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The Influence of Appearance-related Possible Selves on Disordered Eating

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FLORIDA INTERNATIONAL UNIVERSITY

Miami, Florida

THE INFLUENCE OF APPEARANCE-RELATED POSSIBLE SELVES ON
DISORDERED EATING

A thesis submitted in partial fulfillment of the

requirements for the degree of

MASTER OF SCIENCE

in

PSYCHOLOGY

by

Aurelie Lucette

2012

To: Dean Kenneth G. Furton
College of Arts and Sciences

This thesis, written by Aurelie Lucette, and entitled the Influence of Appearance-Related Possible Selves on Disordered Eating, having been approved in respect to style and intellectual content, is referred to you for judgment.

We have read this thesis and recommend that it be approved.

Fatma G. Huffman

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Leslie D. Frazier, Major Professor

Date of Defense: June 19, 2012

The thesis of Aurelie Lucette is approved.

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ABSTRACT OF THE THESIS

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by

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Florida International University, 2012

Miami, Florida

Professor Leslie D. Frazier, Major Professor

This study explores the potential relationship between disordered eating and appearance-related possible selves. The sample consisted of 293 female college students (mean age=22). Participants were administered interviews consisting of demographic information, the Possible Selves Interview, the Eating Attitudes Test-26, The Physical Self Description Questionnaire, and the Rosenberg Self-Esteem Scale. More than half of the participants reported an appearance-related possible self (n=154). As expected, disordered eating scores were found to be higher for participants who reported an appearance-related possible self: $t(288)=-3.04, p<.005$. Findings reiterate that different constructs within the self-concept are proximal motivators for eating behaviors. The present study provides information for future research to explore the influence of possible selves on eating behaviors in women with eating disorders.

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CHAPTER I

INTRODUCTION

In Western countries, the unhealthy eating behaviors that permeate the society have received considerable attention from researchers across disciplines. In the last decades, the influence of self-representations on behaviors has emerged as a focal point in an attempt to shed some light on the development and maintenance of pervasive disordered eating and weight control habits. Constructs such as self-concept and self-esteem have gained attention and generated important research findings. However, research has yet to determine the role of possible selves on women's eating behaviors. Possible selves are future-oriented representations of the self, both positive and negative, that motivate behaviors (Markus & Wurf, 1987). As such, they may play a pivotal role in the engagement of disordered eating behaviors and influence body image.

The present study endeavors to understand disordered eating, encompassing clinical eating disorders and subclinical symptoms, by exploring the appearance-related possible selves of college women. Future-oriented perceptions and expectations hold a critical role in motivating actions, and their influence on one's current behaviors towards eating will be explored in this study. Furthermore, it is necessary to consider the self-feelings attached to one's self-perceptions when assessing the conceptual link between self-cognition and motivation (Markus & Nurius, 1986). Indeed, the activation of a possible self triggers specific affects related to self-esteem, which in turn have the potential to influence the shape and content of one's behaviors. Consequently, careful

consideration will be given to the impact of self-esteem on the relationship between appearance-related possible selves and disordered eating.

CHAPTER II

LITERATURE REVIEW

Overview of disordered eating

In western countries, the lifetime prevalence of major eating disorders, Anorexia Nervosa and Bulimia Nervosa, have been reported to range between 0.3% and 0.9%, and 1.0% and 1.5% of the general population, respectively (Hoek & Van Hoeken, 2003; Hudson, Hiripi, Pope, & Kessler, 2007). In addition, as much 3.5% of women reported having a binge eating disorder at some point in their lives (Hudson, Hiripi, Pope, & Kessler, 2007). Currently, the DSM-IV-TR (2000) offers a thorough classification of eating disorders, nonetheless they remain complex to classify as their core symptoms range along a continuum of severity. On the basis of the criteria established by the American Psychiatric Association (2000), as many as 8% to 15% of late adolescent and adult women will experience significant subclinical symptoms of eating disorders at some point in their lives (Hoek, 2006; Touchette, Henegar et al., 2011). An early study reported that as much as one third of undergraduate college women experienced some intermediate form of disordered eating (Mintz & Betz, 1998). Overall, negative attitudes about weight and shape and unhealthy approaches to weight control are salient in women without eating disorders between the age of 25 and 45 (Reba-Harrelson, Von Holle, Hamer, Swann, Reyes, & Bulik, 2009). Consequently, it has been proposed that affective symptomatology might be critical for differentiating between clinical eating disorders and less severe or subclinical variants (Garner, Olmsted, Polivy, & Garfinkel, 1984; Laessle,

Tuschl, Waadt, & Pirke, 1989; Stice & Agras, 1999). Given the frequencies of both sub-clinical and clinical behavioral manifestations of eating disorders in the young adult female population, empirical studies must clearly define and operationalize what they attempt to examine. Thus, in the present study we will refer to “disordered eating,” an operational definition that accounts for not only the symptoms found in clinical eating disorders but also the diversity of subclinical symptoms that are increasingly posing a significant threat to women’s health, well being and overall quality of life.

Dieting may have entered our daily vocabulary as a seemingly straightforward word; however, the repertoire of behaviors it covers is actually quite intricate, as dieting refers to a wide array of practices directed toward weight regulation. Advertised through popular culture and the media, are countless diets with alluring names that carry irresistible promises to lose weight. Nonetheless, most of them entail unhealthy behaviors. In the last decades, dieting has been associated a significant increase in a variety of symptoms and greater severity of eating disorders, especially in college women who are experiencing, emotional distress (Ackard, Croll, & Kerney-Cooke, 2002; Jacobi, Hayward, De Zwaan, Kraemer, & Agras, 2004; Keel, Baxter, Heatherton, & Joiner, 2007). Moreover, despite falling into a normal weight range, numerous women report a desire to be thinner and/or to lose weight (Fallon & Rozin, 1985; Grigg, Bowman, & Redman, 1996; Miller & Halberstadt, 2005; Vohs, Heatherton, & Herrin, 2001). As many as 74% of women ages 25 to 45 reported that their concerns about shape and weight were interfering with their happiness (Reba-Harrelson et al., 2009). As a result, regardless of their actual body weight, many college women engage in dieting behaviors

(Berg, Frazier, & Sherr, 2009; Krahn, Kurth, Gomberg, & Drewnowski, 2005), especially non-purging compensatory behaviors such as excessive exercise (Grigg et al., 1996).

The research on disordered eating is abundant and always growing; to date, however, no consensus has been reached regarding the risk factors involved in its etiology (Jacobi et al., 2004; Stice, 2002). Disordered eating has been consistently revealed as a very complex and multifaceted pathology. Numerous factors have been highlighted as having an influence in its development and maintenance, and yet, their role is still debated. Recently however, the self-system has offered an interesting avenue to understand the development of disordered eating.

Theoretical approach of the self-system

Beyond our awareness of existing as separate entities in the world, every one of us develops awareness into the way we see ourselves, including perceptions about our unique personality traits, physical appearance, competences, roles. The self-system is a rich multifaceted system that includes the self-concept, self-schemas, self-esteem, possible selves, and other self-perceptions concepts. From a very early age we accumulate knowledge about ourselves that is fundamental to the way we interact with our environment as it provides directions to our behaviors.

As part of the self-system, the self-concept forms a crucial cognitive structure (Cantor & Kihlstrom, 1987; Markus & Wurf, 1987) that provides a framework to give meaning to one's thoughts, feelings, values, and actions. In addition, the self concept influences goal-directed behaviors by providing incentives, plans, rules, and

consequences for one's actions (Markus & Herzog, 1992). As stated by Franken (1994, p. 443) "there is a great deal of research which shows that the self concept is, perhaps, the basis for all motivated behavior. It is the self concept that gives rise to possible selves, and it is possible selves that create the motivation for behavior." Early definitions in which the self concept was identified as a monolithic and stable structure have evolved over time, and it is now largely accepted as a dynamic and multifaceted construct, which encompasses not only our perceptions of the here and now but also who we could be in the future (Markus & Nurius, 1986).

Within the self concept, self-schemas are complex organizations of knowledge about the self in a specific behavioral domain that play a role in the motivation and regulation of goal-directed behaviors (Markus, 1977). Self-schemas have been conceptualized as a knowledge structure that reflects a domain of behavioral and emotional commitment (Stein & Corte, 2007), such as body weight (Markus, Hamill, & Sentis, 1987; Stein & Corte, 2007) or exercise (Kendzierski, 1988). Self-schemas can be further construed as the cognitive product of our interactions with the social environment (Cantor & Kihlstrom, 1987; Markus, 1977). In turn, those cognitive structures shape one's interactions with the social world by directing our attention to information relevant to a self-schema which is contained in our repertoire (Markus, 1977). Thus it follows that if body weight schemas are shared by a majority of people, individuals differ regarding the extent to which they will process weight-related information (Markus, Hamill, & Sentis, 1987). Therefore, physical and, more specifically, appearance self-schemas will

vary in importance and complexity across individuals and they will impact their behaviors and attitudes in different ways.

Research on possible selves. As stated earlier, the self-concept represents an interface between what was before, what might be in the future, and what is now (Cross & Markus, 1991). Within that framework, possible selves are a type of self-schemas that embody representations of one's self in the future. Specifically, they are future self-representations, both hoped for and feared, that have a motivational influence on one's sense of self and behaviors (Markus & Nurius, 1986). Possible selves are not vague ideas of what could be, on the contrary, they are specific and well-articulated images, visions, if you will, of the self at different stages of development projected into the future. Possible selves are individually unique conceptions that reflect all the developmentally and contextually relevant information that is absorbed into the self-concept.

Possible selves have valence and give direction and meaning to one's hopes and fears. "An individual's repertoire of possible selves can be viewed as the cognitive manifestations of enduring goals, aspirations, motives, fears, and threats" (Markus & Nurius, 1986). The individual alone gives life to his/her representations and therefore creates his/her own developmental path, adjusting to the changing opportunities and environmental contexts (Frazier & Hooker, 2006). Since possible selves are often private and primarily defined by the individual, they can be modified and assume new forms easily (Cross & Markus, 1991). However, even if private and individually personalized, possible selves are influenced by one's social environment from which social comparisons to salient others are drawn: "What others are now, I could become" (Markus

& Hazel, 1986). Despite the far-reaching and unique nature of the possible selves that individuals construct, research consistently demonstrates that they are closely tied to the sociocultural and historical environment one is embedded in (Frazier & Hooker, 2006). Thus, the sociocultural influences found in the media, peer culture, and gender-related values will therefore influence the modeling of possible selves.

Possible selves as motivators of behavior. Exploring possible selves is crucial as they hold important functions that can help us understand how individual behaviors are articulated within the self-concept. First, possible selves serve as incentives for future behaviors. By providing well-elaborated sense or image of the anticipated vision of self, possible selves allow more instrumental action in the direction of the hoped-for possible selves or against feared possible selves. For example, a woman may have developed images of herself as being overweight when she reaches 50 year-old. That possible self might motivate her to go to the gym late at night after a long day of work, or to systematically order salad when she goes to a restaurant. As stated by Cross & Markus (1991), “from an adult development perspective, possible selves are the blueprints for personal change and growth across the life span”. These future-oriented representations help with the organization of one’s actions and adaptation to new roles and changing constraints across the life span by selecting relevant information in pursuit of the possible selves. More specifically, self-directed behaviors are influenced by possible selves through self-regulatory processes that are associated to them. These self-regulatory processes, self-efficacy and outcome expectancy, are cognitive expectations enacted to help achieve or stay away from certain selves in the future. They further determine the

actions, plans, and behaviors that help one reach his or her possible selves (Bandura, 1989; Frazier & Hooker, 2006; Markus & Ruvolo, 1989).

Taking a step forward, researchers have propounded that balance within self-domains is critical as it enable maximal effectiveness (Frazier & Hooker, 2006; Markus & Ruvolo, 1989; Oyserman & Markus, 1988). In other words, a positive possible self will be a greater motivational resource if counterbalanced by a negative self in the same domain. Recall our example: A woman's feared possible-self of "being overweight" might be activated in her working self-concept. However, her fear would be more likely to lead her into inaction if not balanced by a self-representation of a positive outcome such as "being a thin and happy woman." Indeed, bringing the negative self alone in the working self-concept might prompt an individual into disorganized behaviors and create negative affects whether it could be offset by deploying as well a positive possible self that would increase the array of motivational resources and therefore lead to better effectiveness. The concept of balance, however, needs to be further examined in clinical research before definitive conclusions can be reached.

The interpretative framework of possible selves. A second function of possible selves is to provide a context for evaluation and appraisal of the current self. In other words, the significance attached to a given event in the "here and now" will largely depend on the realm of possibilities envisioned by an individual. Gaining three pounds might hold more significance for a woman who is afraid of being overweight when she reaches 50 years-old and prompt more distress than for one of her friends who does not picture herself as overweight in the future. On the basis of the significance attached to

that possible self and on the degree to which they are associated to strongly elaborated images and conceptions (Markus & Ruvolo, 1989), they can urge an individual to behave in specific ways. Among individuals, the strength of self-regulatory processes attached to a possible self will vary tremendously. Ultimately, individuals who believe that an outcome is attainable and likely to become a reality are more likely to endorse behaviors leading to the desired goal – or keeping them away from the feared outcome. Self-efficacy and outcome expectancy are indeed critical self-regulatory processes involved in behavior control (Hooker & Kaus, 1992).

To further understand how possible selves might motivate behavior, we need to delve into the central self-regulatory process attached to those representations. Markus & Nurius (1986) argued that beliefs about efficacy are especially significant when they are linked to well-elaborated possible selves. Perceived self-efficacy, or the perception of one's own ability to perform well a task or a behavior, is deemed critical in motivating behaviors toward a desired goal (Bandura, 1989). Hooker and Kaus (1992, 1994) found that perceived self-efficacy for hoped-for and feared possible selves was a strong predictor of engaging in health behaviors.

In the realm of research on eating disorders, feeling of inefficacy has been associated with dieting frequency (Ackard, Croll, Kearney-Cooke, 2002) as well as symptoms of eating pathology (Cooley & Toray, 1996). More recently, Berman (2006) observed that adults reporting lower scores on a measure of eating self-efficacy – one's ability to control eating – when dealing with negative emotions or when abundance of food was available experienced more weight preoccupation, feeling of ineffectiveness

and negative self-evaluation that can ultimately be associated with eating disorders. Thus, possible selves uniquely capture the self-directed nature of development and bring into focus the role of these individualized future-oriented representations in regulating behaviors.

Discrepancies within the working self concept

Activation of emotional states within the self. From an affective perspective, the activation of possible selves into the working self-concept triggers strong emotional states that will impact upon one's motivation to take action towards a desired outcome. For instance, Atkinson (1957) suggested that the activation of predominant negative possible selves could lead to inaction and behavioral inhibition. Indeed, while positive feelings associated with a positive self will prompt more positive outcomes, the overwhelming anxiety attached to a feared possible self is likely to impede one's performance by influencing the content and form of subsequent behaviors (Markus & Nurius, 1986; Markus & Ruvolo, 1989).

Moreover, affects can emerge within the self-concept as a result from a discrepancy between the actual self and the possible selves activated at a given time (Markus & Nurius, 1986). Researchers have demonstrated that the ability to achieve specific self-conceptions determines how individuals feel about themselves. In the self-discrepancy theory, Higgins (1987) suggested that individuals experiencing conflicting self-conceptions would be prone to emotional vulnerability. Ultimately, the discrepancy between the actual self and self-guides (i.e., the ideal self or ought self) triggers negative emotional-motivational states. Discrepancies between actual and ideal selves have proved

predictive of dissatisfaction with self (Higgins, Klein, & Strauman, 1985) and it was suggested that self-discrepancies might become even more influential in the course of adulthood (Rosenberg, 1979). Those negative emotional states can in turn be responsible for patterns of self-defeating behaviors (Strauman, 1989). Strauman, Vookles, Berenstein, Chaiken and Higgins (1991) observed that discrepancies between the actual and ought self were predictive of disordered eating. These authors suggested that the inability to reduce the discrepancy created enduring negative self-evaluation that, in turn, led to disordered eating. Moreover, as affects emerging within the working self-concept change from one time to another, one's sense of worth as an individual fluctuates accordingly. Rather than being a stable evaluation of one's worth, self-esteem fluctuates based on the valence of the self-schemas activated at a given times (Markus & Nurius, 1986).

Discrepancies and self-esteem. From that perspective, self-esteem can be best understood as being shaped by conceptions about the self. It has been demonstrated that each of the self-components (i.e., past self, now self, possible self, and probable self) significantly contributes to self-esteem (Markus & Nurius, 1986). The latter further highlights possible selves as an independent dimension that provided a unique contribution to one's motivational and affective state. Furthermore, the self-discrepancy was shown to account for a significant part of the variance in self-esteem measures (Pelham & Swann, 1989). Moreover, Knox, Funk, Elliott, and Greene Bush (1998) found that girls' feared physical-appearance possible selves (i.e., "being fat", "being obese") were related to measures of their self-esteem, thus highlighting the significance of

appearance-related concerns in self-evaluation in adolescent girls. Overall, these results showed that self-esteem is tied to the way every individual frames his or her self-views. One's sense of self-worth will therefore be colored by the meaning attributed to his or her self-conceptions and the context in which they emerge. Whether a woman is satisfied or not with her body weight and shape might extend to the way she evaluates herself overall and therefore will impact her overall self-esteem (McFarlane, McCabe, Jarry, Olmsted, & Polivy, 2001; Morris, Goldsmith, Roll, & Smith, 2001).

If conflicts or shifts within the self-concept can influence affective states, one's evaluation of her self-worth can in turn lead to detrimental behaviors. Indeed, self-esteem has been shown to be associated with dieting (Ackard, Croll, & Kerney-Cooke, 2002) and disordered eating (Moor, Vartanian, Touyz, & Beumont, 2004), thus becoming a risk factor for such pathologies (Button, Sonuga-Barke, Davies, & Thompson, 1996; Ghaderi, 2003; Polivy & Herman, 2002; Stice, Presnell, & Spangler, 2002). Altogether, research suggests that behaviors are significantly impacted by self-schemas, and that this relationship is best understood in light of the affects attached to the activation of specific self-conceptions.

Disordered eating and the self concept

In the last decades, body image has emerged as a salient concept in the study of disordered eating and further became a precursor to the interest in the influence of self-schemas on eating habits. Body image is a multidimensional construct that encompasses both self-perceptions and attitudes about one's physical appearance. Recently, the highly prevalent "normative discontent" and body dissatisfaction that is commonly found among

college-aged women has leveled-off and may be decreasing somewhat (Cash, Morrow, Hrabosky, & Perry, 2004; Rodin, Silberstein & Striegel-Moore, as cited in Polivy & Herman, 2007). This decrease may not reflect a change towards a more accepting attitude about weight, but rather a greater cultural integration or normalization of the beliefs and behaviors associated with disordered eating. Mounting evidence indicates that body image dissatisfaction is paramount in the etiology of emotional distress and disordered eating (Berg, Frazier, & Sherr, 2009; Perez & Joiner, 2003; Stice, 1994, 2002).

When exploring concerns with body weight and physical appearance, gender asymmetry is consistently apparent: women are much more unhappy with their body than men are (Fallon & Rozin, 1985; Miller et al., 2000; Mintz & Kashubeck, 1999). There is also ethnic and racial diversity in the extent of body dissatisfaction. There are also ethnic and racial differences in the extent of body dissatisfaction. For example, body dissatisfaction is even more prevalent in European American women as opposed to Africa American women. This inequity may be attributed to the finding that African American woman are less-likely to internalize culturally condoned beauty standards and to compare themselves to media figures than European American women (Botta, 2000; Jefferson & Stake, 2009). Hispanic women are not less affected by body dissatisfaction than European-American (Grabe & Hyde, 2006) and they might even be at greater risk for adopting eating disorders behaviors than previously acknowledged (Robinson, et al., 1996). Nevertheless, regardless of their actual weight and their cultural/ethnic background, most women tend to be dissatisfied with their body image, and describe

themselves as heavier than they actually are (DiGiacchino, Sargent, & Topping, 2001; Grigg, Bowman, & Redman, 1996).

Internalization of cultural standards. As mentioned above, self-perceptions of one's body have been associated with disordered eating. These constructs have been consistently described as an artifact of the cultural environment in which women are embedded. In Western countries, since the middle of the 20th century there has been a transition from curviness, as famously embodied by Marilyn Monroe, towards greater thinness as a cultural standard for attractiveness in women. This transition has been influenced by mainstream media that have focused greater attention on thinner figures, thus exposing adolescent girls and women to images, that when internalized, often leads to establishing unattainable goals. Repeated exposure to images reflecting an excessive thinness is not harmless (Harrison & Cantor, 1997), and it has been unveiled as a factor creating negative feelings in women about their own bodies (Groesz, Levine, & Murnen, 2002; Grabe, Ward, & Hyde, 2008). Although the media influence is not reflected in every individual, internalization of cultural standards of attractiveness appears to mediate the link between external messages on thinness and figure dissatisfaction (Cafri, Yamamiya, Brannick, & Thompson, 2005; Keery, van den Berg, & Thompson, 2004; Stice, Schupak-Neuberg, Shaw, & Stein, 1994; Tiggemann, 2003).

Adolescent girls and women invest in their bodies as a strategy to compensate for distressful identity disturbances (Vartanian, 2009). For example, Stein and Corte (2003, 2007) suggested that concerns about weight and shape stemmed from a failure to generate multiple areas of self-definition. To highlight the brevity of the problem, Bulik

and Kendler (2000, p. 1757) report the case of a patient who claimed that “a life without an eating disorder would be a life without an identity.” Taken together, this case and a good deal of prior research indicate that individuals who have failed to develop a sense of identity may be more vulnerable to internalization of cultural standards of appearance and beauty. Engaging in diet behaviors, considered acceptable and appropriate within the peer group and culture, may be considered an adaptive response for individuals who are struggling with an unstable sense of self. Body weight and shape perception influenced heavily by internalized cultural ideals have further been acknowledged as main motivational characteristics for women who are dieting or demonstrate disordered eating. These constructs can serve as an evaluative standard against which their self-worth is assessed (Polivy & Herman, 2007).

From body image to physical self concept. Examining the shift from body image, as a pictorial self-conception, to a semantic-based self-conception has enabled researchers to further explore the parameters of self-concept in women with eating disorders. In an earlier study using the self-schema model as the conceptual framework, Stein & Hedger (1997) observed that girls with a fat and out-of-shape self-schema had a lower self-esteem, significantly higher levels of emotional distress, and they reported more dieting habits – previously described as a proximal cause of disordered eating. Thus, the physical-appearance that was internalized in the form of a self-schema might have served as a guide for eating-related behaviors. More recently, research demonstrated that women with clinical eating disorders had less positive and more negative self-schemas than the control group (Stein & Corte, 2007). In addition, results showed that

women with Bulimia Nervosa carried a fat self-schema constantly available in memory, which seems to be a proximal motivator for eating disorders. However, the results did not suggest the availability of a fat self-schema in women with Anorexia Nervosa. If the perceptions of themselves in the here-and-now did not convey a sense of themselves as overweight, could it be their possible selves that prompted them to endorse unhealthy eating behaviors? It might “be a fear of being unattractive to others or overweight” that influences the most adolescent girls and women self-view as suggested by Knox (2006, p. 66). Moreover, as highlighted in the DSM-IV-TR (American Psychiatric Association, 2000), individuals diagnosed with Anorexia Nervosa “intensely fear gaining weight or becoming fat” regardless of their actual weight and that fear is observed as well in a majority of women struggling with subclinical symptoms of disordered eating. The apprehension of becoming overweight is strongly vivid in the experience of disordered eating and yet, the cognitive representations of the possible selves associated to this experience has received little to no attention.

Taken together, the literature to date demonstrates a clear pattern in which self-concept consistently predicts disordered eating behaviors. Evidence is amassing that there are linkages among various constructs of the self-system and cognitive and behavioral aspects of body image and disordered eating. Yet, so far, research on disordered eating has focused mainly on one’s perceptions of his or her physical self-concept in the here-and-now. Despite the evidence that future-oriented representations of the self (i.e., possible selves) are strong motivators of behaviors (Cross & Markus, 1991), investigation of the influence of possible selves on disordered eating remained extremely scarce.

Research questions

The present study will contribute to the knowledge on self-concept as it relates to disordered eating and further extend it by offering some insight into the association between possible selves of college women and their eating habits. This study will address the dearth of knowledge on eating disorders and possible selves and suggest some new direction for future research in that domain. Beyond a theoretical interest, the contribution of this study might yield significant implications for clinical practice and therapeutic treatment. Indeed, by helping to generate and/or recruit new possible selves into their working self-concept women's negative self-evaluation and associated disordered eating might be alleviated. This latter direction for future clinical work is further supported by research highlighting that the generation of possible selves might be a mechanism drawn upon in the identity exploration process (Dunkel & Anthis, 2001). Encouraging the development of a new array of possible selves might facilitate the adoption of healthier eating habits and a more positive sense of self in women, ultimately helping them exist outside of the symptoms of disordered eating. Since possible selves are not tied to social feedback and behavioral evidence, they might be responsive to change (Markus & Nurius, 1986).

Because disordered eating is prevalent in women in early adulthood, it is likely that they will have created appearance-related possible selves. Indeed, research has shown that young women report possible selves in the physical domain (Knox, Funk, Elliott, & Green Bush, 1998). Therefore, this study will explore disordered eating by looking at college women's appearance-related possible selves. First, we will explore the

repertoire of appearance-related possible selves of college women exhibiting disordered eating. More specifically, balance within the domain of appearance-related possible selves will be explored. That is, the presence of both a hoped-for appearance-related self with a countervailing feared appearance-related self. We will also explore the impact of appearance-related possible selves on disordered eating. Finally, we will explore how self-esteem may mediate or moderate the relationship between appearance-related possible selves and disordered eating. Ultimately, we ask the following questions: Do college women with disordered eating exhibit a specific pattern of possible selves? How do possible selves influence disordered eating? How does self-esteem influence the relationship between possible selves and disordered eating?

In this study, we will test several hypotheses: (1) College women with appearance-related possible selves will report more disordered eating than women who do not carry appearance-related possible selves. It is also expected that the configuration of women's possible selves can distinguish between their eating habits; specifically, women who display the least balance between their hoped-for and feared possible selves will report more disordered eating behaviors. (2) The second hypothesis is that there will be significant relationships among appearance-related possible selves, current self-schemas (as measured by the PSDQ) and disordered eating; (3) Finally, consistent with previous findings (Strauman, Vookles, Berenstein, & Higgins, 1991), we expect self-esteem to play a role in the relationship between appearance-related possible selves and disordered eating.

CHAPTER III

METHODOLOGY

Participants

A total of 293 female college students participated in this study. Ages ranged from 17 to 54. The mean age was 22 ($SD=5$). The majority of participants were Hispanic ($n=200$, 70.4%), followed by African American ($n=36$, 12.7%), White Caucasian ($n=26$, 9.2%), and Asian ($n=11$, 3.9%). For participants who considered themselves “other” ($n=11$, 3.9%), the ethnicities included Jamaican, Haitian, Bahamian, and Indian.

The majority of participants reported never being married ($n=258$, 88.7%), followed by married ($n=17$, 5.8%), divorced ($n=12$, 4.1%), separated ($n=3$, 1.0%), and widowed ($n=1$, 0.3%). For education, most participants reported themselves at the partial college level ($n=144$, 49.7%), followed by high school graduate ($n=103$, 35.5%), college graduate ($n=36$, 12.4%), graduate or professional degree ($n=5$, 1.7%), and grade school ($n=2$, 0.7%).

More than half of the participants considered themselves in good health ($n=168$, 57.9%). The others were as follow: 58 rated their health as “excellent” (20%), 55 rated it as “fair” (19%), and 9 rated it as “poor” (3.1%). Most of the participants reported that they were not currently on a diet ($n=212$, 72.9%) while 79 participants (27.1%) reported they were. Participants reported that they engaged in physical exercise on average 4.3 hours every week ($SD=3.53$).

The mean Body Mass Index (BMI) for the sample was 24.1 ($SD=5.22$). The BMI ranged from 15.53 and 50.17. The mean in pounds of the measured weight of participants was 139.79 ($SD=34.61$) and the mean of the self-reported weight was 138.87 ($SD=32.59$). Demographic information is presented in Table 1.

Procedure

Participants were recruited through the Florida International University Department of Psychology Research Participation System. Through Sona Systems Ltd. participants reserved a time and date at their convenience. Upon arriving in the Health & Aging Laboratory for their interview session, the interviewer explained the procedure and participants were encouraged to ask any questions or express any concerns they might have. Participants then signed an informed consent (See Appendix A). The administration of the interview took approximately 30 minutes. It began with demographic information (See Appendix B), followed by the scales described below. Once the interview was completed, the principal interviewer debriefed the participants, addressed any questions they might have and thanked them for taking part in the study.

Measures

The Possible Selves Interview. In order to assess possible selves of college women we used a face-to-face interview designed for the purpose of this study (See Appendix C). This procedure was initially designed by Cross & Markus (1991) and later modified by Hooker (1992). The investigator started by introducing the concept of possible selves to the participant, reading the following statement:

This part of the questionnaire addresses how you see yourself in the future. We all think about our futures to some extent. When doing so, we usually think about the kind of experiences that are in store for us and the kinds of people we might possibly become. Sometimes we think about what we hope to become –selves we hope to become in the future, or “hoped for possible selves.” Some hoped-for possible selves seem quite likely, like becoming a homeowner. Other future selves seem quite far-fetched but are still possible, for example, winning the lottery. Things that we do are not possible selves but are usually part of a possible self. Please take a few minutes and think about all your hoped-for possible selves. You may have just a few or you may have many.

The participants were asked to generate their own hoped-for possible selves. The investigator recorded the selves as they were verbalized. Then the possible selves were read to the participants who were asked to rank them in order of importance. The three most important were discussed further. For each of them, the participants were asked to provide a detailed description and explain why it is important to them. The participants were asked to discuss behaviors they engage in their daily life to ensure that the self would become a reality, as well as the obstacles they may encounter. They were also asked to explain how the self came into being.

A coding strategy derived from Frazier and Hooker’s (2006) coding scheme was used for the qualitative data (See Appendix D). Possible selves were coded into one of 18 categories corresponding to salient domains of the self (i.e., personal, physical, lifestyle, occupation, material, success, and others). In order to establish inter-rater reliability, the data were coded independently by the Principal Investigator and by a trained research

assistant who will be blind to the hypotheses. When discrepancies emerged discussion ensued until consensus was reached. Coded possible selves represent categorical data. At the data analytic level a dummy coded variable was constructed to allow for the analysis of presence/absence (coded present = 1; absent = 0) of specified domains.

Following Hooker et al. (1996), a secondary coding scheme was used to provide detailed information on the different expressions of appearance-related possible selves (See Appendix E). Salient features of appearance – as outlined in the literature review – were used to design the secondary coding schemes (weight, body image, dieting, exercise/activity, attractiveness/beauty, strength/muscularity, health problems/personal health, and other). This secondary coding scheme allows for a more conservative evaluation of the presence of appearance-related possible selves. The primary coding scheme allowed categorization of the self into domains expected to relate to body image and disordered eating on a general level (i.e., physical self, personal self, relationship self, success self). However, to further examine the specific details of the articulation of self-conceptions and disordered eating in possible selves and to examine the extent and depth to which these cognitive and behavioral antecedents of eating disorders are integrated into one's self-representations all the possible selves generated were coded using this secondary coding scheme. In order to establish inter-rater reliability, the data were coded independently by the Principal Investigator and by a trained research assistant who was blind to the hypotheses. When discrepancies emerged discussion ensued until consensus was reached. Secondary possible selves are also categorical data. At the data

analytic level a dummy coded variable was constructed to allow for the analysis of presence/absence (coded present = 1; absent = 0) of specified secondary domains.

Self-regulatory questions. Following the protocol, after three hoped-for possible selves have been generated, the participants answered a series of five questions that offer quantitative data on their self-regulatory processes. The questions address the distance of future self (“To what extent does this possible self describe you now?”), and (“To what extent would you like this possible self to describe you in the future?”), centrality (“How important is it for you to achieve this possible self?”), self-efficacy for achieving the self (“How capable do you feel of achieving this possible self”) and their outcome expectancy for achieving the self (“How likely do you think it is that this possible self will be achieved?”). The participant answered every question on a seven-point Likert scale for each of the three hoped-for possible self they generated.

The possible selves protocol was then be repeated to generate feared possible selves. The phrasing was then modified to represent selves that are to be avoided. Following the generation of the feared possible selves each participant also answered the self-regulatory questions for each feared self.

In addition, balance among hoped-for and feared possible selves was assessed, following Frazier, Cotrell and Hooker (2003), and Oyserman and Markus (1990; 1993; 1998). For data analytic purposes a dummy coded variable was constructed to assess balance. Specifically a self will be coded for BALANCE (0) if the participant has generated both a hoped-for and a feared possible self coded within the same category. A self will be coded as FEAR-ONLY (-1) if only a feared self was present in the category,

and the self will be coded as HOPE-ONLY(+1) if only a hoped-for self was present within the same category. Balance was examined at both the primary and secondary coding levels.

To summarize, the data recorded from the possible selves interview consisted of: a) qualitative data coded into primary categorical data on the content of hoped-for and feared selves (coded 1-18); b) qualitative data of the content of the possible selves coded into a secondary coding scheme (coded 0-8); c) coding representing presence or absence of balance; e) quantitative data pertaining to the self-regulatory processes related to each possible self.

Physical Self-Description Questionnaire (PSDQ). The PSDQ (Marsh, Richards, Johnson, Roche, & Tremayne, 1994) is a 70-item self-report that assess 10 facets of the physical self along with self-esteem. More specifically, the PSDQ contains 11 subscales, 9 of which explore perceptions of self that are related to specific areas of physical fitness and competence (Activity, Appearance, Body Fat, Coordination, Endurance, Flexibility, Health, Sport, Strength). One subscale is related to global physical competence and one subscale measures global self-esteem (See Appendix F). Each subscale contains 6 or 8 items. For each of the 70 statements, the participants must indicate the extent to which it applies to themselves, using a scale ranging from 1 (False) to 6 (True). Although the questionnaire was designed for use with adolescents, researchers (Marsh, 1997; Marsh et al., 1994) have postulated that the instrument should also be appropriate for use with adults; it has further been demonstrated appropriate for use in cross-cultural settings with adult subjects (Marsh, Asci, & Tomas, 2002). For the 9 subscales related to specific areas

of the physical self, scores range from 0 to 36 (for the 6-item subscales) and from 0 to 48 (for the 8-item categories). Each score reflects the individual's self-perception in regards to the specific domain of the physical self under scrutiny; with a higher score reflecting more positive self-representations. Specific subscales of the PSDQ were used to evaluate self-representations (i.e., self-schemas) related to particular domains of the physical self. Specifically, the Strength, Body Fat, Appearance, Health as well as the Physical-Activity subscales were used to derive information about participants' current representations pertaining to the physical self. Cronbach's Alphas for the 5 subscales that were used ranged from .83 to .93.

Eating Attitudes Test (EAT-26). The EAT-26 (Garner & Garfinkel, 1979; Garner, Olmsted, Bohr, & Garfinkel, 1982) is a 26-item self-report questionnaire (See Appendix G). This widely used standardized questionnaire was used to measure symptoms and concerns characteristics of eating disorders – yet the EAT-26 alone does not diagnose eating disorders. A score can be determined for each of the 3 subscales: dieting (ranging from 0 to 39), bulimia/food preoccupation (ranging from 0 to 18) and oral control (ranging from 0 to 21). For all the subscales, higher scores indicate greater concerns pertaining to disordered eating. A total score –ranging between 0 and 78 – is determined for each participant with scores at or above 20 indicating a high level of concern about dieting, body weight or problematic eating behaviors. An affirmative answer to one of the six behavioral questions suggests the need for an evaluation by a trained mental health professional. The Cronbach's Alpha coefficient for the EAT-26 was found to be .87.

Rosenberg Self-Esteem Scale (SES). A 10-item measure developed by Rosenberg (1965) was used to measure global self-esteem (See Appendix H). The 10 items are answered on a 4-point Likert scale; from strongly agree to strongly disagree. Five items require item-reversal, after item reversals scores are summed. The total score ranges between 0 and 30; and the higher the score, the higher the self-esteem. The SES has demonstrated good reliability and validity across a large number of different sample groups. The Cronbach's Alpha coefficient was found to be .80.

Body Mass Index (BMI). The BMI was calculated from the participant's weight and height as measured by the investigator. When those measures were not available, self-reported height and weight were computed. The BMI provides a reliable indicator of body fatness for most people and is used to screen for weight categories that may lead to health problems.

Demographic data. Demographic information were collected for each participant, including age, race, education, marital status, history of eating disorders, dieting habits, practice of physical activity, weight, height and health status.

Data analysis

Data were analyzed using SPSS. A probability level of .05 served as the criterion for determining significance. Prior to the study, a power analysis was conducted, and it was determined that with a sample size of 300 college women, we would have sufficient statistical power to detect moderate effect sizes.

As mentioned above, in this study, we tested several hypotheses:

- (1) College women with appearance-related possible selves will report more disordered eating (as indicated by the total score on the EAT-26) than women who do not display appearance-related possible selves. It is also expected that the configuration of women's possible selves can distinguish between their eating habits; specifically, women who display the least balance between their hoped-for and feared possible selves will have a higher total score on the EAT-26.
- (2) The second hypothesis is that there will be significant relationships among appearance-related possible selves, current self-schemas (as measured by the following subscales of the PSDQ: Strength, Body Fat, Appearance, Health and Physical Activity) and disordered eating.
- (3) The third hypothesis tests the mediational or moderating influence of self-esteem in the relationships among possible selves and disordered eating. Self-esteem as a mediator or moderator was explored.

CHAPTER IV

RESULTS

Demographic and descriptive data

Participants. A total of 293 female college students participated in this study. The mean age was 22 ($SD=5$). Ages ranged from 17 to 54. All participants were enrolled in Psychology classes at Florida International University and received a course credit for participating in the study. The mean Body Mass Index (BMI) for the sample was 24.1 ($SD=5.22$). On the basis of their BMI, 7% of the participants were considered underweight ($BMI<18.5$), 63% had a normal weight ($18.5<BMI<24.9$), 18% were overweight ($25<BMI<29.9$), and 12% were obese ($BMI>30$). The mean score on the EAT-26 was 12.38 ($SD=10.83$), and the scores ranged from 0 to 48. Within our sample, 20% of participants reported a score indicative of a higher risk for eating disorders (EAT-26 total score >20).

Possible selves. The most common hoped-for selves for the sample were in the domains of family (24.5%), occupation (21%), and education (19%). The most common feared possible selves were in the domains of personal characteristics (22.5%), family (14.3%), and success (9.5%). A total of 154 participants or 53% of the sample reported at least one appearance-related possible self. Within the sample, hoped-for appearance selves accounted for 9.7% of the total possible selves while feared appearance selves accounted for 17.2%. For students who reported an appearance-related possible self, the most common hoped-for selves were in the domains of health (29%), body image (27%),

and weight (26%). The most common feared selves within the secondary coding scheme were in the domains of weight (43%) and health (47%).

Possible selves and disordered eating

Hypothesis one examined the relationships between possible selves and disordered eating on two different levels. First, it was hypothesized that college women with appearance-related possible selves would report more disordered eating. Second, it was hypothesized that disordered eating would be associated with less balance in possible selves.

First, to determine the level of disordered eating (as indicated by the Total score on the EAT-26) for participants with and without an appearance-related possible self, an independent groups t-test was performed. There was a significant difference in disordered eating prevalence for female college students who reported an appearance-related possible self ($M=13.85$, $SD=11.09$) and those who did not report an appearance-related possible self ($M=10.12$, $SD=9.60$); $t(288)=-3.04$, $p<.005$. This result indicates that, on average, female college students who reported an appearance-related possible self displayed more disordered eating compared to those who did not report an appearance-related possible self.

In the second part of hypothesis one, we expected that women who displayed the least balance between their hoped-for and feared possible selves would display more disordered eating (as reported by the total score on the EAT-26). That second hypothesis could not be explored however due to the limited data available on balance of

appearance-related possible selves. Indeed, in our sample, not enough students reported both a hoped-for and feared appearance possible-self within the same domain.

Self-schemas and disordered eating

The second hypothesis explored the potential relationships between appearance-related possible selves, current self-schemas (as measured by the following subscales of the PSDQ: Strength, Body Fat, Appearance, Health, and Physical Activity), and disordered eating. First, it was anticipated that participants would differ in their self-schemas based on whether or not they reported an appearance-related possible self. More positive current self-representations were expected to be observed for participants who did not report an appearance-related possible self.

A between-subject multivariate analysis of variance (MANOVA) compared the means of the current self-schemas for participants with and without an appearance-related possible self. Five dependent variables were used: Strength, Body Fat, Appearance, Health, and Physical Activity. The independent variable was the presence and absence of an appearance-related possible self. Preliminary assumption testing was conducted to check for covariance matrices, linearity, univariate and multivariate outliers, homogeneity of variance-covariance matrices, and multicollinearity, with no serious violations noted. There was not a statistically significant difference between the participants with an appearance-related possible self and those without an appearance-related possible self on the combined dependent variables: $F(5, 290)=2.17, p=0.58$; Wilks' Lambda=.96; partial eta squared=.04. When the results for the dependent variables were considered separately, the only difference to reach statistical significance,

using a Bonferroni adjusted alpha level of $p=.003$, was Body Fat, $F(1, 290)=8.79$, $p=.003$, partial eta squared=.03. An inspection of the mean scores showed that female college students without an appearance-related possible self reported slightly more positive self-schemas ($M=26.80$, $SD=8.30$) on the Body Fat subscale than students with an appearance-related possible self ($M=23.84$, $SD=8.70$). These results indicate that not having an appearance-related possible self is related to more positive current weight-related self-schemas than having an appearance-related possible self.

The second part of hypothesis two assessed the relationship between appearance-related possible selves, current self-schemas (as measured by the subscales on the PSDQ) and disordered eating. It was anticipated that there would be significant relationships between appearance-related possible selves and disordered eating on one hand, and current self-schemas and disordered eating on the other hand. First, since appearance-related possible selves is a categorical variable, Spearman rank order correlations were performed. The relationship between appearance-related possible selves (as reported by participants on the Possible Selves Interview) and disordered eating (as measured by the EAT-26) was investigated using Pearson product-moment correlation coefficient. Preliminary analyses were performed to ensure no violation of the assumptions of normality, linearity, and homoscedasticity. There was a positive correlation between the two variables, $r_s=.18$, $n=290$, $p=.002$. These results indicate that reporting an appearance-related possible self is associated with higher disordered eating.

Pearson correlations were computed to assess the association between current self-schemas (as measured by 5 of the subscales of the PSDQ: Strength, Appearance,

Body Fat, Health, and Physical Activity) and disordered eating (as measured by the EAT-26). Preliminary analyses were performed to ensure no violation of the assumptions of normality, linearity, and homoscedasticity. There was a negative correlation between weight-related self-schemas (as measured by the Body Fat subscale of the PSDQ) and disordered eating, $r=-.36$, $n=291$, $p<.001$, with more positive self-schemas associated with lower disordered eating. There was also a negative correlation between appearance-related self-schemas (as measured by the Appearance subscale of the PSDQ) and disordered eating, $r=-.24$, $n=291$, $p<.001$, with more positive appearance-related self-schemas associated with lower disordered eating. Finally, there was a positive correlation between activity-related self-schemas (as measured by the Physical Activity subscale of the PSDQ) and disordered eating, $r=.19$, $n=291$, $p<.001$, with more positive activity-related self-schemas associated with higher disordered eating.

The final part of hypothesis two was to assess the predictive influence of appearance-related possible selves and current self-schemas on disordered eating. It was expected that possible selves would be the major predictor of disordered eating and current self-schemas (as measured by 5 of the subscales of the PSDQ) claiming additional variance beyond the appearance-related possible selves. A hierarchical linear regression was used to assess the ability of those two variables to predict levels of disordered eating. Preliminary analyses were conducted to ensure no violation of the assumptions of normality, linearity, multicollinearity and homoscedasticity. The two variables were entered in a stepwise-fashion. In step 1, appearance-relation possible selves were entered, explaining 3.1% of the variance in disordered eating. In step 2, the

subscales of the PSDQ were entered, explaining an additional 18.4% of the variance in disordered eating, R^2 change=.184, F change(5, 283)=13.24, $p<.001$. The total variance explained by the model as a whole was 21.5%, $F(6, 283)=12.90$, $p<.001$. In the final model, only self-schemas were significant –with 2 of the subscales actually being statistically significant. The Body Fat subscale recorded a higher beta value ($\beta=-.30$, $p<.001$) than the Physical Activity subscale ($\beta=.24$, $p<.001$). In sum, the data suggest that there is a direct effect of current self-schemas on disordered eating. Results are presented in Table 2.

Possible selves, self-esteem, and disordered eating

The third hypothesis examined the influence of self-esteem in the relationship between appearance-related possible selves and disordered eating. It was anticipated that self-esteem would serve as a moderator or mediator in that relationship.

First, self-esteem as a potential mediator was explored by performing a series of multiple regressions following Holmbeck (2006). The first two tests were intended to confirm a statistically significant linear relationship among the variables (appearance-related possible selves; self-esteem; disordered eating). The third test was intended to establish the relative predictive weight of each predictor and determine whether or not self-esteem mediates the linkages among appearance-related possible selves and disordered eating. Results did not indicate self-esteem as a mediator between appearance-related possible selves and disordered eating.

Second, self-esteem as a moderator was explored by performing a series of multiple regression analyses following Holmbeck (2006). Appearance-related possible selves and self-esteem were entered in a step-wise fashion, followed by the interaction of the two variables. Disordered eating was the dependent variable. The results suggest that self-esteem does not serve as a moderator in the relationship between appearance-related possible selves and disordered eating. Results are presented in Table 3.

CHAPTER V

DISCUSSION

The purpose of this study was to explore the relationship between appearance-related possible selves and disordered eating in female college students. The preliminary assumption for this research was that self-concepts are associated with eating behaviors. More specifically, it was expected that, not only current self-schemas, but also future-oriented self-representations would be connected to dysfunctional eating behaviors. This hypothesis was supported by the data to some extent. Indeed, the integration of concerns for appearance and weight into the repertoire of possible selves was found to be associated with higher disordered eating. Furthermore, the present study reiterates that different constructs within the self-concept are proximal motivators for eating behaviors.

Possible selves and disordered eating

The first goal of this study was to establish the relationship between future-oriented self-representations and disordered eating. The literature abounds with demonstrations of the relationship between current self-schemas and disordered eating, but the influence of future-oriented self-representations has yet to be explored. Our study expanded on earlier work by highlighting results supporting the existence of a significant association between disordered eating and possible selves. Indeed, our result highlighted that levels of disordered eating are higher for students who reported an appearance-related possible self.

Balance within self-domains is paramount to achieving better behavior effectiveness (Frazier & Hooker, 2006). We therefore expected that students who displayed unbalanced possible selves within the domain of appearance would be more prone to engage in dysfunctional behaviors, as measured by the level of disordered eating. The limited availability of data on balance of possible selves for the secondary coding scheme (appearance-related self-domains) did not allow us to explore the relationship between balance of selves and disordered eating. Our study however highlighted that, overall, students reported more feared possible selves than hoped-for possible selves within the domain of appearance.

Influence of the self-concept on disordered eating

The second goal of the study was to uncover the relationship between different constructs of the self-concept and disordered eating, and examine their predictive influence. Our findings indicate that students with an appearance-related possible self reported slightly less positive self-schemas. More specifically, the availability of an appearance-related possible self was associated with more negative self-schemas for the Body Fat and Appearance subscales. These results suggest the continuity of appearance-related concerns in one's self-concept, between current and future-oriented representations, and warrants that researchers explore the self-system as a dynamic entity. To that regard, Knox (2006) has previously suggested that women's fears of not being attractive or overweight might be the main precursor to their current self-schemas.

In addition, both appearance-related possible selves and self-schemas, and again, more specifically the Body Fat and Appearance subscales, were found to be linked to

disordered eating. The influence of self-schemas on disordered eating appears however to be circumscribed to weight and appearance-related domains, and not to other aspects of the physical self (Health, Strength). Those results parallel prior observations by Stein & Corte (2007) of the negative correlation between specific self-schemas (i.e., being fat and out-of-shape) and eating disorders. The present study further expands on previous findings by proposing the importance of possible selves in the study of dysfunctional eating behaviors.

If current self-schemas have been established as proximal behaviors for eating disorders, the influence of possible selves still has to be demonstrated. The existence of appearance-related possible selves might serve an instrumental role in motivating those dysfunctional eating behaviors. In the past, Cross & Markus (1991) have indeed stressed the motivational role of possible selves in shaping future behaviors. Our data did not support the assumption that appearance-related possible selves served as the main predictor of disordered eating, with self-schemas claiming additional variance. Indeed, our results unveiled a model in which self-schemas, and specifically schemas related to body weight and physical activity, were accounting for a significant part of the variance of disordered eating. This model is in line with previous results that found that self-schemas were indirectly predicting clinical and subclinical eating disorders through the availability of a fat self-schema (Stein & Corte, 2007; Stein & Corte, 2008). Our study stressed upon the importance of looking at identity development in an attempt to shed light on eating disorders.

Influence of self-esteem on disordered eating

The last goal of this research was to explore the effect of self-esteem in the relationship between possible selves and disordered eating. Self-esteem predicted disordered eating as demonstrated before (Moor, Vartanian, Touyz, & Beumont, 2004). However, our results did not support self-esteem either as a mediator or as a moderator of the relationships between possible selves and eating behaviors. Previous studies have suggested that the difference between disordered eating and clinical eating disorders might not only be quantitative, but also qualitative. Affective symptomatology for instance has been identified as a variable that might differentiate between subclinical and clinical dysfunctional eating behaviors (Stice & Agras, 1999). Seemingly, self-esteem might possibly serve as a moderator or mediator of eating disorders only for more severe eating disorders.

Limitations

This study has several potential limitations that ought to be addressed. First, the generalizability of the results is limited. The BMI scores of the students in the present study were comparable to those reported in previous studies in a representative sample of college students (Lowry, Galuska, Fulton, Weschler, Kann, & Collins, 2000), however the ethnic makeup of the sample is specific to South Florida and is therefore not representative of American college students. Hispanic population accounted for more than half of the sample, with White non-Hispanic, African American, and Asian American being only minimally represented. In addition, the ethnic distribution within the Hispanic sample is unique to South Florida and reflects the Cuban-American heritage

of the city of Miami. In a previous study, the frequent consumption of Cuban meals and primary use of Spanish in the household were associated with lower scores on the EAT-26 in a sample of Cuban-American women (Dulce, Hunter, & Lozzi, 1999). On the other hand however, previous studies suggested a higher prevalence of subclinical disordered eating behaviors and body dissatisfaction than previously reported in different samples of Hispanic women (Croll, Neumark-Sztainer, Story, & Ireland, 2002; Robinson, et al., 1996). These results suggest that disordered eating behaviors might differ across ethnicities within the Hispanic population. We can therefore hypothesize that different patterns of disordered eating might have been reflected in a more representative sample.

Secondly, the high prevalence of academic and occupational possible selves reported by the students has to be considered in the specific context of the study. Indeed, the fact that students were to receive a course credit for participating in the study might have caused a social desirability bias to some extent. Seemingly, expressing concerns of “being fat or overweight” in a face-to-face interview might have been construed as negatively connoted to some degree. A written self-report of possible selves might have elicited different possible selves from the students. Another important limitation is that disordered eating was a self-report measure and may therefore reflect some biases, especially due to the fact that dieting behaviors have been internalized and normalized in our society and might not be perceived as inherently dysfunctional. In addition, our decision to work with a non-clinical population might shed some light on the fact that some of the models we were expecting to observe were not supported. In fact, appearance-related possible selves were not reported predominantly in our sample, which

in turn might have not allowed us to observe the hypothesized relationships. In addition, the majority of the self-reported scores of disordered eating were low in our sample. In a clinical sample, we can suppose that the higher frequency of appearance-related possible selves generated by women might have enabled us to capture the influence of possible selves more distinctly.

Potential implications of the study

Fears and ideals about appearance in general, and weight particularly, have increased in our society in the last decades, to the point of becoming normative concerns. Our study highlights that those fears and hopes have been integrated into the self-concept, permeating not only our current self-representations, but also the future-oriented conceptions of our selves. Therefore, this study offers therefore a significant contribution to the literature on body image by introducing possible selves as a meaningful construct that can advance our understanding of the interplay between self-concept and appearance-related concerns. Moreover, women's account of future-oriented self-representations reflect that they hold more fears than hopes within the domain of appearance, with an emphasis on health and weight-related concerns. This result stresses the importance of further examining appearance-related feared selves as it relates to the development of women's self-identity.

Our study also sheds some light on the relationship between possible selves and disordered eating in a non-clinical population. It reiterates the centrality of self-concept to the understanding of disordered eating and introduces the idea that possible selves might offer an unexplored, yet meaningful, avenue to this field of research. As a discipline, we

need to shift our focus to a more dynamic conception of the self-concept, by accounting for appearance-related possible selves as significant correlates of dysfunctional eating behaviors. To that regard, the present study offers important directions for future research. In order to uncover the direct and indirect influence of possible selves on eating behaviors, it would be important to replicate the study in a clinical population of women with eating disorders. In addition, replicating the study across different diagnosis (anorexia nervosa and bulimia nervosa) might allow us to observe sensitive nuances in the effects of possible selves. For instance, it would be interesting to further explore how the fear of becoming overweight observed in women with anorexia nervosa is reflected in their possible selves.

The relationship we observed between appearance-related possible selves and disordered eating highlights the need to integrate future-oriented representations about the self in the prevention of disordered eating in women. Indeed, current self-schemas (“I am too fat”, “I need to exercise”) mentioned by women might only represent one layer of the foundation on which disordered eating develop, with possible selves potentially contributing to those behaviors as well. Possible selves are private in nature and can easily be left unnoticed and unvoiced; but educators and health care professionals need to address future hopes and weight-related fears that might be motivating unhealthy behaviors in women. Our study suggests that it might be useful to focus more specifically on feared possible selves within the domain of weight and health. Future studies will help clarify the interaction between possible selves and disordered eating and inform the development of targeted prevention campaigns and treatment interventions.

Table 1

Descriptive Data for Demographic Information

Variable	Total Sample	Appearance	Non Appearance
Age			
<i>Mean (SD)</i>	22 (5)	21(4.5)	22(5.4)
Marital Status			
Married	17.5%	7.1%	4.4%
Divorced	4.1%	5.2%	2.9%
Separated	1.0%	1.3%	0.7%
Widowed	0.3%	0%	0.7%
Never Married	88.7%	86.4%	91.2%
Education			
Grade School	0.7%	0%	1.5%
High School	35.5%	35.3%	36.0%
Partial College	49.7%	49.7%	49.3%
College	12.4%	13.1%	11.8%
Graduate School	1.7%	2.0%	1.5%
Ethnicity			
African American	12.7%	11.3%	13.5%
Asian	3.9%	2.0%	6.0%
Hispanic	70.4%	69.3%	72.2%
White Caucasian	9.2%	12.0%	6.0%

Other	3.9%	5.3%	2.3%
Health			
Excellent	20%	17.5%	22.2%
Good	57.9%	59.7%	56.3%
Fair	19%	18.2%	20.0%
Poor	3.1%	4.5%	1.5%
Physical Activity			
<i>Mean (SD)</i>	4.4(3.5)	4.3(3.2)	4.4(3.8)
ED Diagnosis			
Yes	3.8%	4.5%	2.9%
No	96.2%	95.5%	97.1%
Medical Diagnosis			
Yes	22.3%	24.7%	19.9%
No	77.7%	75.3%	80.1%
Current Diet			
Yes	27.1%	35.1%	18.4%
No	72.9%	64.9%	81.6%
BMI			
<i>Mean (SD)</i>	24.11(5.2)	25.2(5.7)	22.8(4.3)

Table 2

Hierarchical Linear Regression Analyses Predicting Disordered Eating From Appearance-Related Possible selves and Current Self-Schemas

DV = Disordered Eating				
Variables	β	R^2	R^2 Change	P
Step 1		.031		.003*
Appearance group	.176			
Step 2		.215	.184	.000*
Appearance group	.114			.034
Strength	-.019			.773
Appearance	-.163			.008
Body Fat	-.298			.000*
Health	-.050			.346
Physical Activity	.236			.000*

Note. *Significant at an alpha level of .05

Table 3

Hierarchical Linear Regression Analyses Examining Self-Esteem as a Moderator

DV = Disordered Eating				
Variables	β	R^2	R^2 Change	P
Step 1		.031		.003*
Appearance	.176			
group				
Step 2		.159	.005	.000*
Appearance	.196			.000*
group				
Self-Esteem	-.277			.000*
Appearance *	-.104			.174
Self-Esteem				

Note. *Significant at an alpha level of .05

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APPENDICES

Appendix A

Informed Consent



ADULT CONSENT TO PARTICIPATE IN A RESEARCH STUDY

THE INFLUENCE OF POSSIBLE SELVES ON EATING HABITS

PURPOSE OF THE STUDY

You are being asked to be in a research study. This study will be conducted by Aurelie Lucette as Principle Investigator under the direction of Dr. Leslie D. Frazier. The purpose of this study is to gain better understanding on how the representations of ourselves in the future might influence our eating habits.

NUMBER OF STUDY PARTICIPANTS

If you decide to be in this study, you will be one of 300 people in this research study.

DURATION OF THE STUDY

Your participation will require 30 minutes.

PROCEDURES

If you agree to be in the study, we will ask you to do the following things:

1. You will be asked a series of questions to answer about general demographic information, your eating behaviors, self-esteem and perceptions of yourself in the future.
2. All your answers will be written in an interview packet that does not identify you in any way.

RISKS AND/OR DISCOMFORTS

There are no known risks involved in the participation in this study.

BENEFITS

The following benefits may be associated with your participation in this study: Your participation might help you gain insight into the way you see yourself and your current eating behaviors. It will also help researchers find out how to better help women who struggle with disordered eating.

ALTERNATIVES

There are no known alternatives available to you other than not taking part in this study. However, any significant new findings developed during the course of the research which may relate to your willingness to continue participation will be provided to you.

CONFIDENTIALITY

The records of this study will be kept private and will be protected to the fullest extent provided by law. In any sort of report we might publish, we will not include any information that will make it possible to identify a subject. Research records will be stored securely and only the researcher team will have access to the records. The U.S. Department of Health and Human Services (DHHS) and/or the Food and Drug Administration (FDA) may request to review and obtain copies of your records. Your records may also be reviewed for audit purposes by authorized University or other agents who will be bound by the same provisions of confidentiality. A code number will identify all questionnaires and your name will not appear on the interview packet.

COMPENSATION & COSTS

You will receive 1 credit for your participation in that study. You will not be responsible for any costs to participate in this study.

RIGHT TO DECLINE OR WITHDRAW

Your participation in this study is voluntary. You are free to participate in the study or withdraw your consent at any time during the study. Your withdrawal or lack of participation will not affect any benefits to which you are otherwise entitled. The

investigator reserves the right to remove you without your consent at such time that they feel it is in the best interest.

RESEARCHER CONTACT INFORMATION

If you have any questions about the purpose, procedures, or any other issues relating to this research study you may contact Aurelie Lucette at aurelie.lucette@gmail.com. If you want further information about that research you may also contact Dr. Leslie D. Frazier at 305/348-2045.

IRB CONTACT INFORMATION

If you would like to talk with someone about your rights of being a subject in this research study or about ethical issues with this research study you may contact Dr. Patricia Price, the Chairperson of the FIU Institutional Review Board (IRB) at 305-348-2618 or 305-348-2494.

PARTICIPANT AGREEMENT

I have read the information in this consent form and agree to participate in this study. I have had a chance to ask any questions I have about this study, and they have been answered for me. I understand that I am entitled to a copy of this form after it has been read and signed.

Signature of Participant

Date

Printed Name of Participant

Signature of Person Obtaining Consent

Date

Appendix B

Demographic Information

Date: _____

1. How old are you? _____

2. What is your ethnic background?

African American

Asian

Hispanic

Native American

White Caucasian

Other

3. What is your current marital status?

Married

Divorced

Separated

Widowed

Never Married

4. What is the highest grade you have completed?

Graduate/professional degree

College graduate

Partial college

High school graduate

Completed grade school

5. Have you ever been diagnosed with an eating disorder?

Yes: How long ago? _____

No

6. Are you currently on a diet?

Yes

No

7. How many hours do you exercise every week? _____

8. Is your health:

Excellent

Good

Fair

Poor

9. Do you have any medically diagnosed or medically treated conditions?

Yes

No

If so, please list below any (all) diagnosed medical conditions and any associated treatments

10. What is your current weight? _____

11. What is your height? _____

Appendix C

POSSIBLE SELVES INTERVIEW PROTOCOL

Interviewers introduce the concept of possible selves by reading the following to participants:

This part of the questionnaire addresses how you see yourself in the future. We all think about our futures to some extent. When doing so, we usually think about the kind of experiences that are in store for us and the kinds of people we might possibly become. Sometimes we think about what we hope to become –selves we hope to become in the future, or “hoped for possible selves”. Some hoped-for possible selves seem quite likely, like becoming a homeowner. Other future selves seem quite far-fetched but are still possible, for example, winning the lottery. Things that we do are not possible selves but are usually part of a possible self. Please take a few minutes and think about all your hoped-for possible selves. You may have just a few or you may have many.

Hoped-for Possible Selves

Please take a few minutes and think about all of your HOPED-FOR POSSIBLE SELVES. You may have just a few, or you may have many. Identify as many as you can.

Then, please identify the 3 hoped-for possible selves that are currently the most important to you and order them in order of importance. You will use these chosen selves to respond to a series of questions that follow.

HOPED-FOR POSSIBLE SELF #1

(Provide a detailed description of the self)

1. Why is this hoped-for self important to you?

2. What kind of things have you done, or not done, recently to make this possible self happen in the future?

3. Are you experiencing any challenges or obstacles to achieving this self?

4. Now, thinking back to when you first decided that this hoped-for self was an important goal for the future: Can you identify an even, a personal realization, another person, or a particular influence that caused you to develop this possible self? (PLEASE DESCRIBE IN DETAIL):

5. To what extent does this possible self describe you now?

1	2	3	4	5	6	7
Not at all			Somewhat			Very much

6. To what extent would you like this possible self to describe you in the future?

1	2	3	4	5	6	7
Not at all			Somewhat			Very much

7. How important is it to you to achieve this possible self in the future?

1	2	3	4	5	6	7
Not at all			Somewhat			Very much

8. How capable do you feel of achieving this possible self in the future?

1	2	3	4	5	6	7
Not at all			Somewhat			Very much

9. How likely do you think it is that you WILL achieve this possible self in the future?

1	2	3	4	5	6	7
---	---	---	---	---	---	---

Not at all

Somewhat

Very much

HOPED-FOR POSSIBLE SELF #2

(Provide a detailed description of the self)

1. Why is this hoped-for self important to you?

2. What kind of things have you done, or not done, recently to make this possible self happen in the future?

3. Are you experiencing any challenges or obstacles to achieving this self?

4. Now, thinking back to when you first decided that this hoped-for self was an important goal for the future: Can you identify an even, a personal realization, another person, or a particular influence that caused you to develop this possible self? (PLEASE DESCRIBE IN DETAIL):

5. To what extent does this possible self describe you now?

1	2	3	4	5	6	7
Not at all			Somewhat		Very much	

6. To what extent would you like this possible self to describe you in the future?

1	2	3	4	5	6	7
Not at all			Somewhat		Very much	

7. How important is it to you to achieve this possible self in the future?

1	2	3	4	5	6	7
Not at all			Somewhat		Very much	

8. How capable do you feel of achieving this possible self in the future?

1	2	3	4	5	6	7
Not at all			Somewhat			Very much

9. How likely do you think it is that you WILL achieve this possible self in the future?

1	2	3	4	5	6	7
Not at all			Somewhat			Very much

HOPED-FOR POSSIBLE SELF #3

(Provide a detailed description of the self)

1. Why is this hoped-for self important to you?

2. What kind of things have you done, or not done, recently to make this possible self happen in the future?

3. Are you experiencing any challenges or obstacles to achieving this self?

4. Now, thinking back to when you first decided that this hoped-for self was an important goal for the future: Can you identify an event, a personal realization, another person, or a particular influence that caused you to develop this possible self? (PLEASE DESCRIBE IN DETAIL):

5. To what extent does this possible self describe you now?

1	2	3	4	5	6	7
Not at all			Somewhat			Very much

6. To what extent would you like this possible self to describe you in the future?

1	2	3	4	5	6	7
Not at all			Somewhat			Very much

7. How important is it to you to achieve this possible self in the future?

Then, please identify the 3 feared possible selves that are currently the most important to you and order them in order of importance. You will use these chosen selves to respond to a series of questions that follow.

FEARED POSSIBLE SELF #1

(Provide a detailed description of the self)

1. Why is this feared self important to you?

2. What kind of things have you done, or not done, recently to avoid this feared self in the future?

3. Are you experiencing any challenges or obstacles to avoid this self?

4. Now, thinking back to when you first decided that this feared self was an important goal for the future: Can you identify an event, a personal realization, another person, or a particular influence that caused you to develop this possible self? (PLEASE DESCRIBE IN DETAIL):

5. To what extent does this possible self describe you now?

1	2	3	4	5	6	7
Not at all			Somewhat			Very much

6. To what extent would you dislike this possible self to describe you in the future?

1	2	3	4	5	6	7
Not at all			Somewhat			Very much

7. How important is it to you to avoid this possible self in the future?

1	2	3	4	5	6	7
Not at all			Somewhat			Very much

8. How capable do you feel of avoiding this self in the future?

1	2	3	4	5	6	7
Not at all			Somewhat			Very much

9. How likely do you think it is that you WILL avoid this possible self in the future?

1	2	3	4	5	6	7
Not at all			Somewhat			Very much

FEARED POSSIBLE SELF #2

(Provide a detailed description of the self)

1. Why is this feared self important to you?

2. What kind of things have you done, or not done, recently to avoid this feared self in the future?

3. Are you experiencing any challenges or obstacles to avoid this self?

4. Now, thinking back to when you first decided that this feared self was an important goal for the future: Can you identify an event, a personal realization, another person, or a particular influence that caused you to develop this possible self? (PLEASE DESCRIBE IN DETAIL):

5. To what extent does this possible self describe you now?

1	2	3	4	5	6	7
Not at all			Somewhat			Very much

6. To what extent would you dislike this possible self to describe you in the future?

1	2	3	4	5	6	7
Not at all			Somewhat			Very much

7. How important is it to you to avoid this possible self in the future?

1	2	3	4	5	6	7
Not at all			Somewhat			Very much

8. How capable do you feel of avoiding this self in the future?

1	2	3	4	5	6	7
Not at all			Somewhat			Very much

8. How capable do you feel of avoiding this self in the future?

1	2	3	4	5	6	7
Not at all			Somewhat			Very much

9. How likely do you think it is that you WILL avoid this possible self in the future?

1	2	3	4	5	6	7
Not at all			Somewhat			Very much

Appendix D

Possible Selves Coding Schemes

- 01 **Personal:** includes references to personal attributes or attitudes, (“independent,” “intelligent,” or “harried,” “dissatisfied with my life”) and to philosophical or spiritual issues.
- 02 **Physical:** includes references to fitness (“in good shape”), attractiveness (“thin” or “fat”), or a physical problem (e.g., “disabled”).
- 03 **Abilities and Education:** includes references to creative or artistic expression (“to be a good artist”), to education (“to have an advanced degree,” “flunking out of school”), and to general knowledge (“becoming fluent in another language,” being well-read”).
- 04 **Lifestyle:** includes geographical references (“to live on the east coast”), references to living in a nursing home, and references to quality of life (“living a simpler lifestyle,” “having children more far away”).
- 05 **Family:** includes all references to marriage or divorce, spouse, grandparenting, relating to one’s own parents, and family illness. Anything family related.
- 06 **Relationships:** includes all references to friendship (“being a sympathetic friend,” “being alone and lonely”) and opposite sex relationships not clearly indicated as family.
- 07 **Occupation:** includes all references to jobs (“having a job I truly enjoy,” “having a boring job”), careers (“to be an effective therapist”), and retirement.
- 08 **Material:** includes all references to financial security (“self-supporting,” “poor”), and to specific possessions (“having a medium-sized, comfortable home”).
- 09 **Success:** includes all references to achieving goals (“to finish the story of my family,” “to be a failure”), and to recognition or fame (“becoming a dominant authority in my field”).
- 10 **Social Responsibility:** includes all references to volunteer work, community involvement, and activity relating to other social issues (“a leader in eliminating the treat of nuclear war”).
- 11 **Leisure:** includes all references to travel or vacations (“traveling with my husband as semi-retirees”), hobbies and recreational sports (“a good tennis player and runner”), and other leisure time activities (e.g., “a music appreciator”).
- 12 **Health:** includes all references to general health (“in poor health,” “long-lived”), specific diseases (“having Parkinson’s disease”), substance abuse (“being an alcoholic”). Anything pertaining to illness.

13 **Independence/Dependence:** includes all references to being dependent on others for activities of daily living (“I couldn’t take care of myself,” “not being able to cook for myself”). A hoped-for self could include independence (“maintaining my independence”), feared selves could include not being a burden to others.

14 **Death:** includes any reference to personal death (“having a prolonged death,” “having a terminal illness”)

15 **Bereavement:** includes all references to death of a loved one (“losing my spouse,” “widowed,” “child’s death”).

16 **Threats:** includes all references to events which were perceived to be threatening to the individual (“being raped,” “having my house broken into,” being stranded on the highway with a broken down car”).

17 **Caregiving:** includes explicit references to giving care or assistance to spouse (e.g., hoped-for self- “to continue caring for my wife” or feared self- “to be too sick to care for my husband”). Note that the last example makes reference to health, but is coded as caregiving because the reason she fears poor health is that she would no longer be caregiving for her husband.

18 **Cognitive:** includes all references to loss of cognitive functions or processes (“to loose my memory,” “to become senile,” “to loose my mind”).

Appendix E

Secondary Coding Scheme

Appearance possible selves

Possible self domain	Description
0 None	No explicit references to appearance or physical self.
1 Weight	Explicit references to body weight including concerns about body fat (“not weigh myself twice a day anymore”, “I don’t want to become obese”, and “I want to lose some body fat”).
2 Body image	Explicit references to body image (not related primarily to attractiveness or weight), including concerns about body shape (“I want to stay thin”, “to be more curvy”, and “be fit”).
3 Dieting	Explicit references to activities directed at controlling one’s weight (“I want to loose 23 pounds”, “lose enough weight to fit into my skinny jeans”, and “not eat too much carbs”).
4 Exercise/activity	Explicit references to sport activities (“to become a professional lacrosse player”, and “to go to the gym three times a week”).
5 Attractiveness/beauty	Explicit references to attractiveness and external beauty (not including inner beauty) (“I want to feel beautiful”, “to be sexy even after having three kids”, and “I want to stay pretty and be featured in a fashion magazine”).
6 Strength/Muscularity	Explicit references to body strength. The focus is on body strength and/or muscularity (or lack of strength and/or muscularity), not on the activities that led to that state (“I want to build on muscles in my lower body”, “to stay fit”, and “to get rid of my flabby arms”).
7 Health problems/Personal health	Explicit references to personal health including concerns pertaining to the consequences of one’s health on her appearance (“I am afraid to have diabetes if I don’t lose weight”, “to be able to carry a child in spite of my eating disorder”, and “not having high cholesterol as a result of my weight”).
8 Others	Other references that do no fit into the categories described above.

Appendix F

PHYSICAL SELF-DESCRIPTION QUESTIONNAIRE

This is a chance to look at yourself. **It is not a test.** There are no right answers and everyone will have different answers. Be sure that your answers show how you feel about yourself. **PLEASE DO NOT TALK ABOUT YOUR ANSWERS WITH ANYONE ELSE.** We will keep your answers private and not show them to anyone.

The purpose of this study is to see how people describe themselves physically. In the following pages you will be asked to think about yourself physically; For example, how good looking you are, how strong you are, how good you are at sports, whether you exercise regularly, whether you are physically coordinated, whether you get sick very often and so forth. Answer each sentence quickly as you feel now. Please do not leave any sentence blank.

Statement	FALSE	TRUE
1 When I get sick I feel so bad that I cannot even get out of bed	1 2 3 4 5 6	
2 I feel confident when doing coordinated movements	1 2 3 4 5 6	
3 Several times a week I exercise or play hard enough to breathe hard (to huff and puff)	1 2 3 4 5 6	
4 I am too fat	1 2 3 4 5 6	
5 Other people think I am good at sports	1 2 3 4 5 6	
6 I am satisfied with the kind of person I am physically	1 2 3 4 5 6	
7 I am attractive for my age	1 2 3 4 5 6	
8 I am a physically strong person	1 2 3 4 5 6	
9 I am quite good at bending, twisting, and turning my body	1 2 3 4 5 6	
10 I can run a long way without stopping	1 2 3 4 5 6	
11 Overall, most things I do turn out well	1 2 3 4 5 6	
12 I usually catch whatever illness (flu, virus, cold, etc.) is going around	1 2 3 4 5 6	

13	Controlling movements of my body comes easily to me	1	2	3	4	5	6
14	I often do exercise or activities that makes me breathe hard	1	2	3	4	5	6
15	My waist is too large	1	2	3	4	5	6
16	I am good at most sports	1	2	3	4	5	6
17	Physically, I am happy with myself	1	2	3	4	5	6
18	I have a nice looking face	1	2	3	4	5	6
19	I have a lot of power in my body	1	2	3	4	5	6
20	My body is flexible	1	2	3	4	5	6
21	I would do well in a test of physical endurance and stamina	1	2	3	4	5	6
22	I don't have much to be proud of	1	2	3	4	5	6
23	I am sick so often that I cannot do all the things I want to do	1	2	3	4	5	6
24	I am good at coordinated movements	1	2	3	4	5	6
25	I get exercise or activity three or four times a week that makes me huff and puff and lasts at least 30 minutes	1	2	3	4	5	6
26	I have too much fat on my body	1	2	3	4	5	6
27	Most sports are easy for me	1	2	3	4	5	6
28	I feel good about the way I look and what I can do physically	1	2	3	4	5	6
29	I am better looking than most of my friends	1	2	3	4	5	6
30	I am stronger than most people my age	1	2	3	4	5	6
31	My body is stiff and inflexible	1	2	3	4	5	6
32	I could jog 5 kilometres without stopping	1	2	3	4	5	6
33	I feel that my life is not very useful	1	2	3	4	5	6
34	I hardly ever get sick or ill	1	2	3	4	5	6
35	I can perform movements smoothly in most physical activities	1	2	3	4	5	6
36	I do physically active things (like jogging, dancing, bicycling, aerobics, gym, or swimming) at least three times a week	1	2	3	4	5	6

37	I am overweight	1	2	3	4	5	6
38	I have good sports skills	1	2	3	4	5	6
39	Physically I feel good about myself	1	2	3	4	5	6
40	I am ugly	1	2	3	4	5	6
41	I am weak and have no muscles	1	2	3	4	5	6
42	My body parts bend and move in most directions well	1	2	3	4	5	6
43	I think I could run a long way without getting tired	1	2	3	4	5	6
44	Overall, I am no good	1	2	3	4	5	6
45	I get sick a lot	1	2	3	4	5	6
46	I find my body handles coordinated movements with ease	1	2	3	4	5	6
47	I do lots of sports, dance, gym, or other physical activities	1	2	3	4	5	6
48	My stomach is too big	1	2	3	4	5	6
49	I am better at sports than most of my friends	1	2	3	4	5	6
50	I feel good about who I am and what I can do physically	1	2	3	4	5	6
51	I am good looking	1	2	3	4	5	6
52	I would do well in a test of strength	1	2	3	4	5	6
53	I think I am flexible enough for most sports	1	2	3	4	5	6
54	I can be physically active for a long period of time without getting tired	1	2	3	4	5	6
55	Most things I do, I do well	1	2	3	4	5	6
56	When I get sick it takes me a long time to get better	1	2	3	4	5	6
57	I am graceful and coordinated when I do sports and activities	1	2	3	4	5	6
58	I do sports, exercise, dance or other physical activities almost every day	1	2	3	4	5	6
59	Other people think that I am fat	1	2	3	4	5	6
60	I play sports well	1	2	3	4	5	6

61	I feel good about who I am physically	1	2	3	4	5	6
62	Nobody thinks that I am good looking	1	2	3	4	5	6
63	I am good at lifting heavy objects	1	2	3	4	5	6
64	I think I would perform well on a test measuring flexibility	1	2	3	4	5	6
65	I am good at endurance activities like distance running, aerobics, bicycling, swimming, or cross-country skiing	1	2	3	4	5	6
66	Overall, I have a lot to be proud of	1	2	3	4	5	6
67	I have to go to the doctor because of illness more than most people my age	1	2	3	4	5	6
68	Overall, I am a failure	1	2	3	4	5	6
69	I usually stay healthy even when my friends get sick	1	2	3	4	5	6
70	Nothing I do ever seems to turn out right	1	2	3	4	5	6

Appendix G

EATING ATTITUDES TEST (EAT-26)

This is a screening measure to help you determine whether you might have an eating disorder that needs professional attention. This screening measure is ***not designed to make a diagnosis*** of an eating disorder or take the place of a professional diagnosis or consultation. Please take the time to fill out the below form as accurately, honestly and completely as possible. All of your responses are confidential.

Please circle a response for each of the following questions

	Always	Usually	Often	Sometimes	Rarely	Never
1. Am terrified about being overweight.	3	2	1	0	0	0
2. Avoid eating when I am hungry	3	2	1	0	0	0
3. Find myself preoccupied with food	3	2	1	0	0	0
4. Have gone on eating binges where I feel I may not be able to stop	3	2	1	0	0	0
5. Cut my food into small pieces	3	2	1	0	0	0
6. Aware of the calorie content of foods I eat	3	2	1	0	0	0
7. Particularly avoid food with high carbohydrate content (bread, rice, potatoes, etc.)	3	2	1	0	0	0
8. Feel that others would prefer if I ate more	3	2	1	0	0	0
9. Vomit after I have eaten	3	2	1	0	0	0
10. Feel extremely guilty after eating	3	2	1	0	0	0
11. Am preoccupied with a desire to be thinner	3	2	1	0	0	0
12. Think about burning up calories when I exercise	3	2	1	0	0	0
13. Other people think I'm too thin	3	2	1	0	0	0

14. Am preoccupied with the thought of having fat on my body	3	2	1	0	0	0
15. Take longer than others to eat my meals	3	2	1	0	0	0
16. Avoid foods with sugar in them	3	2	1	0	0	0
17. Eat diet foods	3	2	1	0	0	0
18. Feel that food controls my life	3	2	1	0	0	0
19. Display self-control around food	3	2	1	0	0	0
20. Feel that other pressure me to eat	3	2	1	0	0	0
21. Give too much time and thought to food	3	2	1	0	0	0
22. Feel uncomfortable after eating sweets	3	2	1	0	0	0
23. Engage in dieting behavior	3	2	1	0	0	0
24. Like my stomach to be empty	3	2	1	0	0	0
25. Have the impulse to vomit after meals	3	2	1	0	0	0
26. Enjoy trying new rich foods	3	2	1	0	0	0

Please respond to each of the following questions

Have you gone on eating binges, eating much more than most people would eat under the circumstances, where you feel that you may not be able to stop?

No Yes

If yes, on average, how many times per month over the last 6 months? _____

Have you ever made yourself sick (vomited) to control your weight or shape?

No Yes

If yes, on average, how many times per month over the last 6 months? _____

Have you ever used laxatives, diet pills or diuretics (water pills) to control your weight or shape?

No Yes

If yes, on average, how many times per month over the last 6 months? _____

Have you ever been treated for an eating disorder?

No Yes

If yes, when? _____

Have you recently thought of or attempted suicide?

No Yes

If yes, when? _____

Appendix H

ROSENBERG SELF-ESTEEM SCALE

Below is a list of statements dealing with your general feelings about yourself. If you strongly agree, circle **SA**. If you agree with the statement, circle **A**. If you disagree, circle **D**. If you strongly disagree, circle **SD**

1. On the whole, I am satisfied with myself.	SA	A	D	SD
2. At times, I think I am no good at all.	SA	A	D	SD
3. I feel that I have a number of good qualities.	SA	A	D	SD
4. I am able to do things as well as most other people.	SA	A	D	SD
5. I feel I do not have much to be proud of.	SA	A	D	SD
6. I certainly feel useless at times.	SA	A	D	SD
7. I feel that I'm a person of worth, at least on an equal plane with others.	SA	A	D	SD
8. I wish I could have more respect for myself.	SA	A	D	SD
9. All in all, I am inclined to feel that I am a failure.	SA	A	D	SD
10. I take a positive attitude toward myself.	SA	A	D	SD