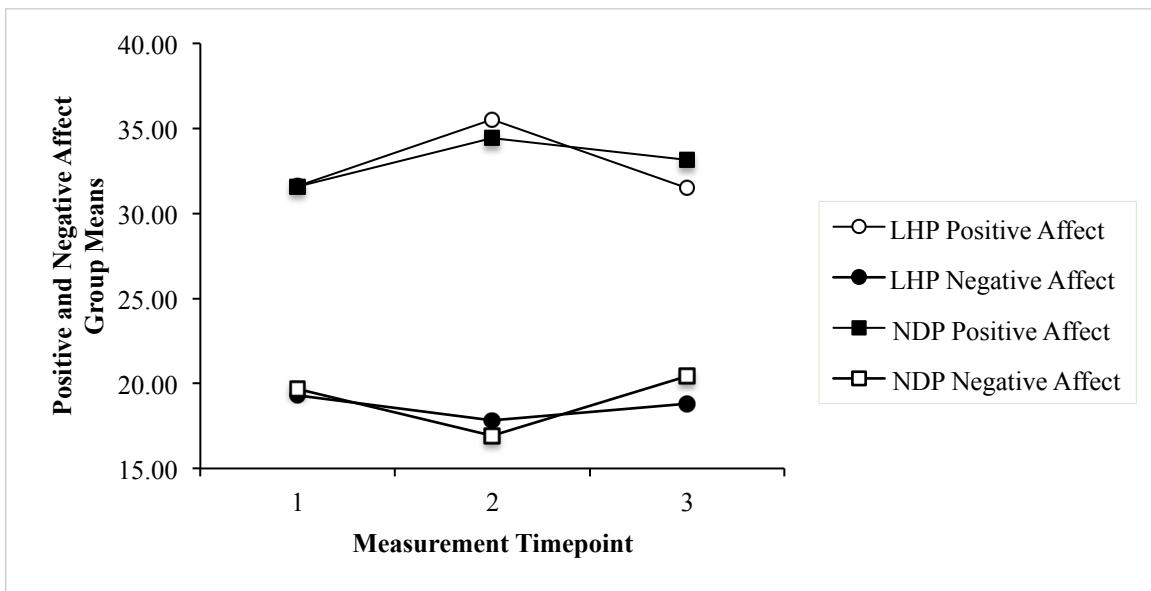


Figure 4.5. Changes in positive and negative affect scores over time for the Live Health Positive (LHP) and standard non-diet program (NDP) groups.

## CHAPTER 5

### SUMMARY

Psychological wellbeing is recognized as an integral part of health, yet it is often absent from the curricula of healthy lifestyle interventions aimed at chronic disease prevention. Too often, chronic disease is understood as a physical health problem, caused by physical health behaviors, with a physically based solution. However, health is more complex than that, and the interconnectedness of the body, mind, and spirit must be considered in any discussion of wellbeing.

This study considered the feasibility and efficacy of the Live Health Positive program, a positive health education program that aimed to improve both psychological wellbeing and physical health by combining lessons from non-diet approaches, resilience, and self-compassion. A mixed methods design was used to determine the efficacy of and participant experiences with the LHP program, and to compare the outcomes of the LHP intervention with the standard non-diet program on which it was based. In the present study, 17 women were in the LHP group, and 12 were in the standard non-diet program. There were no restrictions on BMI categorization, and all interested employees at the host worksite were invited to enroll.

Participants in the Live Health Positive intervention were guided through resilience training, self-compassion, intuitive eating, and intuitive exercise. The people in

the non-diet standard program had lessons on obesity myths, body appreciation, intuitive eating, and intuitive exercise. Both programs used an interactive lesson format and met for weekly 1-hour classes over 10 weeks.

The quantitative analysis found that the Live Health Positive program led to statistically significant improvements in intuitive eating and enjoyment motivations for engaging in physical activity; in addition, self-compassion continued to increase over time. Most outcomes were similar to those found in the comparison group, thus suggesting the Live Health Positive program can be equally effective to a standard non-diet approach. Considering the positive impact that non-diet approaches have on health and quality of life, this result is not taken lightly. Although, it is not surprising that outcomes were similar given the similarities between the programs—approximately half of the program sessions utilized the same content (i.e., intuitive eating and exercise). This makes any differences between programs (e.g., enjoyment motivations for exercise) particularly intriguing.

The qualitative analysis provided valuable insights to the participants' experiences with the LHP program. The women in the Live Health Positive group valued the connectedness, self-awareness, and self-kindness that they gained through the program. For some, these experiences produced a synergistic effect that led to shifts in their perspective on how they want to live their life.

Qualitative analysis also offered insight into issues surrounding behavior sustainability for both groups, as resonance and courage emerged as psychological factors that pertain to the change process. Topics that did not resonate were quickly forgotten, but the women felt inspired to make changes that made them think, “that’s

*me.*” For some, knowledge and skills were not enough, as courage was sometimes needed to put these new ideas into effect.

### **Additional Findings**

Qualitative analysis of the standard non-diet comparison group also provided interesting insights. First, all participants valued the concept of being healthy at any weight. Not only was this relevant and important to the participants, but it also changed their interactions with their children and how they taught them about what it means to be healthy. In addition, several participants noted that as a result of the class, they were less judgmental of other people based on body size as they realized that one cannot tell a person’s health based on their appearance. From a weight stigma standpoint, offering classes that use the non-diet approach, particularly when obesity myths are addressed, can be useful for participants of all sizes, not just those who are “obese.” This lends further support to the idea that non-diet approaches should be made available to people of all sizes.

The qualitative analysis also underscored the importance of the classroom environment; this was discussed by both intervention groups. Not only did participants sense connections with each other, but many also viewed the instructor as compassionate and an important contributor to feeling it was a safe place. A woman in the standard non-diet program emphasized how important these elements were to her, as she explained that she stopped attending another health class where she did not feel comfortable. Another shared that having “a safe place to talk about stuff” was important, because “health is a really sensitive issue for people and to feel confident in the people in the room with you,



to be able to speak freely...was a really good component.” A woman in the Live Health Positive class also noted the value of an instructor who “understands the human complexity.” These insights are important to consider when determining who should instruct health interventions, and the possible influence the instructor could have on the study outcomes regardless of the program content.

Several comments during the focus groups hinted that authenticity may be an important part of the change process as well. Comments about resonance and doing “what makes you feels right” were not uncommon. Many participants resonated to the idea that the class focused on their ecobiopsychospiritual health, which looked at them as a “whole” person. Many of the women in the Live Health Positive group also enjoyed learning about their inner strengths. Together, these findings hint at the concept of being “true to myself”—the definition of authenticity (La Guardia, 2009).

### **Limitations**

The small sample size was a major limitation to this study that prevented the ability to reach saturation with the qualitative methods, and may have impacted whether statistical significance was found. The demographics were also a limitation, as the group was rather homogeneous (almost all female, and employed by a higher education institution) and it is therefore hard to generalize these findings to the greater population.

Another limitation was the study design, as there was not a no-treatment control group. It is not known whether other programs taking place at the worksite influenced some of the outcomes in this study. This is particularly relevant because the employee wellness coordinator at the host site was familiar with non-diet approaches and

incorporated that philosophy in the worksite's employee wellness program. It is not known how many participants in this study might have participated in wellness program offerings that taught overlapping content.

It is possible that the study procedures also affected the study. The same person was the instructor for both groups, as well as the focus group moderator. Future studies may want to consider having more diversity. However, if so, researchers must find a way to account for how that adds variation to the study and may influence results.

The quantitative measures were also limiting, as some may have been more sensitive to changes in paradigm than changes in health or behavior. Furthermore, given that self-compassion was an important topic to the Live Health Positive group, the full self-compassion scale (rather than the short form) would have been preferable, as it may have given more insights to changes in self-compassion due to the ability to analyze subscales on the full version.

### **Future Directions**

This study contributes to research on positive health education approaches for health behavior change. Several directions are available for future studies, using both quantitative and qualitative methods.

Future studies should give careful consideration to the measurement instruments used, and may benefit from mixed methods approaches to better understand the why's and how's of behavior change and program satisfaction. While useful insights were gained from the focus groups in this study, it is challenging to meaningfully compare the Live Health Positive program with other programs in the literature that were only

evaluated using quantitative methods.

Future studies may also want to have a longer follow-up period to draw better conclusions about sustainability. Since self-awareness was a major outcome of this study, future research could explore whether behavior changes resulting from enhanced self-awareness are maintained longer, or with more psychological ease, than programs promoting willpower or using less autonomous behavior change strategies. It is possible that personally experiencing the link between practicing a health behavior and subsequently feeling better would be pursued with greater intrinsic motivation.

Authenticity, combined with two other themes from this study—courage and self-compassion—may be related to the behavior change process in ways that have not been studied in depth. Considering that authenticity is thought to enhance psychological wellbeing (La Guardia, 2009), this would be an interesting avenue to explore further. Future studies should investigate how including psychological wellbeing elements in health education programs not only has potential for enhancing psychological and physical wellbeing outcomes, but also how authenticity, courage, and self-compassion might relate to the health behavior change process. If present, future studies should also consider how these psychological elements could be addressed in healthy lifestyle programs.

### **Program Development**

Participant feedback suggests improvements that could be made in future iterations of the program. First, the length of the program should be extended so the content is less rushed. Second, the program should have a built-in mechanism to support

ongoing connectedness between classmates after the class ends. Third, programs should continue to be made available to people of all body sizes, as it appears that every body size can benefit from this approach to healthy lifestyle change. Finally, program instructors should be selected with great care, as their ability to manage the classroom environment and create a safe place for participants may be important to program outcomes.

### **Conclusion**

This study demonstrated potential benefits of implementing a positive health education program that combined resilience, self-compassion, and non-diet approaches. Participants in the Live Health Positive program became more self-aware, experienced greater self-kindness, improved their intuitive eating and enjoyed physical activity more as a result of the program.

Perhaps the conclusion to this study is best stated by 1 of the participants in the non-diet program. Although the focus of this study was on the Live Health Positive program, her sentiment toward the class sums up the possibilities of a positive health education approach:

The more people that we can tell about this kind of stuff, the better it's gonna be, can you imagine if everyone at [our worksite], because that's our community, thought this way? It would be so different, the environment would just be so different, and we'd have a lot of happier people.

### **References**

La Guardia, J. G. (2009). Developing who I am: A self-determination theory approach to the establishment of healthy identities. *Educational Psychologist, 44*(2), 90-104.

APPENDIX A

CONSENT FORMS

## **Consent Cover Letter**

### ***A Mixed Methods Study Comparing Two Non-Diet Health Education Programs***

You are being asked to take part in a research study conducted by a Doctoral student from the University of Utah. The purpose of the study is to evaluate the effectiveness of the healthy lifestyle program you are participating in. We are doing this study because we want to improve wellness courses to make them more beneficial for participants. The healthy lifestyle program you participate in will be compared to a similar course to help us learn what contributes to an effective wellness program.

As part of this study, you will be asked to complete three questionnaires: one before the program begins, one when it ends, and one three months after the final class session. You will also be asked to participate in a focus group three months after the final class session.

#### **RISKS**

The risks of this study are minimal. You may feel upset thinking about or talking about personal information related to your health, thoughts, and behaviors. These risks are similar to those you experience when discussing personal information with others.

If you have any major pre-existing health conditions and you have been advised by a physician not to engage in new activities without medical clearance, including changes in exercise or nutrition, you should consult with your physician before participating in this program.

#### **BENEFITS**

We cannot promise any direct benefit for taking part in this study. However, possible benefits include improved physical and mental health. By participating, you will be contributing to the evaluation of a program that could help future participants lead healthier and more fulfilling lives.

#### **CONFIDENTIALITY**

Only the researcher and members of her study team will have access to the original survey responses. You will never be identified by name in relation to any of your answers. To enhance confidentiality, you will be asked to provide a pseudonym instead of your name on the questionnaire. To further maintain your confidentiality, your demographic information will be separated from your responses before results are shared. After your personal data is removed, the results from this study may be shared with a variety of people, including other researchers, Salt Lake Community College staff, and the general public.

#### **PERSON TO CONTACT**

If you have any questions, complaints, or if you feel you have been harmed by this research, please contact Allison Stuart, lead researcher, Department of Health Promotion and Education, University of Utah, at [allison.stuart@utah.edu](mailto:allison.stuart@utah.edu). You may also contact Dr. Glenn Richardson, Department of Health Promotion and Education, University of Utah, at 801-581-8039.

Contact the Institutional Review Board (IRB) if you have questions regarding your rights as a research participant. Also, contact the IRB if you have questions, complaints or concerns which you do not feel you can discuss with the investigator. The University of Utah IRB may be reached by phone at (801) 581-3655 or by e-mail at [irb@hsc.utah.edu](mailto:irb@hsc.utah.edu).

#### **VOLUNTARY PARTICIPATION & CONSENT**

I would like to ask you to complete the following online survey. It should take approximately 30 minutes to complete the questionnaire. Participation in this study is voluntary. You can choose not to take part. You can choose not to finish the questionnaire or to omit any question you prefer not to answer without penalty or loss of benefits.

By submitting this questionnaire, you are giving your consent to participate.

Thank you in advance for your time and thoughtful responses. Your participation in this study is greatly appreciated.

## **Consent Cover Letter**

### ***A Mixed Methods Study Comparing Two Non-Diet Health Education Programs***

You are being asked to take part in a research study conducted by a Doctoral student from the University of Utah. The purpose of the study is to evaluate the effectiveness of the healthy lifestyle program you are participating in. We are doing this study because we want to improve wellness courses to make them more beneficial for participants. The healthy lifestyle program you participated in will be compared to a similar course to help us learn what contributes to an effective wellness program.

#### **STUDY PROCEDURE**

As part of this study, you are being asked to participate in a focus group. The focus group discussion will be audio recorded in order to accurately record the discussion and comments. These recordings will only be used for transcription purposes. The recordings will only be accessed by the research team, and will not be shared publicly. Once the discussion is transcribed and the analysis is complete, the audio recordings will be erased.

The risks of this study are minimal. You may feel upset thinking about or talking about personal information related to your health, thoughts, and behaviors. These risks are similar to those you experience when discussing personal information with others.

#### **CONFIDENTIALITY**

We will do everything possible to keep information you share while participating in the focus group from those not associated with the project. Thus, we ask you and the other participants to keep the focus group discussion confidential. Still, there is a chance that a group member might mention your comments or name in a later conversation. Consequently, we cannot guarantee that no one will share what you have said after they leave.

Only the researcher and members of her study team will have access to the audio recordings and transcriptions. When the audio recordings are transcribed, personal identifiers (such as your name) will be removed from the transcriptions and replaced with a pseudonym. The results from this study may be shared with a variety of people, including other researchers, Salt Lake Community College staff, and the general public. To protect your confidentiality, a pseudonym will be used in reports and your name will not be attached to your comments.

#### **PERSON TO CONTACT**

If you have any questions, complaints, or if you feel you have been harmed by this research, please contact Allison Stuart, lead researcher, Department of Health Promotion and Education, University of Utah, at [allison.stuart@utah.edu](mailto:allison.stuart@utah.edu). You may also contact Dr. Glenn Richardson, Department of Health Promotion and Education, University of Utah, at 801-581-8039.

Contact the Institutional Review Board (IRB) if you have questions regarding your rights as a research participant. Also, contact the IRB if you have questions, complaints or concerns which you do not feel you can discuss with the investigator. The University of Utah IRB may be reached



by phone at (801) 581-3655 or by e-mail at [irb@hsc.utah.edu](mailto:irb@hsc.utah.edu).

#### **VOLUNTARY PARTICIPATION & CONSENT**

I would like to ask you to participate in today's focus group. The focus group will last approximately two hours. Participation in this study is voluntary. You can choose not to take part. You can choose not to respond to any question you prefer not to answer without penalty or loss of benefits.

By attending the focus group, you are giving your consent to participate and to have your comments and voice audio recorded during the focus group session. If you do not want to be audio recorded, you should not participate in the research.

Thank you in advance for your time and thoughtful responses. Your participation in this study is greatly appreciated.

APPENDIX B

QUESTIONNAIRE

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**Feelings and Emotions**

**This scale consists of a number of words that describe different feelings and emotions. Read each item and select the option that best indicates to what extent you have felt this way over the past week.**

|    |              | Very slightly or<br>not at all | A little              | Moderately            | Quite a bit           | Extremely             |
|----|--------------|--------------------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| 1  | Interested   | <input type="radio"/>          | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 2  | Distressed   | <input type="radio"/>          | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 3  | Excited      | <input type="radio"/>          | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 4  | Upset        | <input type="radio"/>          | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 5  | Strong       | <input type="radio"/>          | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 6  | Guilty       | <input type="radio"/>          | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 7  | Scared       | <input type="radio"/>          | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 8  | Hostile      | <input type="radio"/>          | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 9  | Enthusiastic | <input type="radio"/>          | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 10 | Proud        | <input type="radio"/>          | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 11 | Irritable    | <input type="radio"/>          | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 12 | Alert        | <input type="radio"/>          | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 13 | Ashamed      | <input type="radio"/>          | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 14 | Inspired     | <input type="radio"/>          | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 15 | Nervous      | <input type="radio"/>          | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 16 | Determined   | <input type="radio"/>          | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 17 | Attentive    | <input type="radio"/>          | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 18 | Jittery      | <input type="radio"/>          | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 19 | Active       | <input type="radio"/>          | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 20 | Afraid       | <input type="radio"/>          | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

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**Eating Habits**

**For each item, please check the answer that best characterizes your attitudes or behaviors.**

|   | Strongly disagree                | Disagree              | Neutral               | Agree                 | Strongly agree        |
|---|----------------------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| 1 I try to avoid certain foods high in fat, carbohydrates, or calories.   | <input checked="" type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 2 I find myself eating when I'm feeling emotional (e.g., anxious, depressed, sad), even when I'm not physically hungry. | <input type="radio"/>            | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 3 If I am craving a certain food, I allow myself to have it.  | <input type="radio"/>            | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 4 I get mad at myself for eating something unhealthy.   | <input type="radio"/>            | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 5 I find myself eating when I am lonely, even when I'm not physically hungry.   | <input type="radio"/>            | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 6 I trust my body to tell me when to eat.   | <input type="radio"/>            | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 7 I trust my body to tell me what to eat.   | <input type="radio"/>            | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 8 I trust my body to tell me how much to eat.   | <input type="radio"/>            | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 9 I have forbidden foods that I don't allow myself to eat.  | <input type="radio"/>            | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 10 I use food to help me soothe my negative emotions.   | <input type="radio"/>            | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 11 I find myself eating when I am stressed out, even when I'm not physically hungry.                                    | <input type="radio"/>            | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 12 I am able to cope with my negative emotions (e.g., anxiety, sadness) without turning to food for comfort.            | <input type="radio"/>            | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 13 When I am bored, I do NOT eat just for something to do.  | <input type="radio"/>            | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 14 When I am lonely, I do NOT turn to food for comfort.   | <input type="radio"/>            | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 15 I find other ways to cope with stress and anxiety than by eating.  | <input type="radio"/>            | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 16 I allow myself to eat what food I desire at the moment.  | <input type="radio"/>            | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 17 I do NOT follow eating rules or dieting plans that dictate what, when, and/or how much to eat.                       | <input type="radio"/>            | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

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- |    |   |                       |                       |                       |                       |                       |
|----|---|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
|    | Most of the time, I desire to eat nutritious foods.                     | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 19 | I mostly eat foods that make my body perform efficiently (well).        | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 20 | I mostly eat foods that give my body energy and stamina.                | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 21 | I rely on my hunger signals to tell me when to eat.                     | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 22 | I rely on my fullness (satiety) signals to tell me when to stop eating. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 23 | I trust my body to tell me when to stop eating.                         | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

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**Physical Activity Level**

During the past month, which statement best describes the kinds of physical activity you usually did? Do not include the time you spent working at a job. Please read all six statements before selecting one.

- I did not do much physical activity. I mostly did things like watching television, reading, playing cards, or playing computer games. Only occasionally, no more than once or twice a month, did I do anything more active such as going for a walk or playing tennis.
- Once or twice a week, I did light activities such as getting outdoors on the weekends for an easy walk or stroll. Or once or twice a week, I did chores around the house such as sweeping floors or vacuuming.
- About three times a week, I did moderate activities such as brisk walking, swimming, or riding a bike for about 15-20 minutes each time. Or about once a week, I did moderately difficult chores such as raking or mowing the lawn for about 45-60 minutes. Or about once a week, I played sports such as softball, basketball, or soccer for about 45-60 minutes.
- Almost daily, that is five or more times a week, I did moderate activities such as brisk walking, swimming, or riding a bike for 30 minutes or more each time. Or about once a week, I did moderately difficult chores or played sports for 2 hours or more.
- About three times a week, I did vigorous activities such as running or riding hard on a bike for 30 minutes or more each time.
- Almost daily, that is, five or more times a week, I did vigorous activities such as running or riding hard on a bike for 30 minutes or more each time.

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**Motives for Physical Activities**

**The following is a list of reasons why people engage in physical activities, sports and exercise. Keeping in mind your primary physical activity/sport, respond to each question (using the scale given), on the basis of how true that response is for you.**

|   |  | 1 (Not at all<br>true for<br>me) | 2                     | 3                     | 4                     | 5                     | 6                     | 7 (Very<br>true for<br>me) |
|---|--|----------------------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|----------------------------|
| 1 | Because it's fun.                                  | <input type="radio"/>            | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/>      |
| 2 | Because I like to do this activity.                | <input type="radio"/>            | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/>      |
| 3 | Because it makes me happy.                         | <input type="radio"/>            | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/>      |
| 4 | Because I think it's interesting.                  | <input type="radio"/>            | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/>      |
| 5 | Because I enjoy this activity.                     | <input type="radio"/>            | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/>      |
| 6 | Because I find this activity<br>stimulating.       | <input type="radio"/>            | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/>      |
| 7 | Because I like the excitement of<br>participation. | <input type="radio"/>            | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/>      |

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**How You Typically Act Towards Yourself in Difficult Times.**

**Please read each statement carefully before answering. Indicate how often you behave in the stated manner, using the following scale:**

|  | 1 (Almost never)      | 2                     | 3                     | 4                     | 5 (Almost always)     |
|--|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| 1 When I fail at something important to me I become consumed by feelings of inadequacy.                              | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 2 I try to be understanding and patient towards those aspects of my personality I don't like.                        | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 3 When something painful happens I try to take a balanced view of the situation.                                     | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 4 When I'm feeling down, I tend to feel like most other people are probably happier than I am.                       | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 5 I try to see my failings as part of the human condition.   | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 6 When I'm going through a very hard time, I give myself the caring and tenderness I need.                           | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 7 When something upsets me I try to keep my emotions in balance.   | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 8 When I fail at something that's important to me, I tend to feel alone in my failure                                | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 9 When I'm feeling down I tend to obsess and fixate on everything that's wrong.                                      | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 10 When I feel inadequate in some way, I try to remind myself that feelings of inadequacy are shared by most people. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 11 I'm disapproving and judgmental about my own flaws and inadequacies.  | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 12 I'm intolerant and impatient towards those aspects of my personality I don't like.                                | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

This scale is reproduced with permission. The citation that should be used in referencing this material is Raes, F., Pommier, E., Neff, K. D. & Van Gucht, D. (2011). Construction and factorial validation of a short form of the self-compassion scale. *Clinical Psychology & Psychotherapy*. 18, 250-255. No further reproduction or distribution is permitted without permission from the author.



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**Self-Rated Health**

In general, would you say your health is (select one):

- Excellent
- Very Good
- Good
- Fair
- Poor

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[http://www.cdc.gov/nchs/nhis/quest\\_data\\_related\\_1997\\_forward](http://www.cdc.gov/nchs/nhis/quest_data_related_1997_forward). 2013. The analyses, interpretations, and conclusions are those of the author and do not reflect those of NCHS.

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APPENDIX C

FOCUS GROUP INTERVIEW GUIDE

**Introduction Script** (adapted from Krueger & Casey, p97):*Welcome*

Welcome! It is so good to see all of you again. Thank you for taking the time to be part of our group today and discuss the Live Health Positive program. I'd like to introduce Maya Miyairi, she will be assisting me today. We met in grad school and she is now a faculty member at Utah State University. She is familiar with the topics we covered during our class.

*Overview of the Topic*

The purpose of our discussion today is to help me learn about your experience with the Live Health Positive class, both during the 10-week program and the past three months since it ended. Your insights are going to help me learn about what makes a wellness program worthwhile, and also how to make these types of programs better.

*Ground Rules*

There are no right or wrong answers. We expect that you are going to have different points of view. I encourage you to share your point of view even if it differs from what others have said. Also, as I pose questions, don't feel like you have to respond to me all the time. If you want to follow up on something that someone has said, you want to agree, or disagree, or give an example, feel free to do that. It's fine to have a conversation with each other about these questions - just please have that conversation for all of us to hear rather than having side conversations.

My role today is to ask questions, listen and make sure everyone has a chance to share. It's my turn to learn from you! Also, nothing that you say will hurt my feelings, so please feel free to share your experiences openly.

Maya and I are interested in hearing from each of you, so if you're talking a lot, I may ask you to give others a chance, and if you aren't saying much I may call on you. This is not meant to offend anyone or make you feel uncomfortable. We just want to make sure all of you have a chance to share your thoughts.

We're recording the session because we don't want to miss any of your comments. No names will be included in any reports and I will keep your identities confidential. Please help me keep everyone's comments confidential by not sharing what is said inside this room.

We have name tents here in front of us. They will help Maya remember your names as she takes notes.

If you have a cell phone or pager please put it on the silent mode, and if you need to answer please step outside to do so. Feel free to get up and get more refreshments at any

time if you would like. Let's take a brief moment to open any packages, purses, or other items that might make loud noises -- this will help me have a higher quality audio recording so that it's easier for me to hear your comments correctly.

### *Opening question*

Let's begin.

### **Interview Guide**

[ \* = key questions]

1. (5min) I'd like you to think back to when you first heard about this program. You may have seen a flyer for the Live Health Positive class, or maybe you heard about a Health Mastery Class. Can you tell me about what made you decide to sign up for this program? Let's go around the table for this first question and have each of you share. You can say "pass" if you really want to.
  - Probes: Were you looking for a health education program at the time? Were you interested in the incentive? Why did you choose this program instead of another one? Was there something you were hoping to gain from the program?
2. (15min) \*Let's talk about the class you participated in. I'd like to learn about your experience with the class. Let's start with the positive aspects. Tell me about the topics and activities that you liked, and what you liked about them.
  - Probe: What was it about those topics and activities that you liked (interesting, helpful, useful, energizing)?
3. (15min) \*While taking the class, did you experience a turning point, or a moment of inspiration, that made you want to make changes in your life, or changes in your health habits?
  - Probe: Tell me about that moment. What triggered it? What made it so inspirational?
  - Probe: What changes did you want to make as a result of that moment? (Probe for changes related to measured outcomes, such as intuitive eating, physical activity, and self-compassion.)
4. (10min) Let's talk about instances when the class did not meet your needs. Were there any topics or activities that you did not like?
  - Probe: Why didn't you like them (boring, hard to apply, already knew that information, uncomfortable)?
  - Probe: Are there any topics that felt rushed, that you would have liked to spend more time on?
  - Probe: Did you ever feel disappointed that the class wasn't what you were expecting? Tell me more about that.

5. (10min) \*Were there any ideas or changes that I suggested in class that didn't interest you or feel meaningful to you?
  - Rephrase: Maybe these were changes that you decided not to make, or a change that you only tried because it was a class activity?
  - Probe: Tell me about that. Why didn't it seem relevant or worthwhile to you?
6. (15min) \*Let's talk about what happened after the class ended. It's been about three months now since we had our last class together. Were there any changes that you started making, or intended to make, but that were difficult to stick with after the class ended? (Listen for self-compassion, intuitive eating behaviors, regular enjoyable exercise, letting go of weight loss goals.)
  - Probe: What made it challenging to maintain those changes?
  - Probe: What kind of information or on-going support (from the class, from colleagues, from family) could have been offered to make it easier to maintain those changes?
  - Probe: Are you still working on those changes, or did you let it go?
7. (7min) Are there any changes that you made because of this class that were easy to make part of your everyday life?
  - Probe: Why was that change easy?
8. (10min) \*In what ways has your quality of life been affected by this class?
  - Probe: Did the class contribute to any changes in your behaviors, your health choices, your mood, your energy, your zest for life? Tell me more about those changes.
  - Follow-up on comments about self-acceptance (what did they become more accepting of: appearance, abilities, need for perfection, etc).
9. (10min) \*\*All things considered, what was most valuable to you about this class and why? Let's go around the table again so that each of you can share.
10. Is there anything that I missed? For instance, is there something that you wanted to talk about that we haven't discussed yet? Or maybe you have recommendations for how to make the class better?

Thank you so much for sharing your experiences with me today. I've learned a lot from you, and it will help me understand how to make programs like this one better. Before we end, I'd like Maya to share a summary of some of the key points from our discussion. [Pause for Maya's 2 minute summary.] Does that capture the highlights of our conversation? Is there anything that you would like to add or change?

Thank you again for taking time to join our focus group today. As I listen to today's recording, I may have some follow-up questions. If I do, I'll e-mail you and give you a chance to share a little more about your experience. Also, at our last class in June, some of you said that you'd like to participate in an interview in addition to the focus group. If you would still like to do that so that we can discuss your experiences and thoughts more in depth, please let me know. Your insights are very valuable to me!

It will take me some time to go through all of the focus group and survey data from this class, but once I do, I will share the final report with you. If you have any questions,

please feel free to stay. Otherwise, thank you for being here today, it was great to see all of you again!

## APPENDIX D

### LIVE HEALTH POSITIVE: SCHEDULE AND LESSONS



### Live Health Positive: Program Schedule

| Date              | Description   |
|-------------------|---|
| Week of April 14  | Pre-test Survey (online survey link will be e-mailed)                               |
| April 23 @11:30am | Session 1<br>Welcome & Introduction to Module 1: Building the Foundation for Change |
| April 30 @11:30am | Session 2   |
| May 7 @11:30am    | Session 3   |
| May 14 @11:30am   | Session 4<br>Introduction to Module 2: Breaking Down Barriers                       |
| May 21 @11:30am   | Session 5   |
| May 28 @11:30am   | Session 6<br>Introduction to Module 3: Developing Intuitive Health Skills           |
| June 4 @11:30am   | Session 7   |
| June 11 @11:30am  | Session 8   |
| June 18 @11:30am  | Session 9   |
| June 25 @11:30am  | Session 10<br>Program Wrap-Up: Moving Forward                                       |
| Week of June 30   | Post-test Survey (online survey link will be e-mailed)                              |
| Week of Sept. 22  | Follow-up Survey (online survey link will be e-mailed)                              |
| Early October     | Focus Groups (Time: TBD)  |

## Live Health Positive Session 1

This lesson is designed to give an overview of the class and study, build rapport, and introduce the class philosophy.

### Objectives

- After coming to this class, participants will:
  - Understand the class structure and the research aspect of the program.
  - Know at least three other participants by name.
  - Be able to state at least six of the eight dimensions of health.
  - Have knowledge of the science behind the mind-body connection, and awareness that mental health influences physical health.

### Teaching Points

- Introduce class members, the class schedule, research component of the program, and ground rules for the class.
- Icebreaker activity.
- Discuss the dimensions of health.
  - Small groups: How many dimensions/attributes can they come up with?
  - Introduce the dimensions they missed.
  - Define all dimensions.
- Explain the mind-body connection.
  - Give examples of scientific studies showing the link between mental and physical health.
- Introduce the Resilient Drives
- Dismiss.

## Live Health Positive Session 2

This lesson is designed to help participants recognize and fulfill the resilient drives within them. Connections between the resilient drives and health will be discussed.

### Objectives

- After coming to this class, participants will be able to identify and explain the following resilient drives: essential, childlike, noble.

### Teaching Points

- Briefly review the dimensions of health and the mind-body connection.
- Introduce the Essential Resilient Drive
  - Define essential resilience.
  - Activity: Body Scan Meditation
  - Debrief: The body gives us signals regarding what it needs (e.g., sleep, movement, stretching); we will feel better physically through becoming aware of and responding to these signals.
- Introduce the Childlike Resilient Drive
  - Define childlike resilience.
  - Ask: Do they make time for this as an adult?
  - Activity: Experience the childlike drive (fun, humor, play, creativity) by playing with toys and games.
  - Debrief: Talk about the experience of playing. What did they feel or notice?
- Introduce the Noble Resilient Drive
  - Introduce and define noble resilience.
  - Activity: Creating Queendoms.
    - Debrief: Invite participants to share the person whose Queendom they are part of and why.
- Explain take-home activities
  - Handout of activities they can do to experience the drives we talked about.
- Dismiss.

## Live Health Positive Session 3

This lesson is designed to help participants recognize and fulfill the resilient drives within them. Connections between the resilient drives and health will be discussed.

### Objectives

- After coming to this class, participants will:
  - Be able to identify and explain the following resilient driving forces: character, synergistic, ecological, universal, intellectual.
  - Be able to give an example of a discrepancy between what a person thinks they want in life, and the sense of fulfillment they truly seek.

### Teaching Points

- Discuss take-home activity.
  - Ask: Which drives did they experience at home? What activities did they try? What outcomes or feelings did they notice?
- Introduce the Character Resilient Drive
  - Define character resilience.
  - Activity: Coat of Arms.
    - What comprises their moral code? What is the impact of acting outside their moral code (stress!).
- Introduce the Synergistic Resilient Drive
  - Define synergistic resilience.
    - This drive can be fulfilled by connecting more often or by having better quality connections (e.g., better communication).
- Introduce the Ecological Resilient Drive
  - Define ecological resilience.
  - Activity: Experience the impact music has on emotion.
- Introduce the Universal Resilient Drive
  - Define universal resilience.
    - May experience it through religion, spirituality, universal power, collective unconscious.
  - Activity: Intuitive Self-Assessment (handout).
    - Ask: Do they sense intuition in their lives? Do they respond to it?
- Introduce the Intellectual Resilient Drive
  - Define intellectual resilience.
- Fulfilling the Drives vs. What We Think We Want
  - What we really want is to fulfill the resilient drives. When we think about the resilient qualities we seek instead of the tangible things we want, we open up more pathways to fulfillment.
- Explain take-home activity
  - Resilient Drive Tracking sheet to increase awareness of feeling and fulfilling the drives.
- Dismiss.

## Live Health Positive Session 4

This lesson is designed to introduce the role of resonance in choosing meaningful goals, and help participants understand the value of self-compassion and increase their own self-compassion.

### Objectives

- After coming to this class, participants will:
  - Be able to define resonance and understand how the experience of resonance can help them set meaningful goals and make choices.
  - Recognize when they are acting with, and without, self-compassion.

### Teaching Points:

- Review: Fulfilling the Drives vs. What We Think We Want
- Introduce the Dream, to fulfill the resilient drives.
- Connect: Fulfilling the drives also improves our health.
- Activity: Analyze homework (Drive Fulfillment Logs)
  - Determine which drives they felt and/or fulfilled most and least often. Notice whether there were times when they felt a yearning, but did not respond with action. Analyze whether they became more aware and/or responsive of certain drives during the week.
  - Assign: Choose one drive to focus on fulfilling in the upcoming week and notice how it feels to act on that drive.
- Introduce Resonation.
  - There are many paths to fulfilling the drives; resonance helps us choose which to follow.
  - Goals/choices that resonate are more inspiring and personally meaningful.
- Segue to Module 2: Self-Compassion.
  - Ask: Are you your own worst barrier? Do you stand in the way of attaining goals you set for yourself?
- Introduce Self-Criticism
  - Discuss: How self-criticism affects health (e.g., stress, sleep, connectedness, healthcare, etc)
- Introduce Self-Compassion
  - Self-compassion is the opposite of self-criticism.
  - Watch: Watch Kristin Neff's TEDx talk about Self-Compassion.
    - Debrief: What stood out to them in the video?
- Explain take-home activity.
  - Practice self-compassion through guided journal prompts.
- Dismiss.

## Live Health Positive Session 5

This lesson is designed to help participants critically evaluate media messages that can be a source of self-criticism, and help them practice reframing negative self-talk.

### Objectives

- After coming to this class, participants will:
  - Be able to critically evaluate media messages.
  - Recognize negative self-talk.
  - Have skills for reframing negative self-talk into more self-compassionate thoughts.

### Teaching Points

- Review: Self-Compassion
  - Define the three constructs: Self-kindness, common humanity, and mindfulness.
- Introduce Media Literacy.
  - Discuss media as a source of self-criticism and dissatisfaction with ourselves.
  - Assign: Analyze advertisements that they see and recognize whether the advertisements attempt to create dissatisfaction in order to sell a product.
- Activity: Self-Talk
  - Describe examples of toxic thoughts
  - Activity: Changing Self-Talk
- Review: Homework
  - Invite class to share insights from last week's journaling assignment.
- Introduce Whole Person Living
  - See yourself as a whole person: the multiple dimensions of health, the resilient drives, and personal strengths.
  - Explain take-home activity.
    - Take the VIA Survey of Character Strengths (<https://www.authentic happiness.sas.upenn.edu>).
- Dismiss.

## Live Health Positive Session 6

This lesson is designed to help participants become more accepting and appreciative of their current selves, recognize how their body's wisdom can guide their exercise behaviors, and make connections between food quality and how they feel.

### Objectives

- After coming to this class, participants will:
  - Be able to define their top five signature strengths.
  - Know strategies for using their signature strengths in new ways.
  - Be able to define intuitive health.
  - Be able to define intuitive exercise.
  - Recognize how the body signals its need for movement.
  - Reflect on how their food choices make them feel physically.

### Teaching Points

- Introduce Self-Acceptance.
- Discuss Signature Strengths
  - Briefly define the concept of signature strengths, criteria for being a signature strength, and the research behind them.
  - Handout: Using signature strengths in new ways.
  - Activity: Signature Strengths Bingo
    - Meet people in the class and ask about their top signature strengths.
- Introduce Module 3: Intuitive Health.
  - Introduce intuitive health as fulfillment of the essential resilient drive.
  - Define intuitive health as recognizing and responding to the body's signals; rather than "mind over body."
- Introduce Intuitive Exercise.
  - Class Brainstorm: What are the benefits of exercise?
  - CDC recommendations for physical activity.
  - Introduce the concept of Joyful Movement.
  - Define Intuitive Exercise.
    - 1) Do enjoyable forms of physical activity; 2) Balance between body's needs for movement and rest.
  - Explain take-home activity: Intuitive Exercise.
- Briefly Introduce Gentle Nutrition guidelines.
  - Explain take-home activity: Real Food Tips for choosing less processed foods; recognize how these foods make them feel.
- Dismiss.

## Live Health Positive Session 7

This lesson is designed to introduce participants to more intuitive modes of eating and exercise.

### Objectives

- After coming to this class, participants will:
  - Be able to identify their hunger levels with the intuitive eating “hunger-satiety scale.”
  - Recognize whether they are currently engaging in intuitive exercise (joyful movement).

### Teaching Points

- Introduce Intuitive Eating
  - Define Intuitive Eating tenets: Eat when hungry; Stop when full; Choose foods that are satisfying.
  - Review: Gentle Nutrition.
    - Pay attention to how different foods make you feel.
  - Discuss: Reject the Diet Mentality.
  - Discuss: Honor Your Hunger
    - Ask: What does hunger feel like?
    - Explain hunger scale.
    - Explain take-home assignment: Intuitive Eating Log (focus on hunger).
    - Allow time for questions about hunger and take-home assignment.
- Review: Intuitive Exercise.
  - Ask: Who experimented with joyful movement? Has anyone found an activity that they enjoy and look forward to?
  - Assign: Keep experimenting until you find a type of physical activity you like.
  - Discuss: Mindful Movement.
- Dismiss.



Live Health Positive  
Session 8

This lesson is designed to develop participants' intuitive eating skills.

Objectives

- After coming to this class, participants will:
  - Be able to identify their fullness levels with the intuitive eating “hunger-satiety scale.”

Teaching Points

- Review: Honor Your Hunger.
  - Ask: Does anyone want to share their experiences with honoring hunger from the past week?
  - Activity: Hunger Log Analysis.
- Introduce: Respect Your Fullness.
  - Explain take-home activity: Hunger log, with a focus on fullness.
- Introduce: Discover Satisfaction.
  - Introduce: Savor Your Food.
    - Activity: Guided eating experience, emphasizing hunger, fullness, and satisfaction.
      - Bring chocolate, fruit, carrots, and let class choose which appeals to them most. Then, practice savoring food, engaging all senses, including sense of hunger and fullness before and after eating.
    - Explain take-home activity: Satisfaction sections of hunger log.

Live Health Positive  
Session 9

This lesson is designed to develop participants' intuitive eating skills.

Objectives

- After coming to this class, participants will:
  - Know a strategy for making peace with food.
  - Be able to recognize when they are eating for emotional reasons and have strategies for soothing emotions without food.

Teaching Points

- Review: Respect Your Fullness.
  - Ask: Does anyone want to share their experiences with respecting fullness from the past week? Did anyone become more aware of what subtle fullness feels like for them personally?
- Review: Discover Satisfaction.
- Activity: Fullness Log Analysis.
- Introduce: Make Peace with Food.
  - Discuss: Get rid of “good” and “bad” food labels and treat all foods as neutral.
  - Reminder: Honor Health. As you free foods based on taste preferences, also pay attention to how the foods feel in your body.
- Introduce: Emotional Eating.
  - Discuss: Steps to coping with emotional eating. Three questions:
    - Am I biologically hungry?
    - What am I feeling?
    - What do I need?
  - Activity: Brainstorm on what can be done to “feed your feelings,” or soothe oneself without food.
- Dismiss.

## Live Health Positive Session 10

This lesson is designed to help participants prepare for their journey now that the class is concluding.

### Objectives

- After coming to this class, participants will have a concrete vision for how to implement the lessons they learned in class in their lives.

### Teaching Points

- Review: Making Peace with Food, and Emotional Eating.
- Reminder: Study protocol.
- Review of all class sessions.
- Activity: Identity Formation.
  - Script to guide the class through their ideal day, envisioning the next 24 hours (a real day, not a fantasy) and how they will apply the class concepts moving forward.
  - Pause periodically during the visualization for participants to write notes and ideas to make their visualization more concrete.
- Explain take-home activity: Write a letter to themselves to open in a few months that reminds them of their most important takeaways from the class.

APPENDIX E

NON-DIET PROGRAM: SCHEDULE AND LESSONS

### Non-Diet Program: Program Schedule

| Date              | Description   |
|-------------------|---|
| Week of April 14  | Pre-test Survey (online survey link will be e-mailed)                               |
| April 23 @3:30pm  | Session 1<br>Welcome & Introduction to Module 1: Building the Foundation for Change |
| April 30 @ 3:30pm | Session 2   |
| May 7 @ 3:30pm    | Session 3   |
| May 14 @3:30pm    | Session 4<br>Introduction to Module 2: Breaking Down Barriers                       |
| May 21 @3:30pm    | Session 5   |
| May 28 @3:30pm    | Session 6<br>Introduction to Module 3: Developing Intuitive Health Skills           |
| June 4 @3:30pm    | Session 7   |
| June 11 @3:30pm   | Session 8   |
| June 18 @3:30pm   | Session 9   |
| June 25 @3:30pm   | Session 10<br>Program Wrap-Up: Moving Forward                                       |
| Week of June 30   | Post-test Survey (online survey link will be e-mailed)                              |
| Week of Sept. 22  | Follow-up Survey (online survey link will be e-mailed)                              |
| Early October     | Focus Groups (Time: TBD)  |

NDP  
Session 1

This lesson is designed to give an overview of the class and study, build rapport, and introduce Health At Every Size® (HAES®).

Objectives

- After coming to this class, participants will:
  - Understand the class structure and the research aspect of the program.
  - Know at least three other participants by name.
  - Be able to state at least six of the eight dimensions of health.
  - Be able to state the class philosophy, that health is not defined by weight.

Teaching Points

- Introduce class members, the class schedule, the research component of the program, and ground rules for the class.
- Icebreaker activity.
- Discuss the dimensions of health.
  - Small groups: How many dimensions/attributes can they come up with?
  - Introduce the dimensions they missed.
  - Define all dimensions.
- Introduce HAES principles.
  - Health ≠ weight.
  - Healthy choices ≠ willpower.
- Dismiss.

NDP  
Session 2

This lesson is designed to teach participants about the science underlying the Health At Every Size approach.

Objective:

- After coming to this class, participants will be able to state at least two myths or facts about weight and health that support the HAES paradigm.

Teaching Points

- Activity: Present myths and facts surrounding obesity and health through a Jeopardy-style game.
  - Jeopardy categories were:
    - Science (e.g., correlation  $\neq$  causation).
    - Dieting & Weight Loss (e.g., weight cycling).
    - HAES Philosophy (e.g., BMI as a poor measure of health).
    - Healthy Lifestyle Practices (e.g., “fit and fat”).

NDP  
Session 3

This lesson is designed to make participants aware of how they define “healthy habits,” and whether this definition changes based on a person’s BMI.

Objective:

- After coming to this class, participants will have a more global definition for healthy eating and exercise habits, that is not influenced by BMI.

Teaching Points

- Review: Myths and facts about weight and health.
- Activity: Case study of a fictitious patient
  - Present four scenarios with details about a fictitious patient’s eating and exercise habits. The only difference between scenarios is the patient’s age and BMI.
  - Participants get in pairs to discuss the case study and their “professional advice” to the patient.
  - Debrief: What was their reaction to the patient? Did their reaction and advice differ between groups? What does this say about our deeply ingrained beliefs about the relationship between weight and health, and what “healthy habits” are?



NDP  
Session 4

This lesson is designed to help participants become more accepting and appreciative of their current selves.

Objective:

- After coming to this class, participants will:
  - Be aware of the use of Photoshop in the media.
  - Be able to critically evaluate media messages.
  - Be able to explain how the “ideal” body type has changed throughout history.

Teaching Points

- Introduce Body Image and Media Literacy.
  - Presentation on body image throughout history and how the media influences body image.
  - Discuss: Media as a potential cause of feeling dissatisfied with oneself.
- Explain take-home activity: Evaluating media messages.
  - Analyze advertisements they see in the upcoming week and recognize how they use Photoshop or attempt to target emotions in order to sell a product.

NDP  
Session 5

This lesson is designed to help participants become more accepting and appreciative of their current selves.

Objective:

- After coming to this class, participants will be able to cite at least one aspect of their physical selves that they appreciate.

Teaching Points

- Activity: Analyzing advertisements
  - Use magazine ads to further develop critical media evaluation skills, by answering the following questions:
    - How many pages are advertisements?
    - How many ads aim to tell people how to change or fix their bodies or themselves?
    - How many ads are about self-acceptance?
  - Debrief: How media bombardment can influence self-image.
- Activity: What do they appreciate about themselves?
  - Body awareness meditation to emphasize things that they can appreciate about their body, such as its ability to heal from sickness.
- Suggested take-home activity: List 10 things they appreciate about themselves.
  - This may include both their body and their personality.

## NDP Session 6

This lesson is designed to help participants practice reframing negative self-talk, recognize how their body's wisdom can guide their exercise behaviors, and make connections between food quality and how they feel.

### Objectives

- After coming to this class, participants will:
  - Recognize negative self-talk.
  - Have skills for reframing negative self-talk into kinder thoughts.
  - Be able to define intuitive health.
  - Be able to define intuitive exercise.
  - Recognize how the body signals its need for movement.
  - Reflect on how their food choices make them feel physically.

### Teaching Points

- Activity: Self-Talk
  - Describe examples of toxic thoughts
  - Activity: Changing Self-Talk
- Introduce Module 3: Intuitive Health.
  - Define intuitive health as recognizing and responding to the body's signals; moving away from "mind over body."
- Introduce Intuitive Exercise.
  - Class Brainstorm: What are the benefits of exercise?
  - Although body weight is often presented as important for health, fitness is much more important (fit vs fat phenomenon).
  - CDC recommendations for physical activity.
  - Introduce the concept of Joyful Movement.
  - Define Intuitive Exercise.
    - 1) Do enjoyable forms of physical activity; 2) Balance between body's needs for movement and rest.
- Explain take-home activity: Intuitive Exercise.
- Briefly Introduce Gentle Nutrition guidelines. (~3min)
  - Emphasis on choosing less processed foods more often.
  - Explain take-home activity: Real Food Tips
- Dismiss.

## NDP Session 7

This lesson is designed to introduce participants to more intuitive modes of eating and exercise.

### Objectives

- After coming to this class, participants will:
  - Be able to identify their hunger levels with the intuitive eating “hunger-satiety scale.”
  - Recognize whether they are currently engaging in intuitive exercise (joyful movement).

### Teaching Points

- Introduce Intuitive Eating
  - Define Intuitive Eating tenets: Eat when hungry; Stop when full; Choose foods that are satisfying. Not a junk food diet.
  - Review: Gentle Nutrition.
    - Pay attention to how different foods make you feel.
  - Discuss: Reject the Diet Mentality.
  - Discuss: Honor Your Hunger
    - Ask: What does hunger feel like?
    - Explain hunger scale.
    - Explain take-home assignment: Intuitive Eating Log (focus on hunger).
    - Allow time for questions about hunger and take-home assignment.
- Review: Intuitive Exercise.
  - Ask: Who experimented with joyful movement? Has anyone found an activity that they enjoy and look forward to?
  - Assign: Keep experimenting until you find a type of physical activity you like.
  - Discuss: Mindful Movement.
- Dismiss.

NDP  
Session 8

This lesson is designed to develop participants' intuitive eating skills.

Objectives

- After coming to this class, participants will:
  - Be able to identify their fullness levels with the intuitive eating “hunger-satiety scale.”

Teaching Points

- Review: Honor Your Hunger.
  - Ask: Does anyone want to share their experiences with honoring hunger from the past week?
  - Activity: Hunger Log Analysis.
- Introduce: Respect Your Fullness.
  - Explain take-home activity: Hunger log, with a focus on fullness.
- Introduce: Discover Satisfaction.
  - Introduce: Savor Your Food.
    - Activity: Guided eating experience, emphasizing hunger, fullness, and satisfaction.
      - Bring chocolate, fruit, carrots, and let class choose which appeals to them most. Then, practice savoring food, engaging all senses, including sense of hunger and fullness before and after eating.
    - Explain take-home activity: Satisfaction sections of hunger log.

NDP  
Session 9

This lesson is designed to develop participants' intuitive eating skills.

Objectives

- After coming to this class, participants will:
  - Know a strategy for making peace with food.
  - Be able to recognize when they are eating for emotional reasons and have strategies for soothing emotions without food.

Teaching Points

- Review: Respect Your Fullness.
  - Ask: Does anyone want to share their experiences with respecting fullness from the past week? Did anyone become more aware of what subtle fullness feels like for them personally?
- Review: Discover Satisfaction.
- Activity: Fullness Log Analysis.
- Introduce: Make Peace with Food.
  - Discuss: Get rid of “good” and “bad” food labels and treat all foods as neutral.
  - Reminder: Honor Health. As you free foods based on taste preferences, also pay attention to how the foods feel in your body.
- Introduce: Emotional Eating.
  - Discuss: Steps to coping with emotional eating. Three questions:
    - Am I biologically hungry?
    - What am I feeling?
    - What do I need?
  - Activity: Brainstorm, “What can you do to “feed your feelings,” or soothe yourself, without food?
- Dismiss.

NDP  
Session 10

This lesson is designed to help participants prepare for their journey now that the class is concluding.

Objective:

- After coming to this class, participants will have strategies for:
  - Continuing to live the class concepts.
  - Self-advocating for the HAES approach.

Teaching Points

- Discuss activities and answer lingering questions from previous class.
- Activity: Self-advocacy
  - Have a plan in place for self-advocating for a health approach, rather than focusing on weight.
  - A letter is one tool that can help explain the desire to live with a HAES philosophy.
- Activity: Create a “quilt square” with 1-3 personally meaningful messages from the class, and put it somewhere that it can serve as a reminder.
- Explain take-home activity: Write a letter to themselves to open in a few months that reminds them of their most important takeaways from the class.

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