

RELATIONSHIP BETWEEN SELF AND PHYSICAL BODY:
AN EXAMINATION OF THE PHENOMENON OF DISCONNECT

by

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ABSTRACT OF THE DISSERTATION

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Different levels of connectedness characterize the relationship between self and body between individuals as well as across situations. Specifically, the potential of the physical body to be regarded as an object introduces the possibility of trait and state body disconnect. In this dissertation, body disconnect is defined as the psychological separation of the self from the physical body. Three studies explored the experience of disconnect in women and men. The first study validated a measure of body disconnect and examined the prevalence of the phenomenon in women and men. Results were generally consistent with hypotheses: the body disconnect measure demonstrated convergent and discriminant validity. However, women did not evidence greater trait levels of body disconnect than men. The second study tested the relative impact of appearance and competence threats on women and men's experience of state disconnect. Results indicated that competence threats caused women and men to psychologically disconnect from their bodies. Moreover, decreased appearance evaluation in response to competence threat mediated the relationship between threat and body disconnect. The third study tested a model of body disconnect and physical health correlates (i.e., fitness

and health orientations, performance of health behavior) of body disconnect. Results supported the proposed model such that body disconnect predicted physical activity and fruit and vegetable consumption. Increased levels of body disconnect were associated with less performance of health behavior. Moreover, body disconnect predicted fitness and health orientations, which mediated the relationships between body disconnect and physical activity and fruit and vegetable consumption, respectively. Together, the findings of the three studies suggest that men and women experience body disconnect and disconnect from their bodies when their appearances are threatened. Additionally, body disconnect is associated with health behavior. Discussion considers the active or passive nature of body disconnect as well as adaptive and maladaptive correlates. Implications of the research and intervention efforts to foster connectedness are also discussed.

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Relationship between Self and Physical Body:

An Examination of the Phenomenon of Disconnect

For over a century, theorists have experienced difficulty in distinguishing whether the body is “object” or “subject. For example, James (1890) struggled with the categorization of the physical body as “mine” or “us”. James’s analysis of self includes a division between the self as known and the self as knower, which is analogous to an object/subject distinction. Within this distinction, James deliberated about where the body was situated. He asserted the possibility of individuals being ready to disown their bodies in some situations and at other times being entirely their bodies, thus recognizing a fluctuation of the physical body between object and subject. Similarly, Meissner (1997) posited the constructs of “body image” and “body self” to incorporate both objective and subjective components of the physical body. Moreover, the feminist perspective of body image emphasizes the potential transformation of a woman’s physical body from subject to object implying the psychological separability of the self from the physical body (McKinley, 2002).

The confusion regarding the categorization of the physical body as “object” or “subject” and the potential psychological separability of the self from the physical body suggests that individuals may experience different levels of connectedness between self and body and these levels may differ across situations. Dillon (1980) presents this notion when discussing the phenomenal body as the fundamental ground of selfhood. Dillon posits that the recognition of one’s body as one’s own necessitates a distancing from the physical body. The distancing between the self and the physical body results in the distinction between body-object and body-subject, which is similar to the distinctions

made by James (1890) and Meissner (1997). Dillon (1980) further discusses identity as being bound to the historical continuity of one's body and, conversely, one's ability to distance oneself from that identity. He concludes that these two positions mark the terminal points on a continuum of selfhood and embodiment; thus, suggesting that the relationship between self and body may be characterized by different degrees of overlap. Thus, the potential of the physical body to be regarded as an object inspired my exploration of body disconnect. For the purposes of this research, *body disconnect* is defined as the psychological separation of the self from the physical body.

In this dissertation, I will argue that body disconnect varies from person to person and fluctuates in response to different situations. Moreover, I will argue that body disconnect occurs in both women and men, but may be more common among women and precipitated by different factors for women and men. Lastly, I will argue that body disconnect can contribute to an understanding of behavior; specifically, body disconnect may predict the practice of health behaviors. To make these arguments, I will describe the literature on the relationship between body and self including body image, objectification theory, and gender differences in body image, and the role of the body in health behavior.

Relationship between Body and Self

There are a number of recurring themes between historical and contemporary perspectives on body image. Two noteworthy themes emerged from the literature: (1) body image plays an integral role in understanding human experience and (2) body image is a complex construct (Pruzinsky & Cash, 2002). In regard to the first theme, Fisher (1990) documented a lengthy list of behaviors that are linked with measures of body

experience (e.g., psychotherapy and surgery) supporting the importance of the physical body to human experience. The second theme furthers our understanding of the first theme (i.e., the importance of the physical body in daily experience and behavior) and directs research regarding the physical body, more generally.

Body image is a complex and multidimensional phenomenon (Pruzinsky & Cash, 2002). Cash (2004) states that body image refers to the “multifaceted psychological experience of embodiment, especially but not exclusively one’s physical appearance” (p. 1). The variety of terms used to describe body image contributes to the complexity of the construct. Thompson, Heinberg, Altabe, and Tantleff-Dunn (1999) identified sixteen different terms and definitions associated with body image (i.e., “weight satisfaction, size perception accuracy, body satisfaction, appearance satisfaction, appearance evaluation, appearance orientation, body esteem, body concern, body dysphoria, body dysmorphia, body schema, body percept, body distortion, body image, body image disturbance, and body image disorder,” p. 10). Due to the multitude of body image variables and variety of both conceptual and operational definitions, various contemporary perspectives provide the best strategy in understanding the relationship between body and self. The psychodynamic, cognitive-behavioral, feminist, and information-processing theories of body image suggest different influences on the relationship between body and self and different avenues for further research.

Psychodynamic Perspective

Within the psychodynamic perspective, the body and its evolving mental representations form the basis of a sense of self (Krueger, 2002). Freud originally postulated that the ego was primarily a body ego, therefore solidifying the importance of

the body within a theory of the self. Meissner (1997) discusses the embodied self, which reflects an integration of the body as a vital component of the self. He also makes a distinction between the body image and the body self with the latter representing both the objective and subjective components, thus recognizing the importance of a conceptualization of body that acknowledges individuals' connection to the totality of their bodies. The existence of a "body self" includes the psychic experiences of body sensation and body functioning as well as the objective components associated with body image (Krueger, 2002).

Krueger's theory of the development of a body self further illustrates the importance of the body to our understanding of self. Krueger (2002) describes the development of a body self in three stages: early psychic experience of the body, defining body surface boundaries and distinguishing the body's internal states, and the definition and cohesion of the body self as a foundation for self-awareness. In the first stage, sensations that originate from the body, namely from tactile sensations that enable infants to discriminate their bodies from their surroundings, contribute to the sense of self. In the second stage, the awareness of a body image develops in relation to the further discovery of body boundaries in addition to awareness of internal states. In the third stage, the experiences and images of the inner body and the body surface are organized and integrated into a holistic account of the body (Krueger, 2002).

The theory suggests that researchers should conceptualize the physical body as including both objective (e.g., appearance) and subjective (e.g., functioning) components. The theory recognizes that individuals' conceptions of their physical bodies may vary according to the degree that each component is acknowledged, thus substantiating the

existence and assessment of body disconnect. Furthermore, the psychodynamic perspective informs theory related to the physical body in the sense that the totality of one's physical body (i.e., objectivity and subjectivity) is integral to his/her experience of the physical world. Moreover, one's experience of one's physical body may be a key predictor of a variety of behaviors.

Cognitive-Behavioral Perspective

Much current research related to the concept of body image originates from a cognitive or behavioral perspective. The cognitive-behavioral perspective emphasizes a multidimensional experience of the body (e.g., perceptual, cognitive, affective), which aids in precise identification and definition of body-image related variables. Moreover, the perspective acknowledges the multifactorial determinants of body experience, which is useful in understanding the antecedents of differential relationships between the body and self.

The cognitive-behavioral perspective makes multiple distinctions to facilitate precise conceptual and operational definitions of body-image related variables. For example, Cash and colleagues often differentiate between a perceptual and an attitudinal component of body image (Brown, Cash, & Mikulka, 1990; Cash, 1994; Cash & Henry, 1995). The perceptual component refers to the accuracy of individuals' judgment of their size, shape, and weight relative to their actual proportions (Brown et al., 1990; Slade, 1994). The attitudinal component integrates both affective and cognitive dimensions (i.e., feelings and thoughts regarding one's body; Cash & Green, 1986). The attitudinal component of body image differentiates body image evaluations from degrees of body image investment. Body image evaluation refers to the satisfaction or dissatisfaction

with one's body and body image while investment refers to the cognitive, behavioral, and emotional importance of the body for self-evaluation (Cash, 2002). The differentiation of cognitive and affective dimensions of body image as well as the acknowledgment of a distinction between body image dissatisfaction and disconnect contribute to the utility of this perspective.

Moreover, the cognitive-behavioral perspective emphasizes the role of cognitions in mediating behavior and social learning processes (Cash, 2002). The cognitive-behavioral model of body image recognizes multiple determinants of body image with a distinction between those determinants that are historical versus those determinants that are proximal or concurrent. Historical determinants refer to past events, attributes, and experiences (e.g., cultural socialization, interpersonal experiences, physical characteristics, and personality attributes) that predispose or influence how people come to think, feel, and act in relation to their body (Cash, 2002). Proximal determinants refer to current life events and consist of initiating and reinforcing influences on body image experiences (e.g., internal dialogues, body image emotions, and self-regulatory actions; Cash, 2002). The determinants suggest factors that contribute to trait body disconnect and the possibility of manipulating state body disconnect.

Feminist Perspective

The feminist perspective illuminates the possibility of individuals (i.e., especially women) experiencing their bodies in a distorted way. Feminist theories of body image rely on the social construction perspective, which emphasizes the role of societies in creating meaning. Consequently, feminist theories explain women's dissatisfaction with their bodies as a systematic social phenomenon rather than a result of individual

pathology (McKinley, 2002). Specifically, the duality established between the mind and body in Western societies and the pairing of men with the “mind” and women with the “body” contribute to women experiencing their bodies differently than men (McKinley, 2002).

The context of women’s body experience encourages the bodies of girls and women to be viewed as objects to be evaluated in terms of their congruence with cultural standards. Thus, the feminist perspective introduces the idea that girls and women are socialized to view their bodies from an observer’s perspective (i.e., “objectified body consciousness;” McKinley, 2002). Body surveillance (e.g., “during the day, I think about how I look many times”), internalization of cultural body standards (e.g., “When I’m not the size I think I should be, I feel ashamed”), and appearance control beliefs (e.g., “I think a person can pretty much look how they want to if they are willing to work at it”) perpetuates objectified body consciousness (McKinley & Hyde, 1996). The feminist perspective further substantiates the process of disconnect in women and suggests antecedents of this distorted body experience.

Cognitive Information Processing Perspective

This perspective posits body image as one type of cognitive bias. This bias originates from a self-schema that includes memories related to the body including body size/shape and eating (Williamson, Stewart, White, & York-Crowe, 2002). Body image influences interpretations of self-relevant events by drawing attention to body-related stimuli. More specifically, this cognitive bias may be manifested as an attentional bias, selective memory bias, selective interpretational bias, body size overestimation, and/or extreme drive for thinness (Williamson et al., 2002).

The cognitive information-processing perspective provides a context for understanding eating disorders, but also aids in understanding other behaviors related to the body. The information-processing perspective elucidates one way in which body image influences daily experience and subsequent behavior. This perspective differs from the other current perspectives (i.e., psychodynamic, cognitive-behavioral, and feminist) because the focus of the theory remains on the utility of body image constructs in behavior rather than definition (e.g., psychodynamic) or identifying factors that influence the development (e.g., cognitive-behavioral, feminist) of body image.

Conclusion

Current perspectives on body image illuminate multiple approaches to the study of an individual's experience of his/her physical body. Specifically, the psychodynamic perspective emphasizes the existence of objective and subjective components of body image as well as the variability in the extent to which these components contribute to body image. The cognitive-behavioral and feminist perspectives indicate the influence of social and cultural factors on men's and women's experience of their physical bodies. Moreover, the cognitive information-processing perspective underscores the importance of one's experience of one's physical body to daily experience and behavior.

Dissatisfaction and Disconnect

Cognitive-behavioral and feminist perspectives emphasize factors that contribute to the unique relationships between men and their physical bodies and women and their physical bodies (McKinley, 2002). The cognitive-behavioral perspective recognizes the influence of historical factors (e.g., media influence) on the development of body images (Cash, 2002). The feminist perspective recognizes the role of society in constructing the

meaning and importance of women's bodies (McKinley, 2002). Both perspectives provide a context for understanding experiences of dissatisfaction and disconnect with regard to physical bodies. An exploration of the experience of body dissatisfaction in women and men elucidates the processes that contribute to disconnect.

Women's Body Dissatisfaction

Females have greater body image concerns than males regardless of age (Striegel-Moore & Franko, 2002). However, some developmental time periods may be more critical to the development of a negative body image. As girls enter puberty, body image concerns become more salient and by the middle of adolescence, it is common for girls to report weight dissatisfaction, fear of further weight gain, and preoccupation with losing weight (Striegel-Moore & Franko, 2002). As women enter college, body image concerns may heighten due to the widely discussed phenomenon of significant weight gain during the first year of college (i.e., the "freshman fifteen;" Striegel-Moore & Franko, 2002). A desire to lose weight is often reported within the context of body satisfaction; thus, suggesting the pervasiveness of a desire for physical modification even within the context of seeming satisfaction (Polivy, Herman, & Pliner, 1990). Women continue to contend with issues related to their changing bodies throughout the life cycle; however, the psychological impact of body dissatisfaction decreases as women age. Relative to younger women, older women report less body monitoring, anxiety related to appearance, and dieting to lose weight (Striegel-Moore & Franko, 2002).

The cognitive-behavioral perspective recognizes the impact of historical factors such as early socialization regarding the meaning of one's physical appearance (e.g., media influence; Cash, 2002). The media in American culture emphasize the importance

of beauty and thinness in women (Thompson et al., 1999). Physical attractiveness is more important for women than it is for men, which contributes to women's preoccupation with achieving physical perfection (Gimlin, 2002). The wide dissemination of the cultural prescription of beauty and thinness through books, magazines, television, and the Internet contributes to women's drive to achieve this standard of attractiveness (Cash, 2002). Unfortunately, the impossibility associated with the average woman's ability to attain these criteria facilitates the experience of body dissatisfaction (Thompson et al., 1999).

American women experience substantial dissatisfaction related to their physical appearance. Cash and Henry (1995) conducted a national survey of adult women's (N = 803) body images in the United States. The results of the investigation indicated considerable body image dissatisfaction; almost half of the women reported global, negative evaluations of their looks and concerns with being or becoming overweight (Cash & Henry, 1995). Additionally, over a third of the women conveyed body image discontent averaged across eight distinct physical areas. Of these women, the majority reported dissatisfaction with their middle or lower torso, weight, or muscle tone (Cash & Henry, 1995). In relation to women's body image dissatisfaction, the prevalence related to both the desire to achieve the "ideal female shape" and the discrepancy between one's actual versus ideal shape has been termed "normative discontent" (Rodin, Silberstein, & Striegel-Moore, 1985).

The feminist perspective recognizes the impact of societies in creating and maintaining negative body images. Rubin, Nemeroff, and Russo (2004) list the following generally articulated societal ideologies about women's bodies in Western culture: a)

women's bodies are never fine as they are, b) women should be constantly aware of and attending to their bodies, c) women should suppress their bodily appetites, d) women's bodies portray their mortality, e) women's bodies are objects and commodities, f) women's bodies exist to serve others, and g) beautiful women are thin and Anglo-featured. These ideologies contribute to women's dissatisfaction with their physical bodies as well as the experience of disconnect from one's physical body.

Additionally, feminist theorists assert that the cultivation of dissatisfaction in women is a way of maintaining their subordinate position (Grogan, 1999). Unattainable standards of beauty cause women to constantly monitor their physical bodies, consequently utilizing all of their available resources in the pursuit of a body that adheres to societal standards (Grogan, 1999). For example, a narrow, Westernized conception of beauty requires most women to engage in a series of rituals (e.g., shaving, moisturizing, cosmetic application, dieting) that deplete her available store of time, energy, and/or money. Women's dissatisfaction with their physical bodies mobilizes the pursuit of physical perfection, but encumbers the pursuit of non-appearance related accomplishments.

Men's Body Dissatisfaction

Research suggests that women are not alone in their awareness of how they appear to an observer; men self-objectify too (Hebl, King, & Lin, 2004; Mishkind, Rodin, Silberstein, & Striegel-Moore, 1986). In contrast to women, men's appearance concerns appear rooted in a different physical ideal. Just as women strive to achieve a thin ideal, men work diligently to achieve a muscular, mesomorphic ideal (Mishkind et al., 1986; Rosen & Gross, 1987). Broad shoulders, a small waist, and well-built chest and arm

muscles characterizes the mesomorphic ideal (Mishkind et al., 1986). According to Pope, Olivardia, Gruber, and Borowiecki (1999), just as the female ideal has become increasingly more slender, making it less achievable for the average woman, the male ideal has become increasingly muscular over the past decades, making it less achievable for the average man. As more men find themselves unable to achieve the sociocultural image of the male ideal, body image dissatisfaction increases, which is similar to the process that occurs in women who find themselves unable to achieve the ideal physical form prescribed for them (Pope et al., 1999).

The awareness of one's failure to meet sociocultural standards for appearance can lead to body image dissatisfaction. Mishkind and colleagues (1986) investigated men's dissatisfaction with figures that do not conform to society's ideal male form. Results indicated men's awareness of their own physical bodies and awareness of whether their own bodies met cultural prescriptions for male bodies. Moreover, men indicated that they perceive that other men and women see their flaws when viewing them and, consequently, judge them based on those flaws (Mishkind et al., 1986). Similarly, Hebl and colleagues (2004) assessed how men felt about their bodies, what the ideal form was for men, what the benefits of achieving this ideal were, and how this ideal form relates to masculinity. Results of this study revealed that men often believed that they did not fit this male ideal and desired many changes in weight and muscularity. Moreover, the pressure placed on men to achieve their ideal physical form led to maladaptive psychological and physical effects on men, similar to those previously observed in women (Hebl et al., 2004). Moreover, correlations between how closely a man's body resembles a man's ideal body and how satisfied he is with himself replicated similar

findings in women. Specifically, Hebl and colleagues (2004) found that men perceive that they will be happier and accepted by society if they conform to the male physical ideal.

Importantly, men not only measure themselves against the physical appearance of the bodies of other men, but, more importantly, they measure the *physical effectiveness* of their bodies against that of other men (Lerner, Orlos, & Knapp, 1976; Mishkind et al., 1986). In fact, competence is equally as vital to the body image of men as attractiveness is to women. If a man's body appears muscular, he believes that he is seen by others as more competent. To a man, the importance lies not in how *attractive* he appears, but rather in how *competent* he appears. Thus, muscles are attractive because of the competence that they signify such that equating a competent appearance with attractiveness makes muscularity itself attractive even if it is not actually indicative of physical competence (Lerner et al., 1976).

Lack of muscularity is associated with weakness and lowered physical competence (Lerner et al., 1976; Rosen & Gross, 1987). This explains why most normal weight, underweight, and even some overweight men desire weight gain (Raudenbush & Zellner, 1997; Rosen & Gross, 1987). Actual *weight* gain may not be the goal, though. Men express a desire to be bulkier in order to *appear* more physically capable (McCreary & Sasse, 2000; Mishkind et al., 1986). According to Huenemann, Shapiro, Hampton, and Mitchell (1966), the only body part usually described by men as too large is the stomach. This exemplifies a common desire to conform to society's ideal mesomorphic male form, with large pectoral muscles and biceps and a noticeably smaller, though not less muscular, waist and stomach. Also, pectorals and biceps, which are often the body parts

that men desire to enlarge the most, signify physical effectiveness, as they create a muscular, and therefore competent, appearance (Drewnowski & Yee, 1987; Huenemann et al., 1966; Mishkind et al., 1986).

Body Disconnect

The experience of body dissatisfaction may be an antecedent of the phenomenon of body disconnect, or a psychological separation of the self from the physical body. The physical body should be conceptualized to include appearance and functioning, meaning that the concept of the physical body integrates both external and internal characteristics. As outlined above, there are commonly held beliefs regarding the female and male bodies in the culture of the United States. These beliefs contribute not only to body dissatisfaction, but also to the experience of body disconnect. Focusing on the appearance of one's physical body necessitates a distancing of the self from the physical body such that the physical body is at a perceptual distance. Additionally, ideas regarding bodies as never being acceptable as they are contribute to men's and women's experience of their bodies as "other," or separate from one's sense of self.

Objectification Theory and Women's Self-Objectification

Although both the cognitive-behavioral and feminist perspectives highlight the cultural and societal factors implicated in women's experience of disconnect, objectification theory (Fredrickson & Roberts, 1997) most clearly contributes to an understanding of women's experiences of their physical bodies. Objectification theory details women's experiences of their bodies in a culture that sexually objectifies the human body, particularly the human female body (Fredrickson & Roberts, 1997). The theory elucidates the impact of cultural attitudes towards bodies (i.e., sexual

objectification) on personal attitudes (i.e., self-objectification) and supports the process of disconnect in women.

Sexual Objectification. Sexual objectification refers to the experience of being treated as a body, or a collection of body parts, for the use of or consumption by others (Fredrickson & Roberts, 1997). Sexual violence and sexual evaluation inundates our culture with sexualization (Fredrickson & Roberts, 1997). Sexual evaluation through gaze, which is both subtle and deniable, pervades our culture (Fredrickson & Roberts, 1997). Sexualized gazing, or visual inspection of the body, always presents the potential for sexual objectification, which is generally outside of women's control (Fredrickson & Roberts, 1997). Gaze occurs in a variety of domains. First, sexualized gazing may occur in interpersonal and social encounters. Women are more often looked at than men, are more likely to feel "looked at," have more unreciprocated gaze directed at them, and more often receive sexually evaluative commentary while being gazed at (Fredrickson & Roberts, 1997). Second, media representing interpersonal and social encounters portray sexualized gazing. Print advertisements depict men gazing at females, who are typically not reciprocating the "look" (Fredrickson & Roberts, 1997). Lastly, visual advertisements that align the viewer with a sexually objectifying perspective propagate objectifying gaze. Often, advertisements focus on bodies and body parts and do not emphasize the head or the face of the featured woman (Fredrickson & Roberts, 1997). Consequently, advertisement exposure reinforces the normality of sexually objectifying viewpoints. A sexually objectifying culture significantly impacts the way in which women experience their own physical bodies (i.e., self-objectification).

Self-Objectification. Self-objectification refers to taking an observer's view on one's own physical body (Fredrickson & Roberts, 1997). The construct of self-objectification contributes, theoretically, to a variety of mental health risks that are more common among women (Fredrickson & Roberts, 1997). Empirical support for this theoretical proposition exists for unipolar depression (Harrison & Frederickson, 2003; Muehlenkamp & Saris-Baglama, 2002; Tiggemann & Kuring, 2004), sexual dysfunction (Roberts & Gettman, 2004), and disordered eating (Calogero, Davis, & Thompson, 2005; Greenleaf, 2005; Fredrickson, Roberts, Noll, Quinn, & Twenge, 1998; Noll & Fredrickson, 1998; Prichard & Tiggemann, 2005; Slater & Tiggemann, 2002; Tiggemann & Slater, 2001; Tylka & Hill, 2004).

The experience of sexual objectification results in the profound psychological experience of treating oneself as an object to be looked at and evaluated (i.e., self-objectification; Fredrickson & Noll, 1997). U.S. culture socializes girls and women to succumb to external pressures dictating the importance of one's physical appearance. Empirical research demonstrates differences in life experiences (e.g., social mobility, college acceptance, job discrimination, dating experience, marriage opportunities) due to differences in physical appearance related to both attractiveness and weight status (see Fredrickson & Noll, 1997). Taken together, both scientific and lay knowledge evidence the social and economic power granted to women who adhere to cultural prescriptions for attractiveness and weight status (Fredrickson & Noll, 1997). Therefore, women's mindfulness of their physical appearance and their engagement in practices meant to advance their physical beauty furnish social and economic opportunity. Repeated exposure to subtle external pressures and reward related to appearance contribute to

women's perception that these practices are freely chosen, consequently facilitating the process of disconnect from the totality of one's physical body.

The conceptual definition of self-objectification emphasizes an observer's view on one's own physical body. Therefore, an essential component of self-objectification is disconnecting from one's body such that one's body is experienced from a perceiver's perspective (i.e. from a perceptual distance). Thus, objectification theory, generally, and self-objectification, more specifically, suggests the experience of disconnect from one's physical body, particularly for women. Additionally, objectification theory posits that self-objectification results in decreased awareness of internal states. The empirical research detailing gender differences in awareness of internal bodily states (for a review, see Roberts & Pennebaker, 1995) supports the experience of body disconnect in women. That is, when a woman views herself as an object, she relinquishes the totality of experiencing her physical body in terms of both appearance and functioning. Subsequently, she loses access to 'first-person' information regarding her physical body (e.g., heart rate, stomach contractions, and sexual arousal). Objectification theory clarifies the definition of body disconnect as not only complete neglect of one's physical body, but also as a complete focus on the appearance of one's physical body to the exclusion of the functioning and/or competence of one's physical body.

Men's Self-Objectification

Researchers have not extensively studied the experience of self-objectification and subsequent disconnect in men. In one study, Fredrickson and colleagues (1998) evaluated the negative consequences of self-objectification in male and female participants by using swimsuits to induce self-objectification. The experimenters asked

each participant to wear a swimsuit and complete a questionnaire packet assessing shame, anxiety, peak motivational states, and awareness of internal bodily sensations. Results indicated that women, though not men, evidenced the theoretical consequences of self-objectification. Women experienced higher levels of shame and anxiety, decreased awareness of internal bodily sensations, and lessened peak motivational states when in a swimsuit.

However, Hebl and colleagues (2004) replicated this study while making an improvement on the self-objectification manipulation. In Fredrickson and colleagues (1998) study, female participants wore clinging swimsuits, whereas male participants wore swimming trunks. Hebl and colleagues (2004) altered this previous study by instructing male participants to wear Speedos (i.e., an equally clingy swimsuit) instead of swimming trunks. Contrary to previous research, with this change in the men's swimwear, both male and female participants evidenced the negative consequences of self-objectification including decreased performance on a math test (Hebl et al., 2004). This study demonstrates the possibility of men experiencing their bodies from a perceptual distance in conditions that facilitate self-objectification and psychological disconnect.

While self-objectification and body disconnect may be more common among women, research suggests that men also self-objectify (Aubrey, 2006; Hebl et al., 2004; Morry & Staska, 2001; Strelan & Hargreaves, 2005). The factors implicated in men's self-objectification and disconnect may differ from the factors implicated in women's self-objectification and disconnect. While the culture's sexualization of the human female body that is tied to cultural prescriptions of beauty and thinness leads to women's

self-objectification, the culture's overemphasis of men's physical power and strength may lead to men's self-objectification. Because of this, Study 2 will examine gender differences in the antecedents of the experience of body disconnect by testing the differential impact of appearance threats on women's experience of body disconnect and competence threats on men's experience of body disconnect.

Role of the Body in Health Behavior

Health-protective behavior refers to behaviors undertaken by a healthy individual that are aimed at preventing or detecting illness in an asymptomatic state (Glanz, Rimer, & Lewis, 2002). Health behaviors are crucial given that the behavioral practices that people engage in largely determine their physical health (Salovey, Rothman, Detweiler, & Steward, 2000). In fact, researchers posit health behavior as the most efficient way to reduce the morbidity and mortality associated with disease (Stroebe & Stroebe, 1995; Salovey et al., 2000).

Protecting the self involves protecting the body (Weinstein, 1987), thus, self-preservation requires both caring about the body as well as paying attention to bodily cues. To a limited extent, research has investigated the role of body experiences in health behavior. This work suggests that the physical body may be an important variable to consider in health behavior performance. Saltonstall (1993) investigated the extent to which health is perceived as being grounded in a sense of self as well as a sense of body by interviewing nine white, middle-class men and 12 white, middle-class women who were aged 35-55 years old. In defining health, participants often discussed one's treatment of the body as a predictor of their health. Thus, a connection to the body seems important in undertaking behaviors that impact one's health in a positive way.

Further supporting the importance of perceptions regarding the body in the performance of health behavior, Klonoff and Landrine (1993) explored the role of cognitive representations of bodily parts and products in health behavior. Participants (N = 144 nontraditional undergraduates; 117 women, 27 men) evaluated nine body parts/products by rating each on 15 dimensions (i.e., disgusting, dirty, easily hurt, embarrassing, feminine, good, important, private, sensitive to stress, sexual, sinful, how quickly I would seek help if I had a problem with this part/product, ugly, useful, and weak). Results indicated that parts/products of the body that were rated as vulnerable, stigmatized (i.e., those parts that were rated as dirty, disgusting, and embarrassing), sexual, and private were less likely to induce help-seeking behavior. Participants' perceptions regarding stigmatized body parts and avoidance of help-seeking behavior suggest that cognitions related to the experience of one's physical body may be an important predictor of health behavior.

Overview of Research

This dissertation evaluates the experience of body disconnect in a series of three studies. The first study establishes the validity of a single-item measure of body disconnect in men and women and examines potential gender differences in the experience of body disconnect. The second study explores gender differences in the situational antecedents of body disconnect by testing the impact of bodily threats (i.e., an appearance-based or competence-based threat) on this phenomenon. The third study focuses on the physical health consequences (e.g., performance of health behaviors) of body disconnect.

Study One

The conceptual definition of self-objectification suggests that men and (maybe more so) women experience disconnect from one's physical body. However, operational definitions of self-objectification do not tap into the experience of one's body as "other," or, separate from one's sense of self. For example, the self-objectification questionnaire (Noll & Fredrickson, 1998) assesses the extent to which individuals view their bodies in observable, appearance-based terms versus nonobservable, competence-based terms by having participants rank order attributes that are either related to their body's appearance or to their body's functioning. This method of measurement pits one's appearance against one's competence, which may be indicative of an individual's vanity rather than one's viewing of oneself as an object (Fairchild & Rudman, 2006). Additionally, this measure is biased toward evidencing self-objectification in women when we consider that men's dissatisfaction is often tied to perceptions of their strength and competence.

A similar problem exists with the objectified body consciousness scale (McKinley & Hyde, 1996). Surveillance, body shame, and control subscales comprise this assessment. The surveillance subscale includes items such as "During the day, I think about how I look many times" and "I often worry whether the clothes I am wearing make me look good," which may also be indicative of vanity. The scale also assumes weight issues in the assessment of body shame (e.g., "When I can't control my weight, I feel like something is wrong with me" and "When I'm not the size I think I should be, I feel ashamed"). The control beliefs subscale includes items such as "I think a person can look pretty much how they want to if they are willing to work at it" and "I can weigh what I'm supposed to when I try hard enough," which may follow from viewing one's body as an

object (i.e., my body is an object therefore I am able to mold it according to my desires). However, the subscale does not directly assess the theoretical conceptualization of self-objectification. Additionally, all subscales disproportionately focus on body concerns that are typical of women (e.g., weight/shape concerns) compared to men, which may distort the assessment of body image disturbance among male participants. Moreover, both assessments of self-objectification neglect an important piece of the conceptual definition. Specifically, self-objectification necessitates disconnection between the self and the physical body, which has not been directly assessed in any of the measures assessing objectification or other body-related attitudes.

In studying the causes and consequences of body disconnect, researchers need a measure of one's relationship with his/her physical body. While many body image variables and associated measures exist in the field, currently no measures directly assess one's relationship with one's physical body. To address this gap, I looked to the research on intimate relationships to examine how researchers have previously measured closeness to another person to determine whether such measures could expand body image measurement.

Aron, Aron, and Smollan (1992) validated a way of quantifying interpersonal closeness. Their inclusion of other in the self (IOS) scale is a single-item pictorial measure that directly assesses people's sense of interpersonal connectedness (Aron et al., 1992). The IOS scale relies on Venn-like diagrams to represent different degrees of overlap between "self" and "other." The scale originates from the idea that closeness may be described in terms of self-other overlap and attempts to measure people's sense of

interconnectedness with others that may be the product of conscious or unconscious processes (Aron et al., 1992).

Aron and colleagues (1992) approach to measuring interpersonal closeness suggests a modifiable method for quantifying the relationship between self and physical body by using overlapping circles that are labeled as “me” and “body.” The relationship between two people is not a perfect analogue to the relationship between self and physical body in that the “other” (i.e., another person) is unquestionably distinct from self unlike physical body. However, researchers have adapted the measure to examine relationships between amorphous entities. Marx, Stapel, and Muller (2005) successfully employed a variation of the IOS scale to measure the overlap between self and four different social groups (e.g., friends, gender, family, and students). This work suggests the potential utility of this scale for measuring body disconnect because the relationships between “me” and “body” and “me” and “gender” are similarly abstract.

Thus, Study 1 aims to validate a new measure of body disconnect adapted from Aron and colleagues (1992) IOS scale. For this research, the adapted version (i.e., the body disconnect scale) quantified the relationship between self and physical body by using overlapping circles that were labeled as “me” and “body” (see Figure 1). Moreover, the scale included an open-ended item to confirm that participants’ responses were indicative of their relationship with their physical body. Additionally, with this new measure, trait levels of body disconnect in men and women will be examined.

Hypotheses

H1. Participants open-ended responses to the body disconnect scale will evidence rationales related to connectedness when explaining their figure choice.

H2. To establish convergent validity, body disconnect will correlate significantly with other measures of body image related variables.

H3. To establish discriminant validity, body disconnect will not correlate with another modified version of the IOS scale (i.e., the family version; Marx et al., 2005).

H4. Body disconnect will not correlate significantly with a measure of social desirability; thus, suggesting that the scale is not susceptible to participants' need for social approval.

H5. Women will indicate higher levels of body disconnect than men.

Method

Participants

Two hundred and seven undergraduate students (55% women) recruited from the psychology participant pool participated in the study. Of these, 126 (61%) were White/European American, 49 (24%) were Asian/Asian American, 12 (6%) were Black/African American, 12 (6%) were Latino/Hispanic American, 3 (1%) were Native American, and 5 (2%) identified as Multiracial/Mixed. Average age was 18.84 years ($SD = 2.69$).

Materials

Participants completed the body disconnect scale to assess the interconnectedness of the self and the physical body (see Appendix A). Eight sets of circles comprise the scale with one circle labeled "me" and the other circle labeled "body" in each of the eight sets. The first set of circles is scored as an "8" and the last circle is scored as a "1," thus, scores range from 1-8 with higher scores on the body disconnect scale indicating higher levels of disconnect. Additionally, the body disconnect scale included an open-ended

question assessing why participants chose the figure that they did (i.e., “Why did you circle the figure that you did? Please explain your choice as well as you can.”). The open-ended question appeared on a different page to minimize the influence of participants anticipating the need to provide a rationale for their choice (Wilson, Dunn, Kraft, & Lisle, 1989). Pre-testing the measure among 18 men and 38 women enrolled in an undergraduate course yielded good one-week test-retest reliability ($r = .91$).

Participants completed the objectified body consciousness questionnaire (OBCS; McKinley & Hyde, 1996) to assess the degree to which they perceive their physical bodies as an outside observer would, or, as objects (see Appendix B). The OBCS is a 24-item self-report measure that is comprised of three subscales consisting of eight items each. The surveillance subscale includes items such as “During the day, I think about how I look many times” and “I often worry whether the clothes I am wearing make me look good.” “When I can’t control my weight, I feel like something is wrong with me” and “I feel ashamed of myself when I haven’t made the effort to look my best” are items from the body shame subscale. The control beliefs subscale includes items such as “I think a person can look pretty much how they want to if they are willing to work at it” and “I can weigh what I’m supposed to when I try hard enough.” Participants rate their level of agreement with each statement from “(1) strongly disagree” to “(7) strongly agree.” In previous research, the surveillance, body shame, and control beliefs subscales demonstrated internal consistencies of .89, .75, and .72, respectively (McKinley & Hyde, 1996). In the present study, the surveillance, body shame, and control beliefs subscales demonstrated internal consistencies of .80, .69, and .75, respectively.

Participants completed the self-objectification questionnaire (Noll & Fredrickson, 1998; see Appendix C). The self-objectification questionnaire assesses the degree to which participants view their bodies in observable, appearance-based terms (e.g., physical attractiveness, sex appeal) versus nonobservable, competence-based terms (e.g., muscular strength, health). The self-objectification questionnaire required participants to rank order a list of body attributes in terms of how important each is to their physical self-concept. Participants ranked 12 attributes (i.e., six appearance-based and six competence-based) from “(1) most important” to “(12) least important.” Scores were computed by summing the ranks for the appearance and competence based attributes separately, and then determining the difference between the two dimensions by subtracting the sum of the appearance-based rankings from the sum of the competence-based rankings. Thus, scores may range from –36 to 36, with higher scores reflecting an emphasis on appearance (i.e., greater self-objectification; Noll & Fredrickson, 1998). Because of the ipsative nature of ranked data, no Cronbach’s alpha can be computed for this measure. In previous research, the questionnaire correlated with measures of appearance anxiety (Dion, Dion, & Keelan, 1990) and body-size dissatisfaction (Williamson, Davis, Bennett, Goreczny, & Gleaves, 1985), therefore suggesting the construct validity of the measure.

Participants completed the body consciousness questionnaire (BCQ; Miller, Murphy, & Buss, 1981; see Appendix D). The BCQ is a 15-item self-report rating private (e.g., “I am sensitive to internal bodily tensions.”) and public aspects (e.g., “I am very aware of my best and worst facial features.”) of the physical body. Participants indicated how characteristic each item was of them on a scale of “(1) extremely

uncharacteristic” to “(5) extremely characteristic.” Thus, higher scores indicate higher levels of body consciousness. Private body consciousness is the most commonly used subscale of the body consciousness questionnaire and has demonstrated modest internal reliabilities of .64 in a sample of hemodialysis patients (Christensen, Weibe, Edwards, Michels, & Lawton, 1996), .64 in a sample of dancers and non-dancers (Tiggemann & Slater, 2001), and .61 in a sample of men and women (Tiggemann & Kuring, 2004). The private body consciousness subscale and public body consciousness subscale have demonstrated test-retest reliabilities of .69 and .73, respectively (Miller et al., 1981). In the present study, Cronbach’s alphas for private and public body consciousness were .57 and .66, respectively.

The multidimensional body-self relations questionnaire (MBSRQ; Cash & Pruzinsky, 1990) was administered (see Appendix E). The MBSRQ is a self-report measure that assesses self-attitudinal aspects of the body image construct. The measure assumes that there are multiple domains of body image (i.e., physical appearance, fitness, and health/illness) as well as attitudinal dimensions of each (i.e., evaluation, orientation) (Brown et al., 1990). The evaluation dimension encompasses an affective component while the orientation dimension includes both cognitive and behavioral components; thus, assessing all components of attitude (Brown et al., 1990). The present research utilized the following subscales: appearance evaluation (e.g., “My body is sexually appealing.”); appearance orientation (e.g., “I check my appearance in a mirror whenever I can.”); fitness evaluation (e.g., “I easily learn physical skills.”); fitness orientation (e.g., “It is important that I have superior physical strength.”); health evaluation (e.g., “I am seldom physically ill”); health orientation (e.g., “I have deliberately developed a healthy

lifestyle.”); and illness orientation (e.g., “I pay close attention to my body for any signs of illness.”). Participants rate their agreement with each statement (i.e., 57 statements total) from “(1) definitely disagree” to “(5) definitely agree.” In previous research, the seven subscales demonstrated good internal consistency with Cronbach’s alphas ranging from .75 to .90 (Corcoran & Fischer, 2000). In the present study, the seven subscales demonstrated good internal consistency with Cronbach’s alphas ranging from .70 to .91.

Family and gender versions of the IOS scale (Marx et al., 2005) were administered to give the participants practice in completing scales that rely on interlocking circles. The present research utilized the gender disconnect scale to establish convergent validity as gender is tied to the physical body and the family disconnect scale to establish discriminant validity (i.e., by examining the correlation between the body disconnect scale and the family version of the IOS scale). The family and gender versions of the IOS scale are identical to the original IOS scale (Aron et al., 1992) and the body disconnect scale with the exception of the labels pertaining to the circles within each interlocking set. The family version includes a circle labeled as “self” and a circle labeled as “family” (see Appendix F). The gender version includes a circle labeled as “self” and a circle labeled as “gender” (see Appendix G). A larger overlap between self and family (or gender) is indicative of feeling close to one’s family (or gender group). These measures have been used successfully in research related to construal orientation and social comparisons (Marx et al., 2005).

Participants completed the Marlowe-Crowne social desirability scale (M-C SDS; Crowne & Marlowe, 1960) to assess their need for social approval (see Appendix H). The M-C SDS contains 33 items that participants must rate as being either “true” or

“false.” A series of statements that concern socially desirable opinions or behaviors (e.g., “I always practice what I preach”) that most people cannot truthfully claim to adhere to at all times comprises the scale. Additionally, the scale contains 14 statements of socially undesirable opinions or behaviors (e.g., “There have been occasions when I took advantage of someone”) that have been true for most people at least some of the time. Participants who respond true to many of the socially desirable and false to many of the socially undesirable statements have a high need for social approval that influences their responses to self-report measures (Crowne & Marlowe, 1960). In previous research, the scale has demonstrated good internal consistency ($\alpha = .88$; Crowne & Marlowe, 1960). In the present study, the internal consistency coefficient of the scale was .75.

Procedure

Participants entered the laboratory in groups of 1-6 and first completed an informed consent form. Then, participants completed computer-administered questionnaires using a survey website/program (i.e., SurveyMonkey.com) in separate cubicle workstations. Participants completed the questionnaires in one of two pre-selected orders, which were randomly distributed. The first ordering was the family and gender versions of the IOS scale followed by the body disconnect scale, followed by the body image related questionnaires, and then the social desirability scale. The second ordering was the family and gender versions of the IOS scale followed by the body disconnect scale, followed by the social desirability scale, and then the body image related questionnaires. Following the completion of questionnaires, participants were thanked and dismissed from the study session.

Results

Qualitative Analysis

Descriptive statistics for demographics and main study variables are presented in Table 1 and in Table 2 by gender. To evaluate the first hypothesis and obtain a sense of the meaning assigned to the figures by participants, participants' responses to the open-ended question on the body disconnect scale (i.e., "Why did you circle the figure that you did? Please explain your choice as well as you can") were coded with respect to seven coding themes (see Appendix I for themes and sample statements for each theme). A research assistant blind to the purpose of the study and specific hypotheses coded a randomly selected subset of responses ($n = 107$) by indicating whether each code was either present or absent. A frequency analysis indicated that participants most commonly mentioned "comfort level associated with body" as a rationale for their choice (i.e., the theme was present in 54.2% of participants' responses; see Figure 2). Participants also referred to "connectedness," which was present in 43.9% of responses. Participants also cited "health behaviors/fitness level" in 26.2% of the responses. Taken together, these results suggest that the body disconnect scale does measure a relationship between the self and physical body that can be characterized by both comfort level and connectedness. In addition, participants' responses suggest a relationship between body disconnect and fitness and health.

Convergent/concurrent validity.

Bivariate correlations for the main variables of interest are presented in Table 3. To evaluate the second hypothesis, I examined the correlations between the body disconnect scale and the other body image related variables (i.e., objectified body

consciousness, self-objectification, body consciousness, and body-self relations). The body disconnect scale correlates positively and significantly with self-objectification as measured by the self-objectification questionnaire ($r = .23, p < .01$) and gender disconnect ($r = .19, p < .01$). The body disconnect scale correlates negatively and significantly with private and public body consciousness ($r = -.15, p < .05$ and $r = -.16, p < .05$, respectively) and subscales of the MBSRQ (r s range from $-.24$ to $-.34, p$ s $< .01$), with the exception of appearance orientation (i.e., a measure of cognitive-behavioral investment in one's appearance), which was not significantly associated with body disconnect ($r = -.08, p > .05$). Significant correlations between the body disconnect scale and other body image related variables suggest that the body disconnect scale overlaps in a general way with other measures that pertain to the physical body. These correlations are small; thus, suggesting that the body disconnect scale is not merely redundant with existing body image related measures.

Discriminant validity. To evaluate the third hypothesis, I examined the correlation between the body disconnect scale and the family version of the IOS scale. The body disconnect scale did not correlate significantly with the family version of the IOS scale ($r = .11, p > .05$), thus suggesting the discriminant validity of the measure.

Social desirability. I examined the correlation between the body disconnect scale and the M-C SDS to evaluate the fourth hypothesis. The body disconnect scale did not correlate significantly with the M-C SDS ($r = -.12, p > .05$), revealing that participants' need for social approval did not influence participants' responses on the body disconnect scale.

Gender Differences

To evaluate the fifth hypothesis, an independent groups *t*-test was performed to examine whether women ($M = 2.96$, $SD = 1.49$) evidenced greater disconnect than men ($M = 2.99$, $SD = 1.63$). Results of the analysis revealed that there was not a significant gender difference on the body disconnect scale ($t(205) = .15$, $p > .05$).

Discussion

Results largely supported the predictions of Study 1 suggesting that the body disconnect scale is a valid measure. Qualitative analysis of participants' responses to the open-ended component of the body disconnect scale also suggests that the measure of body disconnect is valid and has the intended meaning. Specifically, participants indicate "being comfortable" with their bodies and "connection" to their bodies as rationale for their choice of figures on the scale. Additionally, the body disconnect scale evidenced convergent validity with other body-image related variables and discriminant validity with another modified version of the IOS scale (i.e., family version of the IOS). Moreover, the body disconnect scale was not correlated with social desirability suggesting its independence from participants' need for social approval.

Results did not support the prediction related to a gender difference in body disconnect. Contrary to the hypothesis, women did not evidence greater levels of body disconnect than men. This is surprising given that women often display greater levels of body-image disturbance, generally, as compared to men (Cash, 2002; Striegel-Moore & Franko, 2002; Thompson et al., 1999) and greater levels of self-objectification, more specifically (McKinley, 2002). Consistent with this previous work, women in the present study evidenced significantly greater surveillance and shame, public and private body

consciousness, and appearance orientation than men. Women also evidenced significantly less fitness evaluation and orientation as well as health evaluation, supporting gender differences among women and men related to body image. Perhaps, body disconnect is not synonymous with negative body image and is, instead, a psychological separation from the physical body that can be instigated in ways other than feeling negatively toward one's appearance. Because participants are able to choose their own criteria when they indicate the level of connectedness that they experience in relation to their bodies, it is possible that men and women focus on different criteria (e.g., thinness vs. muscularity), each of which is associated with the experience of disconnect. Another possibility is that because body disconnect was not influenced by social desirability concerns, men as well as women indicate body image disturbance in the form of body disconnect. For example, in the present study, social desirability significantly correlated with surveillance and self-objectification, suggesting that these measures are influenced by participants' concerns related to social approval. Study 2 examined whether men and women would show similar or dissimilar sources of state body disconnect.

Study Two

Results from Study 1 suggest that both men and women experience disconnect from their physical bodies. However, different factors may precipitate men and women's body disconnect. Specifically, I will compare men and women's responses to appearance threats and competence threats.

Research commonly shows that men's concerns regarding their bodies focus on weight (i.e., being at *least* a certain weight) and muscularity (Harmatz, Gronendyke, &

Thomas, 1985). Similar to women, men's concerns regarding their body may be fueled by cultural prescriptions of ideal physical forms, which are becoming increasingly prevalent for men (Agliata & Tantleff-Dunn, 2004). For example, male centerfolds of *Playgirl* magazine (i.e., a cultural prescription for males' bodies) have become more muscular (Leit, Pope, & Gray, 2001). Children's toys offer another domain in which prescriptions for the ideal physical form are observed. In fact, male action figures once accurately represented the physiques of normal, healthy, strong, men (Hatoum & Belle, 2004). Now, the norm of idealized, unattainable models of the female body in children's toys (e.g., Barbie) has generalized to the male body as well (e.g., GI Joe, characters from Star Wars; Pope et al., 1999). These icons of increased muscularity not only communicate to men how their bodies should appear, but also how their bodies should perform (i.e., Luke Skywalker's musculature must be indicative of the strength he possesses to overcome Darth Vader).

Taken together, these observations suggest that men may experience body disconnect with increasing frequency as they too are bombarded with images of how their bodies should appear, and, perhaps more importantly, perform. Additionally, based on men's body image disturbance stemming from muscularity concerns, men's body disconnect may be precipitated by a different set of factors. Thus, the second study of this dissertation aims to explore potential gender differences in the situational antecedents that lead to body disconnect by examining the effects of appearance-based and body competence-based threats to the body (i.e., in terms of one's body's adherence to cultural prescriptions) on men and women's experiences of body disconnect.

Study 2 aims to assess the impact of threats to one's physical body on body disconnect. Specifically, participants experienced either a threat to their body's appearance or a threat to their body's competence. The appearance-threat manipulation consisted of telling participants that they would have two full-length photographs taken of them (i.e., one from the front and one from the back), which would then be compared to average Rutgers' students of their sex and supermodels of their sex. Additionally the room contained a camera to increase the perceived authenticity of the manipulation. The body competence-threat manipulation consisted of telling participants that they would engage in a strength test, which would require them to lift a variety of weights. Similar to the appearance-threat condition, participants were told that their strength indices would be compared to average Rutgers' students of their sex and Rutgers' athletes of their sex. Additionally, the room contained lifting gloves, a jump rope, and grip strengtheners. There was also a control condition with no expectations of evaluation, and, in actuality, all participants only completed questionnaires (i.e., there were no appearance or body competence tasks performed).

Hypotheses

H1. Threatening the body will increase participants experience of disconnect from their physical bodies.

H1a. Appearance threats will increase participants experience of disconnect from their physical bodies via decreased appearance evaluation.

H1b. Competence threats will increase participants experience of disconnect from their physical bodies via decreased fitness evaluation.

H2. Gender will moderate the relative impact of appearance/competence threats on disconnect.

H2a. Women who undergo an appearance-threat manipulation will experience higher levels of body disconnect than women who undergo a body competence-threat manipulation and women who participate in a control condition.

H2b. Men who undergo a body competence-threat manipulation will experience higher levels of body disconnect than men who undergo an appearance-threat manipulation and men who participate in a control condition.

Method

Participants

Three hundred four undergraduate students (61% women) recruited from the psychology participant pool participated in the study. Of these, 138 (45%) were White/European American, 78 (26%) were Asian/Asian American, 29 (10%) were Black/African American, 28 (9%) were Latino/Hispanic American, 20 (7%) were Multiracial/Mixed, and 11 (3%) identified as “Other”. Average age was 18.83 years ($SD = 1.50$).

Materials

Participants completed a demographic questionnaire, family and gender versions of the IOS scale, the body disconnect scale, and the appearance evaluation and fitness evaluation subscales of the MBSRQ (Cash & Pruzinsky, 1990, see Study 1). For this sample, the appearance and fitness evaluation subscales of the MBSRQ demonstrated Cronbach’s alphas of .88 and .70, respectively.

Procedure

Participants entered the laboratory in groups of six and were tested in 1-hour sessions. Upon arrival, an experimenter of the same gender greeted participants and told them that the study was a 2-part study. Participants completed informed consents that contained the experimental manipulation (i.e., either describing a second appearance-threat task, a second body competence-threat task, or no task; See Appendices J, K, and L).

Following the informed consent procedure, the experimenter reiterated the tasks required of the participants. Specifically, in the experimental conditions, the experimenter emphasized that participants would either have two full-length photographs taken of them or would perform a strength test. In the control condition, the experimenter only reiterated that participants needed to complete a questionnaire packet (See Appendices N, O, and P).

Following the reiteration of the tasks by the experimenter, the participants completed a questionnaire packet that contained the family and gender versions of the IOS scale (i.e., for practice before completing the body disconnect scale), body disconnect scale, appearance and fitness evaluation subscales of the MBSRQ, and the demographic questionnaire. After all participants had completed the questionnaire packet, the participants were debriefed as a group. The experimenter revealed all aspects of the deception and provided rationale for why deception was necessary for the study. Then, to check the manipulation, the experimenter asked the participants to write how they felt when they thought that they needed to have their photographs taken or engage in

a strength test. The experimenter also instructed them to write about whether they were surprised that the experiment did not have a second part.

Results

Manipulation check

Participants indicated no understanding of the experimental hypotheses as evidenced by their belief in a second part of the study. Participants indicated that they were surprised that there was not either an appearance or competence task (i.e., depending on their condition). Participants' feelings about not having to engage in a second part of the study ranged from comments like "I felt relief", "I didn't want my picture taken," to "I had already worked out today." Taken together, these comments suggest that the cover story was both believable and sufficient in inducing perceptions of the physical body being threatened.

Descriptive Statistics

Descriptive statistics according to condition for demographics and main study variables are presented in Table 4. Bivariate correlations according to condition for the main variables of interest are presented in Table 5.

Main Analyses

Bodily threat as an antecedent of body disconnect. To evaluate whether bodily threats increase participants' experience of body disconnect (i.e., H1) and examine a gender by condition interaction on body disconnect (i.e., H2), a 3 (condition: appearance, competence, neutral) x 2 (gender: men vs. women) univariate analysis of variance (ANOVA) was performed. ANOVA revealed a marginally significant condition effect for body disconnect ($F(2, 298) = 2.60, p = .08$). However, planned contrasts revealed

that participants in the bodily threat conditions (i.e., $M = 3.37$, $SD = 1.68$), compared to participants in the control condition ($M = 2.92$, $SD = 1.47$), indicated greater levels of body disconnect ($t(301) = -2.11$, $p < .05$). Further analysis indicated that the bodily threat effect was mostly driven by participants in the competence condition ($M = 3.51$, $SD = 1.75$) evidencing increased levels of body disconnect compared to participants in the control condition ($t(301) = -2.15$, $p < .05$). Participants in the appearance threat condition ($M = 3.31$, $SD = 1.63$) did not differ significantly from participants in the control condition ($t(301) = -1.61$, $p > .05$; see Table 6 for condition effects for main study variables).

Additionally, I expected appearance related bodily threats to be especially threatening to women and competence based bodily threats to be especially threatening to men (i.e., H2a and H2b). Results from the 3 x 2 ANOVA did not support a condition by gender interaction for body disconnect ($F(2, 298) = .39$, $p > .05$).

Appearance and fitness evaluation as mechanisms. To evaluate whether appearance and competence threats decreased participants' appearance and fitness evaluations (i.e., H1a and H1b), respectively, I performed two one-way ANOVAS. With respect to appearance evaluation, a condition effect emerged ($F(2, 298) = 4.35$, $p < .05$). Results of follow-up analysis indicated that participants in the appearance threat condition ($M = 3.34$, $SD = .77$) and participants in the competence threat condition ($M = 3.22$, $SD = .76$) indicated less favorable appearance evaluations compared to participants in the control condition ($M = 3.56$, $SD = .69$; $t(298) = 2.04$, $p < .05$, $t(298) = 2.92$, $p < .01$, respectively). With respect to fitness evaluation, a condition effect did not emerge ($F(2, 298) = 1.18$, $p > .05$) indicating that both bodily threat conditions impacted

participants' evaluations of their appearance, but not their evaluations of their fitness levels.

Because bodily threats only impacted appearance evaluation, I tested appearance evaluation as a mediator of the relationship between competence threat and body disconnect utilizing a series of regression analyses. Using the procedures for testing mediation proposed by Baron and Kenny (1986), the first equation regressed body disconnect on competence threat. Competence threat significantly predicted body disconnect ($\beta = 0.15, p < 0.05$). The second equation regressed the hypothesized mediator, appearance evaluation, on competence threat. Competence threat significantly predicted appearance evaluation ($\beta = -0.21, p < 0.01$). The third equation regressed body disconnect on the hypothesized mediator, appearance evaluation, and the predictor (competence threat). In order to establish appearance evaluation as a significant mediator, appearance evaluation must predict body disconnect in the third equation. Also, the relationship between competence threat and body disconnect in the third equation must be nonsignificant for full mediation (Baron & Kenny, 1986). Regression analysis supported appearance evaluation as a mediator of the relationship between competence threat and disconnect due to appearance evaluation significantly predicting body disconnect ($\beta = -0.54, p < 0.01$) in the third equation while competence threat was no longer significant ($\beta = 0.05, p > 0.05$; see Figure 3). Moreover, a Sobel test confirmed that appearance evaluation carried the effect of competence threat on disconnect ($Z = -2.74, p < .01$).

Discussion

Study 2 evaluated the impact of gender salient threats to the body (i.e., appearance for women and competence for men) on the experience of body disconnect in men and women. While a significant interaction between gender and condition was not evidenced, results indicated a significant main effect for condition such that bodily threats, especially a threat to the competence of the body, increased body disconnect for women and men. Further analysis supported appearance evaluation as a mediator of the relationship between competence threat and body disconnect. When men's and women's bodies are threatened by a competence-based task, men and women evaluate their appearances more negatively and psychologically distance themselves from their physical bodies.

Because of previous work suggesting that men want to be heavier and more muscular and women want to be lighter (Corson & Andersen, 2002; Olivardia, 2002; Striegel-Moore & Franko, 2002), I predicted that men would be more affected by competence-related threats and women by appearance-related threats. While results did not support gender as a moderator of bodily threat, there was a significant difference in appearance evaluation between both threat groups and the control group. This main effect for condition suggests that, regardless of gender, participants in the threat groups evidenced significantly more negative feelings toward their own appearance than participants in the control group. These findings are consistent with Hebl and colleagues (2004), who found that, regardless of gender, both men and women who were placed in a condition that could be considered threatening to their appearance (i.e., wearing a clinging swimsuit) perceived their bodies more negatively. The results of this study extend previous work by showing that body competence threats as well as physical

appearance threats cause men and women to evaluate their appearances negatively.

Perhaps, the anticipated performable nature of a strength task instigates social comparison processes on the basis of appearance. This suggests that in the absence of other criteria (i.e., observing others engaging in a strength task), individuals will evaluate dimensions of their body (i.e., competence) solely based on their physical appearance.

Study Three

Research has typically tied body image disturbance to mental health outcomes (Cash & Fleming, 2002; Garner, 2002; Phillips, 2002; Stice, 2002). For example, self-objectification predicts a variety of mental health outcomes that are more common among women than men (e.g., depression, restrained eating, sexual dysfunction; Fredrickson & Roberts, 1997). Interestingly, neither self-objectification nor the specific role of body disconnect has been extensively explored in relation to health behaviors (i.e., with the exception of eating disorders).

Study 1 evidenced an association of body disconnect with fitness and health orientations. Thus, the role of body disconnect in physical health outcomes such as health behaviors may be mediated by an association of body disconnect with fitness and health orientations. Intuitively, it seems that if an individual is psychologically disconnected from his/her physical body, he/she will be less oriented toward maintaining or improving his/her fitness level and health level.

Additionally, the notion that protecting the self involves protecting the body offers additional substantiation of body disconnect as a predictor of health-protective behavior (Weinstein, 1987). To the extent that one's body is psychologically separate from one's sense of self, self-protective behavior will not be manifested as body/health-

protective behavior. In order to protect the body as a means of protecting the self, one must recognize a connection between body and self.

Most theories of health behavior assume that beliefs are important determinants of health-seeking behavior, and often posit the same beliefs as important predictors of health behavior (Weinstein, 1993). However, these beliefs are usually specific to a health condition (e.g., susceptibility/severity of heart disease) and a behavior associated with the health condition (e.g., benefits and barriers of ingesting a low fat diet). Consequently, more basic beliefs (i.e., those related to the connection between self and body) are either assumed or overlooked. Thus, the third study of this dissertation aims to establish a more basic belief regarding one's relationship with one's physical body (i.e., body disconnect) as a predictor of health behavior.

Study 3 aimed to evaluate the consequences of body disconnect within the physical health domain. Building on the results of Study 1, which linked body disconnect to health and fitness orientations, I examined the associations between body disconnect and the performance of specific health behaviors. Because psychological disconnect is associated with less orientation towards one's fitness and health levels, disconnect may correlate with diminished health behaviors such as physical activity and fruit and vegetable consumption. Specifically, decreased fitness orientation may lead to decreased engagement in physical activity. Decreased health orientation may lead to decreased engagement in a health behavior that more generally is associated with good health (i.e., fruit and vegetable consumption; see Figure 4). The predictions of the model are presented below.

Hypotheses

H1. Replicating Study 1, higher levels of body disconnect will be associated with less fitness orientation and less health orientation (see Paths A and B).

H2. Higher levels of body disconnect will be associated with less performance of physical activity (see Path C).

H2a. Fitness orientation will mediate the association between body disconnect and physical activity (see Path E).

H3. Higher levels of body disconnect will be associated with less fruit and vegetable consumption (see Path D).

H3a. Health orientation will mediate the association between body disconnect and fruit and vegetable consumption (see Path F).

H4. Replicating Study 1, fitness orientation will be associated with health orientation (see Path G).

H5. Physical activity will be associated with fruit and vegetable consumption (see Path H).

Method

Participants

Four hundred sixteen undergraduate students (61% women) recruited from the psychology participant pool participated in the study. Of these, 217 (52%) were White/European American, 104 (25%) were Asian/Asian American, 31 (7.5%) were Black/African American, 30 (7%) were Latino/Hispanic American, 14 (3.5%) identified as Multiracial/Mixed, and 20 (5%) identified as “Other.” Average age was 19.23 years ($SD = 3.00$).

Materials

The demographic questionnaire was identical to those administered during Study 1 and Study 2 with the exception of an additional question regarding whether participants considered themselves to be vegan or vegetarians (i.e., “Would you characterize yourself as a vegan or vegetarian?”)¹.

Participants completed the gender and family versions of the IOS scale as practice for completing the body disconnect scale, the body disconnect scale, and the fitness and health orientation subscales of the MBSRQ (Cash & Pruzinsky, 1990, see Study 1). In Study 3, the fitness and health orientation subscales of the MBSRQ demonstrated good internal consistency ($\alpha = .89$ and $\alpha = .73$, respectively).

Participants completed the Youth Risk Behavior Survey (YRBS; Centers for Disease Control and Prevention, 2005; see Appendix Q). The YRBS queries such behaviors as moderate physical activity (e.g., fast walking, slow bicycling), intense physical activity (e.g., running, fast dancing), consumption of fruit, and consumption of green salad. The behaviors may each be examined individually or may be examined as part of a category (i.e., physical activity, dietary behaviors). The present research utilized the physical activity and dietary behaviors categories, which demonstrated Cronbach’s alphas of .77 and .68, respectively.

¹ In preliminary data analysis, responses to this item were controlled for when examining a relationship between body disconnect and fruit and vegetable consumption. Results revealed that body disconnect ($\beta = -0.14$, $p < 0.01$) predicted fruit and vegetable consumption while controlling for vegetarianism.

Procedure

Participants from the Introductory Psychology subject pool completed online computer-administered questionnaires in exchange for credit. The questionnaires were presented in the following order: family and gender versions of the IOS scale, body disconnect scale, fitness and health orientation subscales of the MBSRQ, YRBS, and demographic questionnaire. Upon completion of the questionnaires, participants were presented with a debriefing statement that detailed the goals of the research. Participants were able to ask questions during this time.

Results

Descriptive Statistics

Descriptive statistics for demographics and main study variables are presented in Table 7. Bivariate correlations for the main variables of interest are presented in Table 8.

Main Analyses

To test the hypothesized model, EQS computer software provided the ability to perform confirmatory latent-variable structural equation modeling (SEM). SEM allows testing of paths between predictor variables and multiple dependent variables similar to multiple regression techniques. SEM reduces measurement error, which makes the procedure advantageous compared to multiple regression (Klem, 2000). To reduce measurement error, each variable in the model is conceptualized as a latent one, measured by multiple indicators (i.e., parcels). Moreover, parceling improves models' goodness of fit and allows for smaller sample sizes (Bandalos, 2002). For the structural equation analysis, I randomly parceled the measures with the exception of physical activity for which we used the three items as indicators.

Before testing the fit of structural equation models, a confirmatory measurement model specifies the relations of the observed measures to their posited underlying constructs (Anderson & Gerbing, 1988). Measurement models do not include any direct paths between factors, but instead essentially test a confirmatory factor analysis of all of the latent variables in the model that are allowed to intercorrelate freely (Anderson & Gerbing, 1988; Kline, 2005). Because I had a good fitting measurement model (see Table 9: Model 1), I proceeded to the structural modeling equation analyses.

I specified the structural model such that EQS deleted cases with missing data. Thus, analyses disregarded 42 cases (i.e., 10% of the sample) because a variable was missing. In evaluating the model, I analyzed the following goodness of fit indices: χ^2/df , non-normed fit (NNFI), and comparative fit (CFI). In accordance with standard SEM analysis, acceptable fit indices exceed .95 (Raykov, Torner, & Nesselroade, 1991). The root mean square error of approximation (RMSEA) was also examined. The RMSEA misfit indices should be at or below .06 (Hu & Bentler, 1999). Although χ^2 is not considered a good index for tests of fit because of its sensitivity to sample size, χ^2 is reported to compare between alternative models. Specifically, it provides a way of assessing the superiority of either the direct effects model or the full model/indirect effects model. Moreover, a good fitting model does not guarantee that particular paths within a model are significant. I will examine the path coefficients in the model to determine whether the results support the specific predictions of the research.

The procedure for testing mediation is analogous to analyses with multiple linear regressions (Frazier, Tix, & Barron, 2004). Specifically, I tested for mediation by first determining a direct relationship between body disconnect and physical activity and fruit

and vegetable consumption in a direct effects model (Baron & Kenny, 1986). This model included all hypothesized paths, except the paths from fitness orientation to physical activity and from health orientation to fruit and vegetable consumption (see Table 9: Model 2), because fitness and health orientation were possible mediators of each of these relationships. The direct effects model fit the data well and supported a relationship between body disconnect and decreased physical activity and fruit and vegetable consumption (betas appear in parentheses in Figure 5).

Next, the remaining rules of mediation were tested in a full model, which included the previously excluded paths from fitness orientation to physical activity and health orientation to fruit and vegetable consumption. The full model fit the data well (see Figure 5 and Table 9: Model 3). As hypothesized, body disconnect related to less fitness orientation and less health orientation. Supporting mediation, body disconnect no longer related to physical activity and fruit and vegetable consumption when the model included paths from fitness orientation to physical activity and health orientation to fruit and vegetable consumption. Sobel tests revealed that fitness orientation fully mediated the relationship between body disconnect and physical activity ($Z = -4.32, p < .001$) and health orientation fully mediated the relationship between body disconnect and fruit and vegetable consumption ($Z = -2.26, p < .05$). Moreover, the full model provided a superior fit to the data than the direct effects models.

Additional Analyses

Due to the recommendation of one of the committee members, Study 3 further evaluated the convergent validity of the body disconnect scale by examining its correlation with the Contour Drawing Rating Scale (Thompson & Gray, 1995; see

Appendix R). The Contour Drawing Rating Scale assessed participants' perceptions of their bodies and their body dissatisfaction by asking them to first select the figure (range from 1 = very thin to 9 = very overweight) that most looks like them and then select the figure that they would like to look like. These scores indicate participants' own and desired bodies. To assess body dissatisfaction, discrepancy scores between participants' real and ideal figures (i.e., the "figure that they would most like to look like" – the "figure that most looked like them") were calculated such that negative scores reflect a desire to be thinner, zero reflects satisfaction, and positive scores reflect a desire to be heavier (Markey & Markey, 2005). Previous research has demonstrated test-retest reliability of .79 (Thompson & Gray, 1995).

The body disconnect scale demonstrated convergent validity in women such that body disconnect was associated with a desire to be thinner ($r = -.24, p < .001$). Interestingly, in men, the body disconnect scale did not correlate significantly with the calculated discrepancy score ($r = -.14, p > .05$). However, further analysis in men evidenced a significant association between body disconnect and a discrepancy between their real and ideal bodies (i.e., an absolute value discrepancy score; $r = .33, p < .001$). These results are consistent with the previous research that suggests the complexity of cultural prescriptions for men's bodies (Corson & Andersen, 2002). While men are concerned with leanness, men more than women also desire change in their physical bodies in the form of weight gain and increased muscularity (Olivardia, 2002).

Discussion

Study 3 extended the findings from Study 1 related to the correlation between body disconnect and fitness and health orientations by testing whether body disconnect

predicted specific health behaviors (i.e., physical activity and fruit and vegetable consumption). Moreover, Study 3 examined a model of body disconnect and health behavior mediated by fitness and health orientations. Results supported the hypothesized model such that body disconnect predicted fitness and health orientations as well as physical activity and fruit and vegetable consumption. Furthermore, fitness orientation mediated the relationship between body disconnect and physical activity, and health orientation mediated the relationship between body disconnect and fruit and vegetable consumption.

These results suggest that perceptions related to the body (i.e., connectedness) are important in behaviors that necessitate recognition of the relationship between the self and the physical body (i.e., health behaviors). The results are important in extending the maladaptive consequences of body image disturbance from the mental health domain to the physical health domain. While researchers have more frequently studied the mental health consequences of both body image dissatisfaction and distancing oneself from one's physical body (for reviews, see Cash & Pruzinsky, 1990; McKinley, 2002), these findings suggest the role of body image disturbance in physical health consequences as well. Thus, one's relationship with one's physical body may be an important variable in understanding and promoting health behavior. Moreover, these results suggest the potential utility of establishing interventions to increase individuals' connectedness with their physical bodies as a way of improving quality of life through enhancing physical health.

General Discussion

This research explored the measurement and prevalence of body disconnect among men and women, the antecedents of experiencing the physical body as psychologically separate from one's sense of self, and the implications of body disconnect for physical health. This line of research is the first to quantitatively examine individuals' experience of their physical bodies as separate and disconnected. Moreover, this line of research both investigated and evidenced men's and women's experience of body disconnect suggesting that body image disturbance is occurring in increasing frequency in men, especially when the conceptualization and assessment are gender neutral in the sense that losing weight is not the focus. Lastly, this research has tied psychological separation from the physical body to physical health outcomes, which extends previous work on the mental health consequences of self-objectification and has implications for the role of the body in health behavior, and, consequently, health behavior theory.

Moreover, this research instigates questions related to both the process of disconnect as well as the outcomes. With regard to the process of disconnect, there is the question of whether body disconnect is motivated or unmotivated (i.e., active or passive). The way in which an individual comes to experience his or her body as psychologically separate from one's sense of self may also influence the outcomes of disconnect. While much of this dissertation has focused on the maladaptive consequences of body disconnect, I hope to also explore the potential adaptive consequences of body disconnect in the future.

Active versus Passive Disconnect

The experience of disconnect may be active or passive depending upon the individual and the precipitating events. Active disconnect refers to a motivated separation of one's self from one's physical body. Passive disconnect refers to unintended disconnect (i.e., disconnect that does not necessarily result from dissatisfaction and/or efforts to maintain one's self-esteem).

Active Disconnect

Active disconnect occurs when one is aware that his/her body does not adhere to societal standards. For example physically disabled, obese, and disfigured individuals disconnect from their physical bodies to maintain a positive self-concept and preserve self-esteem (Rybarczyk and Behel, 2002; Shontz, 1990; Toombs, 1992; Waskul & van der Riet, 2002). Similar to the experience of disconnect researchers describe among stigmatized populations, women strive to maintain self worth when one's body does not adhere to cultural standards of femininity and/or attractiveness by actively disconnecting from their physical bodies. Cash, Santos, and Williams (2005) investigated the mechanisms that are employed in coping with negative body images. In developing a questionnaire to assess body image coping strategies, Cash et al. (2005) identified three coping subscales: avoidance, appearance fixing, and positive rational acceptance. The avoidance subscale includes items such as "I avoid looking at myself in the mirror" and suggests that distancing oneself from images of one's physical body is one way to cope with the psychological distress caused by a negative body image, thus further suggesting the utility of active disconnect as a method of maintaining a sense of self worth.

Clarke (2001) performed a qualitative analysis of older (i.e., *Range* = 60 – 92 years old) women's perceptions of their bodies and their constructions of identity that supports the process of active disconnect. Women discussed their physical bodies as both masks and prisons of the self. In distinguishing between an “outside” self versus an “inside” self, women referred to their physical bodies as “shells,” “casings,” “containers,” or “limiting” vessels (Clarke, 2001). The women indicated that their physical bodies were mere receptacles for their true selves, which are hidden and maintained “inside” (Clarke, 2001). Although the research focused on the construction of identity in later life and thus utilized an older sample, the findings illuminate women's active disconnect from their physical bodies. In discussing an awareness of differentiation between body and sense of self, one woman remarked, “I think that's always been true. I don't think it's just as I've got older” (Clarke, 2001, p. 447). Thus, older women report common experiences of disconnect from their physical bodies that begin early on. Furthermore, the pervasiveness of their experiences of disconnect suggests the utility of actively disconnecting when one's physical body is deemed nonnormative or undesirable. Thus, aging in a culture that values youthful appearances and living in a culture that prescribes narrow and unrealistic standards of beauty and attractiveness motivates disconnect from one's physical body.

Consistent with the previous research, in Study 2 when participants' bodies were threatened and they evaluated their appearances negatively, they disconnected from their bodies. Threats to the body motivated disconnect, perhaps as a way of maintaining self-worth. These results extend previous research and suggest that body disconnect can function as a state variable when fluctuating in response to threatening situational factors.

Future research should explore whether state body disconnect protects self-esteem when occurring in a context in which threats to the body have implications for self-evaluation.

Passive Disconnect

Passive disconnect results from the totality of one's attention directed toward how one's body appears to others. A complete focus on the appearance of one's physical body facilitates disconnect from that body in terms of the body's functioning and/or competence. Experiences that teach women to view their bodies as objects can cause this type of disconnect. For example, Orbach (1993) argues that from an early age society teaches women to experience their bodies as commodities. In discussing the role of women's bodies in consumerism, Orbach (1993) evidences the objectification of women's bodies. She asserts that the female body is used to humanize products for consumption, which simultaneously results in the female body being transformed and presented as the ultimate commodity. Consequently, the transformation of the female body to a commodity creates a disjuncture between women and their physical bodies (Orbach, 1993).

Similarly, McKinley (2002) describes the role of the media in portraying idealized female bodies that are in opposition to the mature female body (i.e., a body with fat on the hips and thighs). She also contends that the female body is typically regarded as deviant in that Western society medicalizes normal events (e.g., menstruation, pregnancy, and menopause). The perceived deviance of the female body in terms of both appearance and functioning creates a context that encourages the construction of women as objects to be evaluated (McKinley, 2002). Consequently, girls learn to be their first surveyors in terms of appearance in order to combat perceived deviance and receive approval from

others (Fredrickson & Roberts, 1997; McKinley, 2002). The constant monitoring of one's appearance necessitates a distancing of the self from the physical body; thus, inciting the experience of one's physical body as "other," or in other words, facilitating disconnect in a passive way.

Consistent with this research, the results of Study 1 and Study 3 suggest that trait disconnect correlates positively with body shame and surveillance and negatively with fitness and health orientations as well as specific health behaviors (i.e., physical activity and fruit and vegetable consumption). Disconnect is associated with increased body shame and surveillance and decreased interest in and attention paid to fitness and health. Thus, by being concerned with the external characteristics of one's body (i.e., appearance), one may give short shrift to the internal characteristics (i.e., fitness and health). Future research should establish a causal relationship between the associations evidenced in this research to confirm the paradoxical nature of passive disconnect (i.e., the totality of one's attention directed toward how one's body appears to the detriment of how one's body functions).

Adaptive versus Maladaptive

The process by which disconnect from one's physical body occurs determines the consequences. One positive consequence of disconnecting from one's physical body may be maintaining one's self-esteem when one's body does not conform to societal standards. This consequence occurs most commonly in instances of active disconnect from one's physical body. On the other hand, passively disconnecting in the sense of separating oneself from the functioning of the body and concentrating only on the appearance of the body (i.e., self-objectification) leads to shame, anxiety, decreased flow,

unipolar depression, disordered eating, and/or sexual dysfunction (Fredrickson & Roberts, 1997). Additionally, disconnect from one's physical body may undermine an individuals' physical health. Specifically, through an association with fitness and health orientations, body disconnect hinders health-protective behavior.

Positive Consequences

Through incapacitation or stigma, the people may experience the body as a thing or object (Moss, 1992). Thus, people disconnect to escape the trap set by impaired or stigmatizing physical conditions. For example, physical disability and chronic illness often limits the physical body which may confound an individual's sense of self. Changes in the physical self-concept can be difficult to incorporate in to a positive conceptualization of self. Therefore, people may disconnect to preserve their sense of self-worth. For example, when a body is deemed nonnormative or undesirable and rejected by others, people disconnect from their bodies to resist feeling that their personalities have been rejected as well.

Body image evaluations have implications for the evaluation of self (Cash, 1990), thus separating oneself from a negative evaluation of one's body allows people to maintain a positive self-evaluation (Cash, 1990). Researchers have qualitatively explored this reason for disconnect in obese (e.g., DelRosario, Brines, & Coleman, 1984; Moss, 1992) and disfigured (e.g., Bernstein, 1990; Cash 1990) individuals. Moreover, Tombs (1992) describes the experience of the body in multiple sclerosis from a patient's perspective. She begins by explaining that illness represents a distinct way of being in the world that includes a concurrent disruption of the self and the surrounding world. This altered way of being reflects the severe change in the relationship between body and

self. The body functions as an oppositional force that hinders an individual's ability to move seamlessly through everyday activities (Toombs, 1992; Vamos, 1993).

Consequently, chronically ill patients experience the body as “alien,” or “other-than-me” (Toombs, 1992).

In the future, I would like to explore body disconnect in chronically ill populations using the body disconnect scale and investigate correlates of disconnect that would be specific to these populations. Would body disconnect be associated with treatment behaviors in ways similar to the association between body disconnect and health behaviors in a healthy population? The relationship between the self and physical body seems to be especially complicated in populations that experience limitations in regard to their physical bodies. On the one hand, these individuals may disregard their limitations (and physical bodies) to preserve self-concept, but on the other hand, this disregard of the physical body may be problematic in adhering to treatment regimens, which could restore physical capacity to some extent. Understanding the optimal level of connectedness between body and self in these populations seems a worthwhile undertaking in promoting optimal quality of life.

Negative Consequences

Mental health consequences. Research substantiates the negative consequences of self-objectification (for a review of the ‘price’ of self-objectification, see Goldenberg & Roberts, 2004). The current research supports a link between self-objectification and body disconnect. Thus, the implications of self-objectification extend to body disconnect such that experiencing the body as ‘other,’ or, separate from one's self, can lead to the occurrence of shame, anxiety and decreased flow experiences. Additionally, the role of

self-objectification in unipolar depression, disordered eating, and sexual dysfunction, may, in part, be a function of body disconnect.

Physical health consequences. Health-protective behavior refers to behaviors undertaken by a healthy individual that are aimed at preventing or detecting illness in an asymptomatic state (Glanz, Rimer, & Lewis, 2002). Theorists have posited many models to explain the adoption of preventive health behaviors [e.g., health belief model (Becker & Rosenstock, 1984), subjective expected utility theory (Edwards, 1954), protection motivation theory (Maddux & Rogers, 1983), and the theory of reasoned action (Ajzen & Fishbein, 1980)]. Explaining the adoption of health-protective behavior crucially impacts physical health due to people's behavioral practices largely determining their physical health (Salovey, Rothman, Detweiler, & Steward, 2000). In fact, researchers posit health behavior as the most efficient way to reduce the morbidity and mortality associated with disease (Stroebe & Stroebe, 1995; Salovey et al., 2000).

Supporting the role of regard for the physical body in behaviors that impact health, Muehlenkamp, Swanson, and Brausch (2005) investigated the role of self-objectification in negative body regard and depression, which they hypothesized would increase engagement in risk-taking and self-harmful behaviors. Four hundred thirteen female undergraduates completed measures of objectified body consciousness (i.e., self-objectification), body investment, depression, health risk behaviors, and self-harm. Results indicated that self-objectification was associated with negative body regard, which influenced depressive symptomatology, which affected self-harm. Thus, self-objectification had an indirect effect on self-harm that was accounted for by negative

body regard. The results of the study support the current findings linking disconnect from one's physical body to behaviors that impact physical health.

While the current research provides an initial investigation of the relationship between body disconnect and health behavior, it does not investigate how this variable functions. Future studies should examine whether body disconnect functions as a moderator or mediator in theories of health behavior. While social cognition models are well-developed, researchers question when and under what conditions constructs from different theories predict health behavior (Rimer, 2002). For example, are cognitions related to health behavior more predictive in individuals who indicate body connection? The social cognition models most often emphasize conscious cognitive factors because of their role in proximally determining social behavior as well as mediating the relationship between a multitude of other variables (e.g., race, social class) and behavior (Conner & Norman, 2003). Thus, can cognitions related to health behavior (e.g., perceived susceptibility and severity of a health condition) mediate the relationship between body connectedness and health behaviors? Perhaps these cognitions will predict health behavior most efficiently when they are considered as mediators in a model that includes body connectedness as a distal predictor of health behavior.

Limitations

The research that has been described is not without limitations. The correlational design of Studies 1 and 3 limits the conclusions that can be drawn from the research. The associations between body disconnect and fitness and health orientations supported an examination of the association of body disconnect with specific health behaviors in Study 3. It is possible in both Study 1 and Study 3 that being oriented towards one's fitness and

health and engaging in physical activity and fruit and vegetable consumption forged a sense of connection between the self and the physical body. Thus, while the goal was to assess whether naturally-occurring body disconnect was associated with health behaviors, it is impossible to determine causality. Therefore, future studies should manipulate body disconnect or employ longitudinal designs in order to determine whether changes in body disconnect influenced intentions to engage in health behavior.

In Study 2, I was unable to impact participants' fitness evaluations through a body competence threat. Therefore, I was unable to test whether decreased fitness evaluations also lead to body disconnect and whether fitness evaluations are more salient for men as compared to women. Perhaps, one of the reasons that the competence manipulation failed to impact fitness evaluations and rather impacted appearance evaluations was because appearance (i.e., appearing muscle-bound) was the way that participants evaluated their potential performance in the absence of actual performance. In the future, it would be worthwhile to attempt to manipulate fitness evaluations using a dimension that is perhaps less visible than strength (i.e., endurance). An endurance manipulation might be less likely to cause participants to evaluate their appearance while contemplating their performance on an endurance task. This would allow fitness evaluation to be tested as an antecedent of body disconnect as well as test whether fitness evaluation is more salient to men in their experiences of disconnect.

Moreover, in Study 2, participants only evidenced disconnect in response to the competence threat manipulation, which impacted appearance evaluation. Interestingly, body disconnect did not result from the appearance threat condition. While the appearance threat condition did impact appearance evaluation, the effect was smaller than

the effect for the competence threat manipulation. Thus, these results suggest that the effect for appearance evaluation was not large enough to drive a disconnect effect for that condition. In closely examining the appearance and competence threat manipulations, a key difference between the manipulations is the reference group listed for each. In the competence threat condition, experimenters reiterated to participants that their performance on the strength test would be compared to average Rutgers students of their sex as well as Rutgers athletes of their sex. In the appearance threat condition, experimenters told participants that their photographs would be compared to average Rutgers students of their sex and *supermodels* of their sex. Because this is an unrealistic reference group, perhaps participants found this manipulation more comical than threatening. We may applaud the mass media for at least propagating the message that supermodels are both unrealistic in terms of body standards and often manipulated (i.e., airbrushed) in order to appear that way. Future studies should employ realistic comparison groups to be maximally threatening.

Other Future Directions

A validated measure of one's relationship with one's physical body enables myriad empirical investigations. Moreover, the finding regarding body disconnect and health behavior underscores the necessity of exploring ways of instilling connectedness in men and women. Previous research suggests the value of incorporating a mind-body approach in a model of health (for a review, see Astin, Shapiro, Eisenberg, & Forys, 2003). Mind-body therapies such as mindfulness meditation and biofeedback forge a connection between self and body. Mindfulness meditation focuses on the awareness of thoughts, emotions, and bodily sensations as they occur (Astin et al., 2003). Individuals

direct their attention to knowledge from their bodies that is uniquely their own, thus increasing their recognition of their body's functioning. Biofeedback employs devices that amplify physiological processes (e.g., heart rate, respiratory rate) to increase individuals' ability to perceive these processes (Astin et al., 2003). Additionally, individuals learn techniques to control these processes (e.g., visual imagery to slow heart rate). Therefore, biofeedback provides individuals with a greater understanding of their physiology. Individuals reflecting on the knowledge that their bodies afford them or utilizing biofeedback procedures contributes to greater body connectedness.

From a developmental perspective, identifying when body disconnect occurs will direct the timing of intervention efforts. Disconnect may follow the same trajectory as self-objectification in that young women and men are trained to see their bodies as others do as they develop physically during adolescence. Another possibility may be that older women and men begin to perceive their bodies as separate from their sense of self as optimal functioning decreases (e.g., stiffness in joints that impedes daily activities). In either case, researchers should direct future intervention efforts toward critical time periods. Future research should explore the utility of enhancing body connectedness.

Conclusion

Researchers have identified many constructs related to the physical body. However, researchers have empirically ignored the more basic assessment of the relationship between the self and physical body. This dissertation provides a validated measure of assessing this relationship and provides empirical evidence regarding the role of appearance evaluation in instigating psychological separation of the self from the physical body. Moreover, associations between body disconnect and fitness and health

orientations as well as physical activity and fruit and vegetable consumption underscore the importance of how one experiences the physical body to behavior, including behaviors with physical health outcomes.

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Table 1

Descriptive Statistics for Study 1

Variable	N=207	%	Mean	SD	Range
A. Demographic variables:					
Age:					
Male	93	44.9	18.97	1.65	
Female	114	55.1	18.74	3.30	
Combined	207		18.84	2.69	17-50
Ethnicity:					
White/European American	126	60.9			
Asian/Asian American	49	23.7			
Black/African American	12	5.8			
Latino/Hispanic American	12	5.8			
Native American	3	1.4			
Multiracial/Mixed	5	2.4			
Total	207	100.0			
B. Main Study Variables:					
Body Disconnect	207		2.97	1.55	1-8
Body Consciousness					
Public	203		3.59	0.63	2.00-5.00
Private	202		3.49	0.58	1.80-5.00
MBSRQ					
Appearance Eval.	201		3.45	0.79	1.00-5.00
Appearance Orient.	196		3.51	0.62	1.83-5.00
Fitness Eval.	201		3.67	0.87	1.00-5.00
Fitness Orient.	194		3.46	0.80	1.46-5.00
Health Eval.	195		3.56	0.64	2.00-5.00
Health Orient.	197		3.31	0.63	1.50-5.00
Illness Orient.	203		3.26	0.71	1.40-4.60

Table 1 (cont.)

Descriptive Statistics for Study 1

Variable	N=207	%	Mean	SD	Range
Objectified Body Consciousness					
Surveillance	201		4.59	0.95	1.50-6.50
Shame	192		3.06	0.97	1.00-5.71
Control	199		4.96	0.92	1.63-7.00
Self-Objectification	172		-2.27	18.00	-36.00-36.00
Family Disconnect	206		3.20	1.62	1.00-8.00
Gender Disconnect	206		3.10	1.65	1.00-8.00
Social Desirability	195		14.80	4.97	3.00-28.00

Table 2

Means and Standard Deviations by Gender for Study 1 (N=207)

	Women (n = 114)		Men (n = 93)		Cohen's <i>d</i>	<i>t</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>		
Body disc.	2.96	1.49	2.99	1.63	-.02	.15
OBCS Surv.	4.81	.93	4.34	.92	.51	-3.60**
OBCS Shame	3.24	.93	2.84	.99	.42	-2.84**
OBCS Control	4.92	.90	5.01	.95	-.10	.74
Self-objectif.	-.02	18.26	-5.04	17.41	.28	-1.83
BCS Private	3.58	.57	3.39	.58	.33	-2.38*
BCS Public	3.70	.57	3.46	.68	.38	-2.69**
Appearance Eval.	3.45	.82	3.48	.76	-.04	.26
Appear. Orient.	3.66	.59	3.33	.61	.55	-3.86**
Fitness Eval.	3.48	.87	3.90	.83	-.49	3.50**
Fitness Orient.	3.28	.82	3.70	.73	-.54	3.68**
Health Eval.	3.40	.64	3.75	.58	-.57	3.98**
Health Orient.	3.32	.60	3.29	.66	.05	-.28
Illness Orient.	3.33	.75	3.17	.66	.23	-1.59
Family disc.	2.98	1.58	3.46	1.65	-.30	2.13*
Gender disc.	3.16	1.66	3.02	1.64	.08	-.60
Social desirability	14.45	4.92	15.20	5.02	-.15	1.05

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

Table 3

Pearson Correlation Coefficients Among Main Study Variables for Study 1 (N=207)

Variable	1	2	3	4	5	6	7	8	9
1. Gender	--								
2. Body Disc.	-.01	--							
3. OBCS Surv.	.25**	.02	--						
4. OBCS Shame	.20**	.06	.33**	--					
5. OBCS Control	-.05	-.07	-.09	-.17*	--				
6. Self-objectif.	.14	.23**	.45**	.17*	-.08	--			
7. BCS Private	.17*	-.15*	.05	.15*	-.07	-.12	--		
8. BCS Public	.19**	-.16*	.33**	.35**	-.09	.01	.41**	--	
9. Appear.Eval.	-.02	-.33**	-.18*	-.37**	.14	-.07	.04	-.03	--
10. Appear.Orient.	.27**	-.08	.68**	.33**	-.11	.27**	.22**	.66**	-.02
11. Fitness Eval.	-.24**	-.24**	.00	-.10	.03	-.09	.10	.13	.44**
12. Fitness Orient.	-.26**	-.25**	-.05	.03	.14*	-.10	.11	.09	.36**
13. Health Eval.	-.28**	-.28**	-.15*	-.30**	.24**	-.09	.04	.02	.51**
14. Health Orient.	.02	-.34**	-.05	.05	.06	-.17	.24**	.27**	.31**
15. Illness Orient.	.11	-.26**	-.05	.05	.00	-.09	.43**	.26**	.09
16. Family disc.	-.15*	.11	.03	.05	-.06	-.03	-.16*	-.10	-.13
17. Gender disc.	.04	.19**	-.02	.12	-.02	-.01	.00	.03	-.24**
18. Social Des.	-.08	-.12	-.30**	-.09	.12	-.24**	.03	.10	.09

* $p < .05$

** $p < .01$

Table 3 (cont.)

Pearson Correlation Coefficients Among Main Study Variables for Study 1 (N=207)

Variable	10	11	12	13	14	15	16	17	18
10. A.O.	--								
11. F.E.	.03	--							
12. F.O.	.01	.65**	--						
13. H.E.	-.07	.44**	.49**	--					
14. H.O.	.11	.38**	.58**	.50**	--				
15. I.O.	.09	.09	.21**	.23**	.50**	--			
16. Family disc.	-.07	.08	-.06	-.04	-.13	-.14	--		
17. Gender disc.	-.01	-.02	-.04	-.04	-.13	-.01	.17*	--	
18. Social Des.	-.11	.09	.16*	.23**	.31**	.16*	-.22**	-.07	--

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

Table 4

Descriptive Statistics for Study 2 (N=304)

Appearance Threat					
Variable	n=122	%	Mean	SD	Range
A. Demographic variables:					
Age:					
Male	53	43.4	18.79	1.00	
Female	69	56.6	18.48	1.04	
Combined	122		18.61	1.03	17-24
Ethnicity:					
White/European American	54	44.3			
Asian/Asian American	35	28.7			
Black/African American	13	10.7			
Latino/Hispanic American	10	8.2			
Multiracial/Mixed	6	4.9			
Other	4	3.2			
Total	122	100.0			
B. Main Study Variables:					
Body Disconnect	122		3.30	1.63	1-8
MBSRQ					
Appearance Eval.	122		3.34	0.77	1.57-4.86
Fitness Eval.	121		3.62	0.83	1.33-5.00
Competence Threat					
Variable	n=103	%	Mean	SD	Range
A. Demographic variables:					
Age:					
Male	36	35.0	18.97	1.34	
Female	67	65.0	18.82	1.34	
Combined	103		18.87	1.33	17-25

Table 4 (cont.)

Descriptive Statistics for Study 2 (N=304)

Variable	n=103	%	Mean	SD	Range
Ethnicity:					
White/European American	47	45.6			
Asian/Asian American	23	22.3			
Black/African American	7	6.8			
Latino/Hispanic American	12	11.7			
Multiracial/Mixed	9	8.7			
Other	5	4.9			
Total	103	100.0			
B. Main Study Variables:					
Body Disconnect	103		3.45	1.75	1-8
MBSRQ					
Appearance Eval.	100		3.23	0.76	1.43-4.57
Fitness Eval.	101		3.78	0.71	1.67-5.00
Control					
Variable	n=79	%	Mean	SD	Range
A. Demographic variables:					
Age:					
Male	93	38.0	19.97	3.12	
Female	114	62.0	18.55	0.89	
Combined	79		19.09	2.14	18-32
Ethnicity:					
White/European American	37	46.8			
Asian/Asian American	20	25.3			
Black/African American	9	11.4			
Latino/Hispanic American	6	7.6			
Multiracial/Mixed	5	6.3			
Other	2	2.5			
Total	79	100.0			

Table 4 (cont.)

Descriptive Statistics for Study 2 (N=304)

Variable	n=79	%	Mean	SD	Range
B. Main Study Variables:					
Body Disconnect	79		2.92	1.47	1-7
MBSRQ					
Appearance Eval.	79		3.57	0.69	1.43-5.00
Fitness Eval.	79		3.70	0.81	1.33-5.00

Table 5

Pearson Correlation Coefficients Among Main Study Variables for Study 2

Appearance Threat ($n = 122$)				
Variable	1	2	3	4
1. Gender	--			
2. Body Disc.	.12	--		
3. Appearance E.	-.04	-.52**	--	
4. Fitness E.	-.23**	-.48**	.51**	--
Competence Threat ($n = 103$)				
Variable	1	2	3	4
1. Gender	--			
2. Body Disc.	.01	--		
3. Appearance E.	.11	-.58**	--	
4. Fitness E.	-.15	-.24*	.38**	--
Control ($n = 79$)				
Variable	1	2	3	4
1. Gender	--			
2. Body Disc.	.14	--		
3. Appearance E.	-.06	-.47**	--	
4. Fitness E.	-.39**	-.25*	.31**	--

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

Table 6

Means and Standard Deviations Compared to Control Condition for Study 2

	Appearance ($n = 122$)		Control ($n = 79$)		Cohen's d	t
	M	SD	M	SD		
Body disconnect	3.30	1.63	2.92	1.47	.24	1.68
Appearance Eval.	3.34	.77	3.57	.69	-.31	-2.07*
Fitness Eval.	3.62	.83	3.70	.81	-.10	-.74

	Competence ($n = 103$)		Control ($n = 79$)		Cohen's d	t
	M	SD	M	SD		
Body disconnect	3.45	1.75	2.92	1.47	.33	2.14*
Appearance Eval.	3.23	.76	3.57	.69	-.47	-2.97**
Fitness Eval.	3.78	.71	3.70	.81	.11	.67

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

Table 7

Descriptive Statistics for Study 3

Variable	N= 416	%	Mean	SD	Range
A. Demographic variables:					
Age:					
Male	162	38.9	19.21	3.10	
Female	254	61.1	19.24	2.95	
Combined	416		19.23	3.00	17-40
Ethnicity:					
White/European American	217	52.2			
Asian/Asian American	104	25.0			
Black/African American	31	7.5			
Latino/Hispanic American	30	7.2			
Multiracial/Mixed	14	3.4			
Other	20	4.7			
Total	416	100.0			
B. Main Study Variables:					
Body Disconnect	416		2.95	1.63	1-8
MBSRQ					
Fitness Orient.	380		3.36	0.75	1.38-5.00
Health Orient.	395		3.32	0.63	1.38-4.88
Health Behaviors					
Physical Activity	402		3.41	1.91	1.00-8.00
Fruit & Vegetable Consum.	396		2.44	0.79	1.00-5.83

Table 8

Pearson Correlation Coefficients Among Main Study Variables for Study 3 (N=416)

Variable	1	2	3	4	5	6
1. Gender	--					
2. Body Disc.	.13**	--				
3. Fitness Orient.	-.25**	-.28**	--			
4. Health Orient.	-.05	-.24**	.52**	--		
5. Physical Activity	-.21**	-.14**	.54**	.36**	--	
6. Fruit & Vegetable Consum.	.00	-.15**	.25**	.38**	.29**	--

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

Table 9

Fit Statistics and Chi-Square Comparisons for Models for Study 3 (N=374)

	<i>Description</i>	<i>Paths Excluded from Nested Model</i>	χ^2	<i>df</i>	<i>NNFI</i>	<i>CFI</i>	<i>RMSEA</i>
Model 1	Measurement Model	All	86.25**	35	1.00	1.00	0.06
Model 2	Direct Effects Model	E, F, G, H	284.28**	40	1.00	1.00	0.13
Model 3	Full Model/Indirect Model/Best Fitting Model		87.58**	37	1.00	1.00	0.06

Note: * $p < .05$ ** $p < .01$

Paths Excluded letters correspond to paths in Figure 3. E = the path from fitness orientation to physical activity, F = the path from fitness orientation to fruit and vegetable consumption, G = the path from health orientation to physical activity, and H = the path from health orientation to fruit and vegetable consumption. The Full Model/Indirect Model/Best Fitting Model includes all paths including the indirect paths between body disconnect and physical activity and fruit and vegetable consumption; this model included the proposed mediators (i.e., fitness orientation and health orientation) and fit the data best.

NNFI = Non-Normed Fit Index

CFI = Comparative Fit Index

RMSEA = Root Mean Square Error of Approximation

Figure 1.

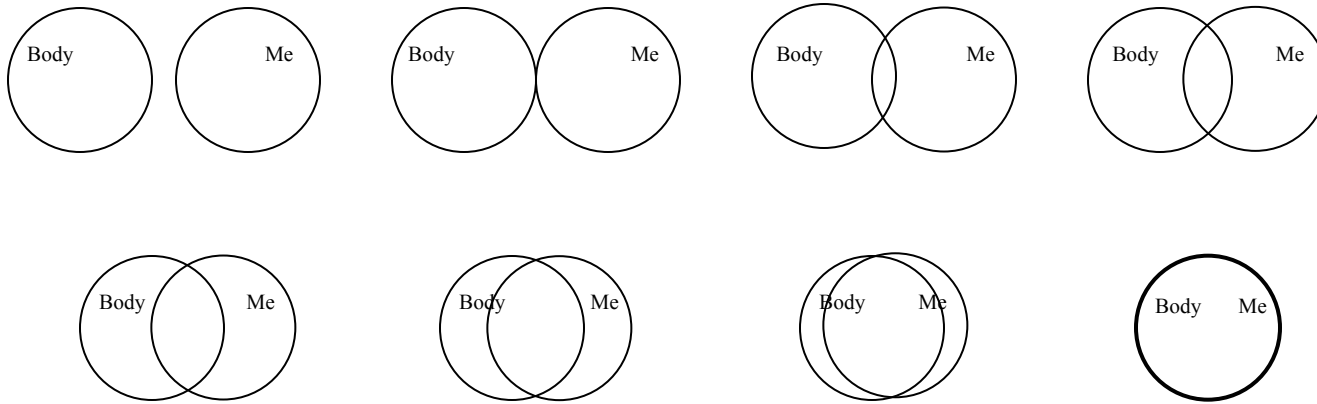


Figure 2.

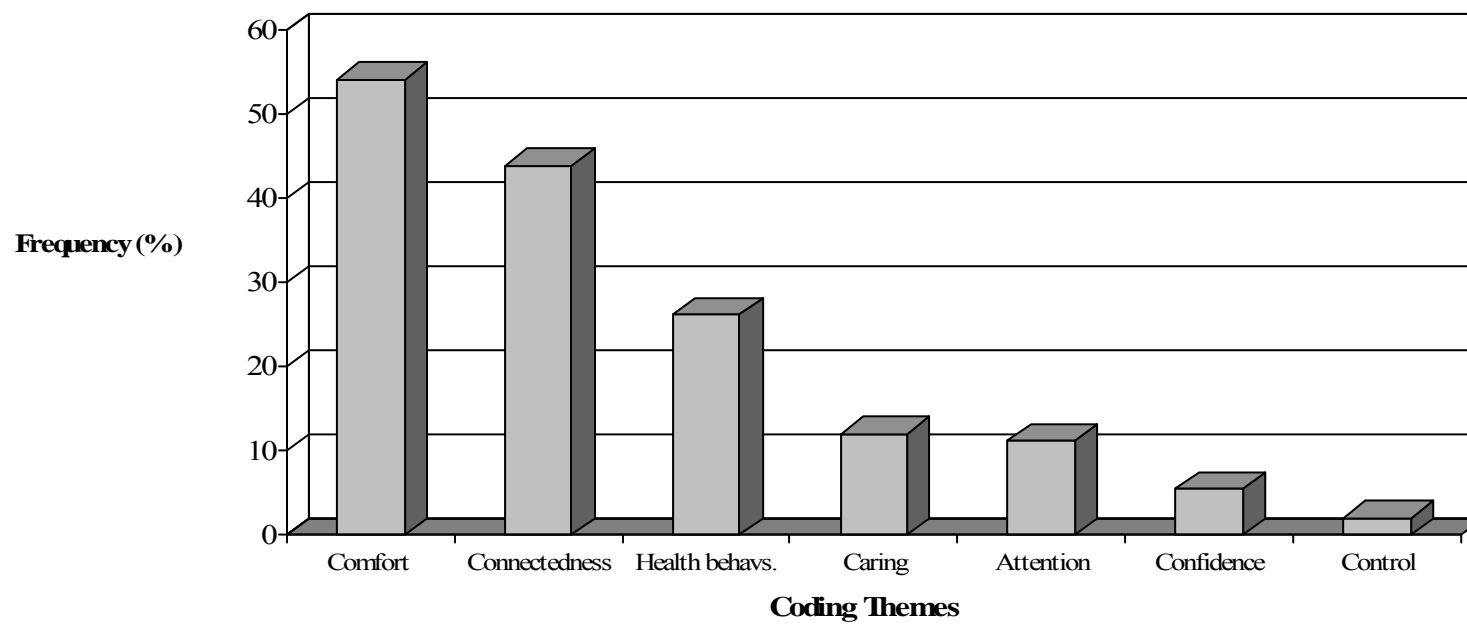
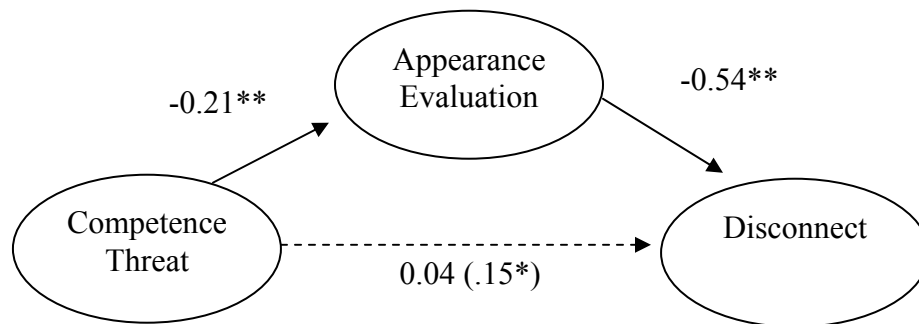


Figure 3.



* = $p < .05$

** = $p < .01$

Notes: Negative betas indicate inverse relationships between competence threat and appearance evaluation and appearance evaluation and disconnect. Competence threat resulted in decreased appearance evaluation. Decreased appearance evaluation resulted in increased disconnect.

Figure 4.

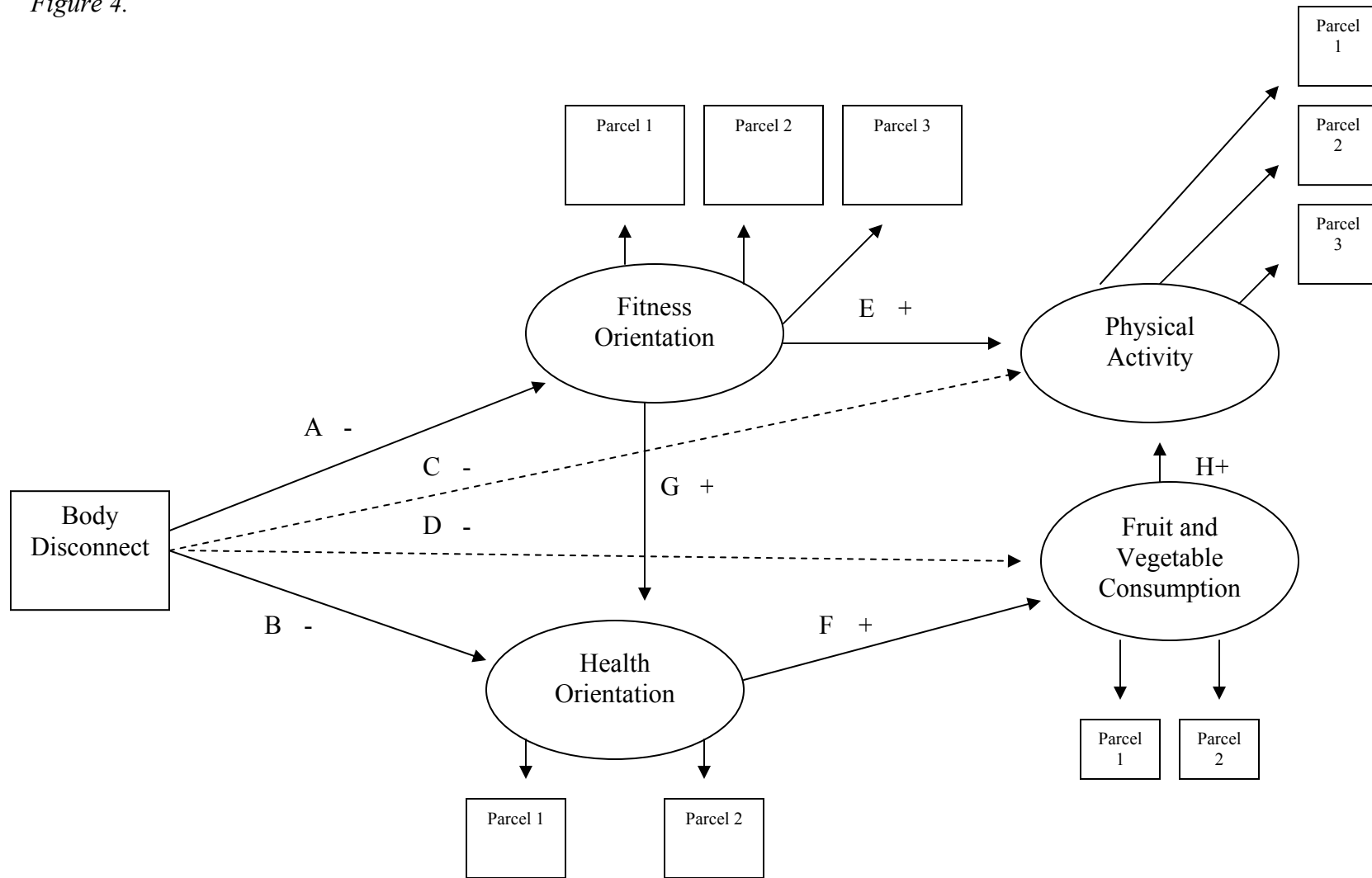
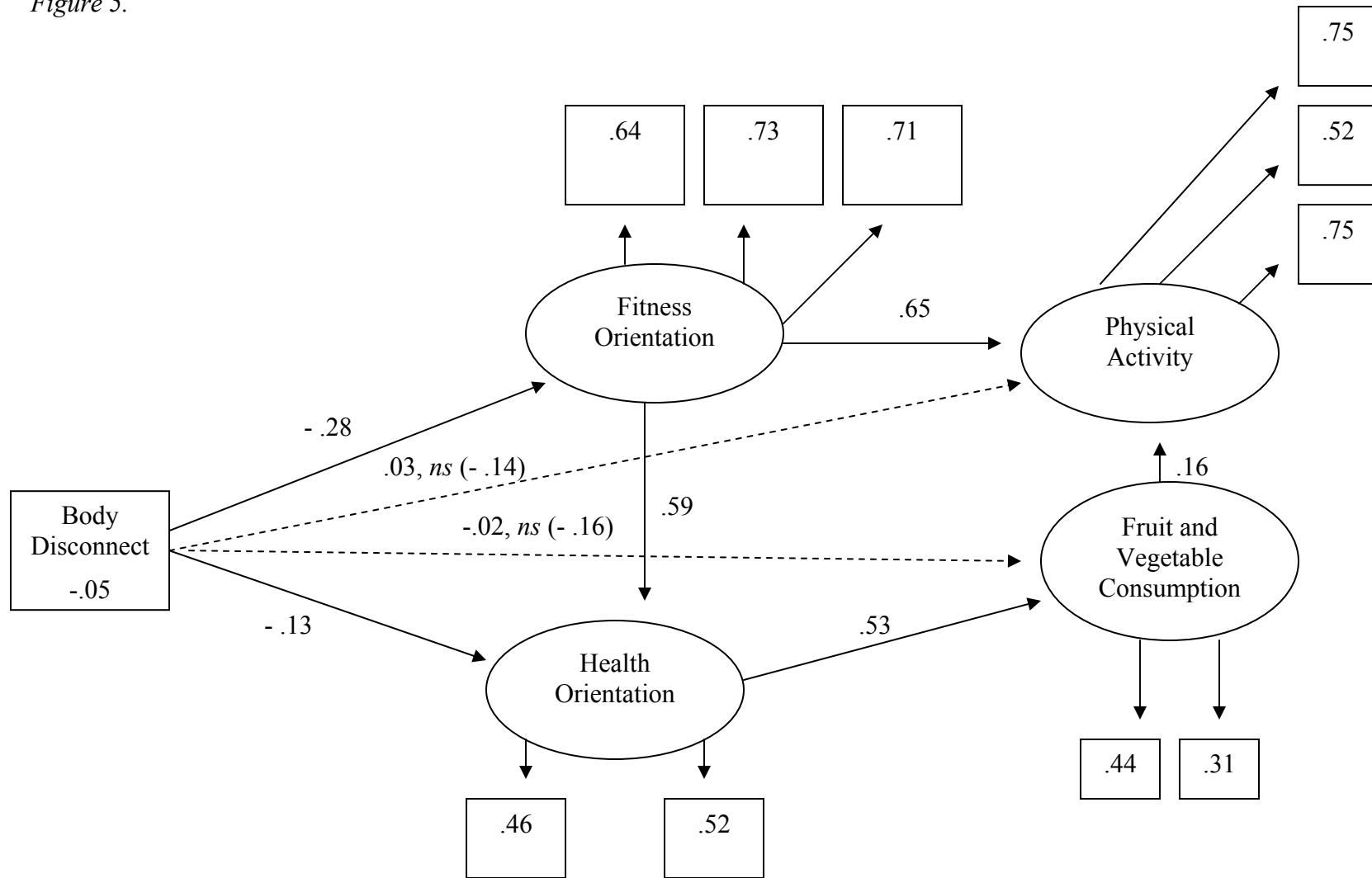
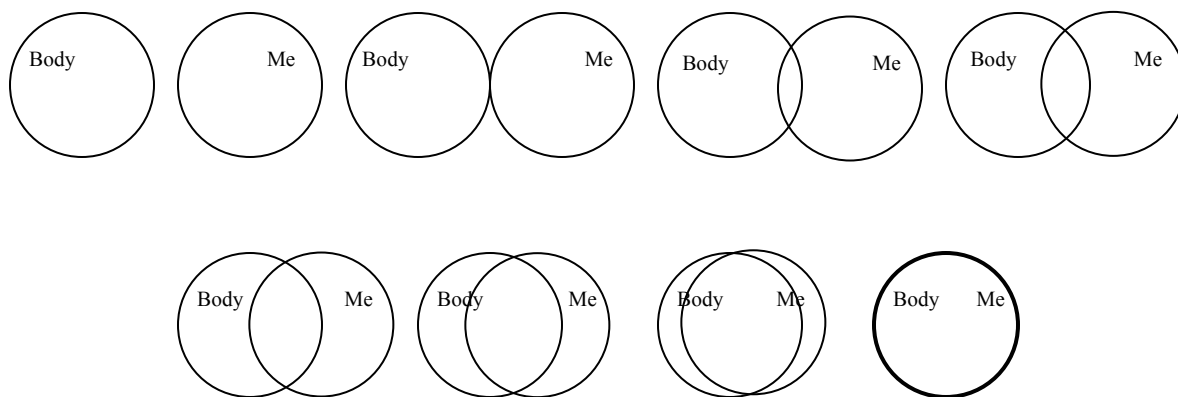


Figure 5.



Appendix A: Body Disconnect Scale

Different people have different feelings about their relationship to their own physical bodies. The figures below represent different relationships that people have with their own physical bodies. Please circle the figure below that best represents your relationship with your physical body.



Why did you circle the figure that you did? Please explain your choice as well as you can.

Appendix B: The Objectified Body Consciousness Scale

Please respond to each of the following statements by circling your answer using the scale from "1 = Strongly disagree" to "7 = Strongly agree." If you haven't experienced the situation described in a particular statement, please answer how you think you would feel if that situation occurred.

1. I rarely think about how I look.

1 2 3 4 5 6 7
strongly disagree-----strongly agree

2. I think it is more important that my clothes are comfortable than whether they look good on me.

1 2 3 4 5 6 7
strongly disagree-----strongly agree

3. I think more about how my body feels than how my body looks.

1 2 3 4 5 6 7
strongly disagree-----strongly agree

4. I rarely compare how I look with how other people look.

1 2 3 4 5 6 7
strongly disagree-----strongly agree

5. During the day, I think about how I look many times.

1 2 3 4 5 6 7
strongly disagree-----strongly agree

6. I often worry about whether the clothes I am wearing make me look good.

1 2 3 4 5 6 7
strongly disagree-----strongly agree

7. I rarely worry about how I look to other people.

1 2 3 4 5 6 7
strongly disagree-----strongly agree

8. I am more concerned with what my body can do than how it looks.

1 2 3 4 5 6 7
strongly disagree-----strongly agree

9. When I can't control my weight, I feel like something must be wrong with me.

1 2 3 4 5 6 7
strongly disagree-----strongly agree

10. I feel ashamed of myself when I haven't made the effort to look my best.
 1 2 3 4 5 6 7
 strongly disagree-----strongly agree
11. I feel like I must be a bad person when I don't look as good as I could.
 1 2 3 4 5 6 7
 strongly disagree-----strongly agree
12. I would be ashamed for people to know what I really weigh.
 1 2 3 4 5 6 7
 strongly disagree-----strongly agree
13. I never worry that something is wrong with me when I am not exercising as much as I should.
 1 2 3 4 5 6 7
 strongly disagree-----strongly agree
14. When I'm not exercising enough, I question whether I am a good enough person.
 1 2 3 4 5 6 7
 strongly disagree-----strongly agree
15. Even when I can't control my weight, I think I'm an okay person.
 1 2 3 4 5 6 7
 strongly disagree-----strongly agree
16. When I'm not the size I think I should be, I feel ashamed.
 1 2 3 4 5 6 7
 strongly disagree-----strongly agree
17. I think a person is pretty much stuck with the looks they are born with.
 1 2 3 4 5 6 7
 strongly disagree-----strongly agree
18. A large part of being in shape is having that kind of body in the first place.
 1 2 3 4 5 6 7
 strongly disagree-----strongly agree
19. I think a person can look pretty much how they want if they are willing to work at it.
 1 2 3 4 5 6 7
 strongly disagree-----strongly agree
20. I really don't think I have much control over how my body looks.
 1 2 3 4 5 6 7
 strongly disagree-----strongly agree

21. I think a person's weight is mostly determined by the genes they are born with.

1 2 3 4 5 6 7
strongly disagree-----strongly agree

22. It doesn't matter how hard I try to change my weight, it's probably always going to be about the same.

1 2 3 4 5 6 7
strongly disagree-----strongly agree

23. I can weigh what I'm supposed to when I try hard enough.

1 2 3 4 5 6 7
strongly disagree-----strongly agree

24. The shape you are in depends mostly on your genes.

1 2 3 4 5 6 7
strongly disagree-----strongly agree

Appendix C: Self-objectification Questionnaire

Please rank the following body attributes in ascending order of how important each is to your physical self-concept, from that which has the most impact (rank = 1) to that which has the least impact (rank = 12).

1. Physical attractiveness _____
2. Muscular strength _____
3. Coloring _____
4. Physical coordination _____
5. Weight _____
6. Stamina _____
7. Sex appeal _____
8. Measurements _____
9. Health _____
10. Physical fitness _____
11. Muscle tone _____
12. Physical energy level _____

Appendix D: Body Consciousness Questionnaire

Please respond to each of the following statements by circling your answer using the scale from “(0) Extremely uncharacteristic” to “(4) Extremely characteristic.”

1. I am sensitive to internal bodily tensions.

0 1 2 3 4
 extremely -----extremely
 uncharacteristic characteristic

2. When with others, I want my hands to be clean and look nice.

0 1 2 3 4
 extremely -----extremely
 uncharacteristic characteristic

3. For my size, I'm pretty strong.

0 1 2 3 4
 extremely -----extremely
 uncharacteristic characteristic

4. I know immediately when my mouth or throat gets dry.

0 1 2 3 4
 extremely -----extremely
 uncharacteristic characteristic

5. It's important for me that my skin looks nice...for example, has no blemishes.

0 1 2 3 4
 extremely -----extremely
 uncharacteristic characteristic

6. I'm better coordinated than most people.

0 1 2 3 4
 extremely -----extremely
 uncharacteristic characteristic

7. I can often feel my heart beating.

0 1 2 3 4
 extremely -----extremely
 uncharacteristic characteristic

8. I am very aware of my best and worst facial features.

0 1 2 3 4
 extremely -----extremely
 uncharacteristic characteristic

9. I'm light on my feet compared to most people.

0 1 2 3 4
extremely ----- extremely
uncharacteristic characteristic

10. I am quick to sense the hunger contractions of my stomach.

0 1 2 3 4

extremely uncharacteristic ----- extremely characteristic

11. I like to make sure that my hair looks right.

0 1 2 3 4
extremely ----- extremely
uncharacteristic characteristic

12. I'm capable of moving quickly.

0 1 2 3 4
extremely uncharacteristic ----- extremely characteristic

13. I'm very aware of changes in my body temperature.

0 1 2 3 4
extremely ----- extremely
uncharacteristic characteristic

14. I think a lot about my body build.

0 1 2 3 4

extremely ----- extremely
uncharacteristic characteristic

15. I'm concerned about my posture.

0 1 2 3 4

extremely uncharacteristic ----- extremely characteristic

Appendix E: Multidimensional Body-Self Relations Questionnaire

Please indicate the extent to which each statement pertains to you personally. Using the scale below, please indicate your answer by circling the appropriate number to the right of the statement.

Definitely disagree 1	Mostly disagree 2	Neither agree nor disagree 3	Mostly agree 4	Definitely agree 5
--------------------------	----------------------	---------------------------------	-------------------	-----------------------

- | | | | | | |
|--|---|---|---|---|---|
| 1. Before going out in public, I always notice how I look. | 1 | 2 | 3 | 4 | 5 |
| 2. I am careful to buy clothes that will make me look my best. | 1 | 2 | 3 | 4 | 5 |
| 3. I would pass most physical-fitness tests. | 1 | 2 | 3 | 4 | 5 |
| 4. It is important that I have superior physical strength. | 1 | 2 | 3 | 4 | 5 |
| 5. My body is sexually appealing. | 1 | 2 | 3 | 4 | 5 |
| 6. I am not involved in a regular exercise program. | 1 | 2 | 3 | 4 | 5 |
| 7. I am in control of my health. | 1 | 2 | 3 | 4 | 5 |
| 8. I know a lot about things that affect my physical health. | 1 | 2 | 3 | 4 | 5 |
| 9. I have deliberately developed a healthy life-style. | 1 | 2 | 3 | 4 | 5 |
| 10. I constantly worry about becoming fat. | 1 | 2 | 3 | 4 | 5 |
| 11. I like my looks just the way they are. | 1 | 2 | 3 | 4 | 5 |
| 12. I check my appearance in a mirror whenever I can. | 1 | 2 | 3 | 4 | 5 |
| 13. Before going out, I usually spend a lot of time getting ready. | 1 | 2 | 3 | 4 | 5 |
| 14. My physical endurance is good. | 1 | 2 | 3 | 4 | 5 |

Definitely disagree 1	Mostly disagree 2	Neither agree nor disagree 3	Mostly agree 4	Definitely agree 5	
15. Participating in sports is unimportant to me.	1	2	3	4	5
16. I do not actively do things to keep physically fit.	1	2	3	4	5
17. My health is a matter of unexpected ups and downs.	1	2	3	4	5
18. Good health is one of the most important things in my life.	1	2	3	4	5
19. I don't do anything that I know might threaten my health.	1	2	3	4	5
20. I am very conscious of even small changes in my weight.	1	2	3	4	5
21. Most people would consider me good looking.	1	2	3	4	5
22. It is important that I always look good.	1	2	3	4	5
23. I use very few grooming products.	1	2	3	4	5
24. I easily learn physical skills.	1	2	3	4	5
25. Being physically fit is not a strong priority in my life.	1	2	3	4	5
26. I do things to increase my physical strength.	1	2	3	4	5
27. I am seldom physically ill.	1	2	3	4	5
28. I take my health for granted.	1	2	3	4	5
29. I often read books and magazines that pertain to health.	1	2	3	4	5
30. I like the way I look without my clothes.	1	2	3	4	5
31. I am self-conscious if my grooming isn't right.	1	2	3	4	5

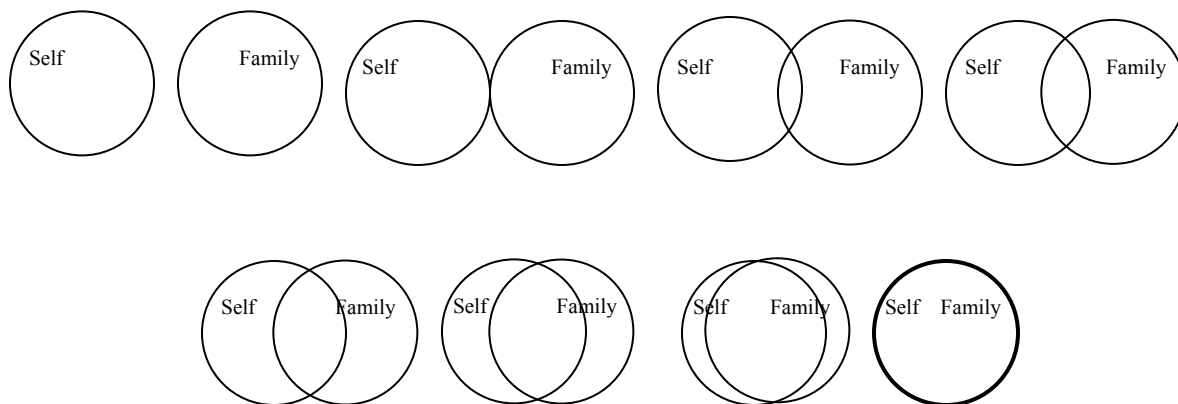
Definitely disagree 1	Mostly disagree 2	Neither agree nor disagree 3	Mostly agree 4	Definitely agree 5
--------------------------	----------------------	---------------------------------	-------------------	-----------------------

32. I usually wear whatever is handy without caring how it looks.	1	2	3	4	5
33. I do poorly in physical sports or games.	1	2	3	4	5
34. I seldom think about my athletic skills.	1	2	3	4	5
35. I work to improve my physical stamina.	1	2	3	4	5
36. From day to day, I never know how my body will feel.	1	2	3	4	5
37. If I am sick, I don't pay much attention to my symptoms.	1	2	3	4	5
38. I make no special effort to eat a balanced and nutritious diet.	1	2	3	4	5
39. I like the way my clothes fit me.	1	2	3	4	5
40. I don't care what people think of my appearance.	1	2	3	4	5
41. I take special care of my hair grooming.	1	2	3	4	5
42. I dislike my physique.	1	2	3	4	5
43. I don't care to improve my abilities in physical activities.	1	2	3	4	5
44. I try to be physically active.	1	2	3	4	5
45. I often feel vulnerable to sickness.	1	2	3	4	5
46. I pay close attention to my body for any signs of illness.	1	2	3	4	5
47. If I'm coming down with a cold or flu, I just ignore it and go on as usual.	1	2	3	4	5
48. I am physically unattractive.	1	2	3	4	5

Definitely disagree 1	Mostly disagree 2	Neither agree nor disagree 3	Mostly agree 4	Definitely agree 5	
49. I never think about my appearance.	1	2	3	4	5
50. I am always trying to improve my physical appearance.	1	2	3	4	5
51. I am very well coordinated.	1	2	3	4	5
52. I know a lot about physical fitness.	1	2	3	4	5
53. I play a sport regularly throughout the year.	1	2	3	4	5
54. I am a physically healthy person.	1	2	3	4	5
55. I am very aware of small changes in my physical health.	1	2	3	4	5
56. At the first sign of illness, I seek medical advice.	1	2	3	4	5
57. I am on a weight-loss diet.	1	2	3	4	5

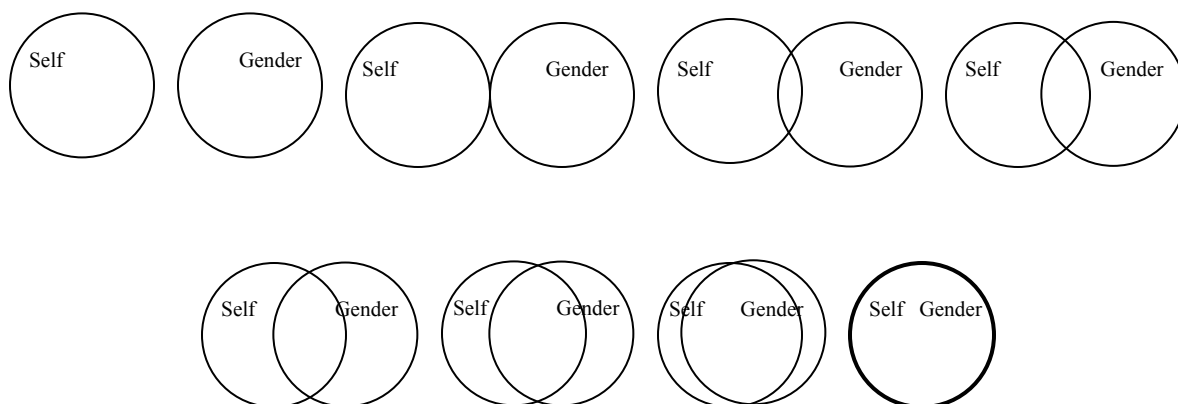
Appendix F: Family version of IOS Scale

Please indicate which of the diagrams best represents your relationship with your family by circling the appropriate diagram.



Appendix G: Gender version of IOS Scale

Please indicate which of the diagrams best represents your relationship with your gender group by circling the appropriate diagram.



Appendix H: Marlowe-Crowne Social Desirability Scale

Listed below are a number of statements concerning personal attitudes and traits. Please read each item and decide whether the statement is true or false as it pertains to you. Please circle the number corresponding to your answer (True = 1 and False = 0).

	True	False
1. Before voting, I thoroughly investigate the qualifications of all the candidates.	1	0
2. I never hesitate to go out of my way to help someone in trouble.	1	0
3. It is sometimes hard for me to go on with my work if I am not encouraged.	1	0
4. I have never intensely disliked anyone.	1	0
5. On occasion I have had doubts about my ability to succeed in life.	1	0
6. I sometimes feel resentful when I don't get my way.	1	0
7. I am always careful about my manner of dress.	1	0
8. My table manners at home are as good as when I eat out in a restaurant.	1	0
9. If I could get into a movie without paying and be sure I was not seen, I would probably do it.	1	0
10. On a few occasions, I have given up doing something because I thought too little of my ability.	1	0
11. I like to gossip at times.	1	0
12. There have been times when I felt like rebelling against people in authority even though I knew they were right.	1	0
13. No matter who I'm talking to, I'm always a good listener.	1	0
14. I can remember "playing sick" to get out of something.	1	0
15. There have been occasions when I took advantage of someone.	1	0
16. I'm always willing to admit it when I make a mistake.	1	0
17. I always try to practice what I preach.	1	0

	True	False
18. I don't find it particularly difficult to get along with loud-mouthed, obnoxious people.	1	0
19. I sometimes try to get even, rather than forgive and forget.	1	0
20. When I don't know something, I don't at all mind admitting it.	1	0
21. I am always courteous, even to people who are disagreeable.	1	0
22. At times I have really insisted on having things my own way.	1	0
23. There have been occasions when I felt like smashing things.	1	0
24. I would never think of letting someone else be punished for my wrongdoings.	1	0
25. I never resent being asked to return a favor.	1	0
26. I have never been irked when people expressed ideas very different from my own.	1	0
27. I never make a long trip without checking the safety of my car.	1	0
28. There have been times when I was quite jealous of the good fortune of others.	1	0
29. I have almost never felt the urge to tell someone off.	1	0
30. I am sometimes irritated by people who ask favors of me.	1	0
31. I have never felt that I was punished without a cause.	1	0
32. I sometimes think when people have a misfortune; they only got what they deserved.	1	0
33. I have never deliberately said something that hurt someone's feelings.	1	0

Appendix I: Coding Themes and Sample Responses for Body Disconnect Scale

1. Comfort level associated with body
 - a. “I am pretty secure about my body.”
 - b. “I am fairly comfortable with my physical body.”
 - c. “I have my insecurities.”
 - d. “Not real happy with my body.”
2. Connectedness
 - a. “I feel that I am in touch with what my body can do and cannot do.”
 - b. “I circled it because I do not feel connected with my physical body at all.
I don’t feel that it is a large part of me.”
 - c. “I think of my body as a completely separate part of me, and when I look
in mirrors all I see is a shell.”
3. Health behaviors/fitness level
 - a. “I put a lot of effort into physically taking care of my body...I try to eat
healthy and I work out a lot.”
 - b. “I feel that I was in better shape before college.”
 - c. I feel out of shape since I used to be active in sports and now I have no
time for it.”
 - d. “I am a rock climber and I like to push myself physically.”
4. Caring for the body
 - a. “I care very much about my body.”

5. Attention paid to the body

- a. "I don't particularly think about my body much."
- b. "I think I am completely aware of everything that is going on with my body."

6. Confident/confidence

- a. "My body gives me confidence."
- b. "I am not completely confident with my body."

7. Control over body

- a. "Sometimes my body is tired, but my mind wants to continue doing things...in this way, I can feel at odds."
- b. "Sometimes my body goes against my mind."
- c. "I can make my body do what I please."
- d. "I don't feel like I am in total control of my physical self."

Appendix J: Informed Consent for Appearance-Threat Condition

Personality and Physique

PI: Dr. Diana Sanchez, PhD, Rutgers University Psychology Department, Tillett Hall,
53 Avenue E, Piscataway, NJ, 08854
Email: disanche@rci.rutgers.edu, Phone: (732) 445-3552

1. **Participation:** You have volunteered to participate in a research study focused on examining relationships between personality and physique. To participate in this study you must speak fluent English.
2. **Purpose:** The purpose of this study is to understand how personality influences perceptions related to one's physique.
3. **Selection of participants:** This study has targeted Rutgers University students.
4. **Procedure:** This is a 2-part study. Your participation involves the following:
 - (A) **Completing questionnaires** You will be asked to complete a questionnaire packet assessing how one views and experiences his or her own body. This will include measures of body esteem, objectified body consciousness, self-objectification, body consciousness, multidimensional body-self relations, self-esteem and autonomy, gender identification, sociocultural attitudes towards appearance, appearance training, internalization, fear of negative evaluation, self-efficacy, and social comparison to models and peers. These questions should take approximately 60 minutes to complete.
 - (B) **Task** You will be asked to have 2 full body photographs taken of you. One photograph will be taken from the front and one photograph will be taken from the back. These photographs will be used to study the relationship between physique and personality dimensions.
 - (C) **Debriefing** At the conclusion of the study session, you will receive a debriefing form explaining some of the reasons behind why we asked certain questions, and you will be fully debriefed about the research study. Any questions or concerns that you have will be addressed then. At this time, you will be able to request the findings of the research when they become available.
5. **Risks:** There are no known risks to participating in this study.
6. **Benefits:** There are no direct benefits to you. However, this research will provide the foundation for subsequent research examining men's versus women's body image, self-esteem, and how one views his or her own body. It may be used in designing interventions to foster a relationship that has adaptive consequences for men and women's mental and physical health.
7. **Alternative procedures:** The alternative to participating in this study is not to participate. If you do not wish to participate, you may withdraw at any time without penalty, even after the study has begun. In the case of

withdrawal, all information with which you have provided us and all records of your participation will be permanently destroyed.

8. Compensation: You will be assigned 2 RPU's after completion of the study today.
9. Costs: There will be no costs to you for participating in this research study.
10. Confidentiality: You will be assigned a random subject number that will be used on each questionnaire. For the duration of the experiment, all of your information will be completely confidential. At the end of the data collection, once RPU's are assigned, any list connecting email addresses and subject numbers will be destroyed. At this point, any information obtained in connection with the study will be completely anonymous. In any written reports or publications, no one will be identified or identifiable and only aggregate data will be presented.
11. Withdrawal: Your participation in this study is completely voluntary. You may discontinue your participation at any time for any reason without penalty.
12. Injury/Disclaimer: We do not expect this study to result in any injuries. It is possible that you will feel uncomfortable at certain points in the study or when answering some of the items contained in the questionnaires. If this is the case, you may skip any question that you deem too personal. Again, it is your right as a participant to withdraw from the study at any time without penalty. Additionally, if as a result of your participation in this study, you should desire psychological counseling, we will be happy to refer you to your undergraduate college's counseling center, which offers free services to its students.
 - a. Cook College Counseling Center: 732-932-9150
 - b. Douglass College Psychological Services: 732-932-9070
 - c. Livingston College Counseling Center: 732-445-4140
 - d. Mason Gross School of the Arts: 732-932-9360, ext. 508
 - e. Rutgers College Counseling Center: 732-932-7884
 - f. School of Engineering: 732-445-2687
 - g. School of Pharmacy: 732-445-2675, ext. 629
 - h. University College Office of Advising and Counseling: 732-932-8074

For more information, visit: <http://www.rci.rutgers.edu/~rccc/otherser.html>
13. Participant's rights: If you wish further information regarding your rights as a research participant, you may contact the IRB Coordinator, in the Office of Research and Sponsored Programs by telephone at (732) 932-1050, ext. 2104. Address: 3 Rutgers Plaza, New Brunswick, NJ, 08901-8559. Email: humansubjects@orsp.rutgers.edu

14. Conclusion: By signing below, you indicate that you have read and understood this consent form and that you freely agree to participate in this research study. Keep one copy of this consent form for your records and return the other copy to the investigator present.
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Name of Participant (printed)	Signature	Date
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Name of Investigator (printed)	Signature	Date
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Appendix K: Informed Consent for Body Competence-Threat Condition

Personality and Physique

PI: Dr. Diana Sanchez, PhD, Rutgers University Psychology Department, Tillett Hall,
53 Avenue E, Piscataway, NJ, 08854
Email: disanche@rci.rutgers.edu, Phone: (732) 445-3552

1. **Participation:** You have volunteered to participate in a research study focused on examining relationships between personality and physique. To participate in this study you must speak fluent English.
2. **Purpose:** The purpose of this study is to understand how personality influences perceptions related to one's physique.
3. **Selection of participants:** This study has targeted Rutgers University students.
4. **Procedure:** This is a 2-part study. Your participation involves the following:
 - (A) **Completing questionnaires** You will be asked to complete a questionnaire packet assessing how one views and experiences his or her own body. This will include measures of body esteem, objectified body consciousness, self-objectification, body consciousness, multidimensional body-self relations, self-esteem and autonomy, gender identification, sociocultural attitudes towards appearance, appearance training, internalization, fear of negative evaluation, self-efficacy, and social comparison to models and peers. These questions should take approximately 60 minutes to complete.
 - (B) **Task** You will be asked to lift a variety of weights ranging from 1 pound to 300 pounds. Your lifting ability will be used to develop an index of your strength. This strength index will be used to study the relationship between physique and personality dimensions.
 - (C) **Debriefing** At the conclusion of the study session, you will receive a debriefing form explaining some of the reasons behind why we asked certain questions, and you will be fully debriefed about the research study. Any questions or concerns that you have will be addressed then. At this time, you will be able to request the findings of the research when they become available.
5. **Risks:** There are no known risks to participating in this study.
6. **Benefits:** There are no direct benefits to you. However, this research will provide the foundation for subsequent research examining men's versus women's body image, self-esteem, and how one views his or her own body. It may be used in designing interventions to foster a relationship that has adaptive consequences for men and women's mental and physical health.
7. **Alternative procedures:** The alternative to participating in this study is not to participate. If you do not wish to participate, you may withdraw at any time without penalty, even after the study has begun. In the case of

withdrawal, all information with which you have provided us and all records of your participation will be permanently destroyed.

8. Compensation: You will be assigned 2 RPU's after completion of the study today.
9. Costs: There will be no costs to you for participating in this research study.
10. Confidentiality: You will be assigned a random subject number that will be used on each questionnaire. For the duration of the experiment, all of your information will be completely confidential. At the end of the data collection, once RPU's are assigned, any list connecting email addresses and subject numbers will be destroyed. At this point, any information obtained in connection with the study will be completely anonymous. In any written reports or publications, no one will be identified or identifiable and only aggregate data will be presented.
11. Withdrawal: Your participation in this study is completely voluntary. You may discontinue your participation at any time for any reason without penalty.
12. Injury/Disclaimer: We do not expect this study to result in any injuries. It is possible that you will feel uncomfortable at certain points in the study or when answering some of the items contained in the questionnaires. If this is the case, you may skip any question that you deem too personal. Again, it is your right as a participant to withdraw from the study at any time without penalty. Additionally, if as a result of your participation in this study, you should desire psychological counseling, we will be happy to refer you to your undergraduate college's counseling center, which offers free services to its students.
 - i. Cook College Counseling Center: 732-932-9150
 - j. Douglass College Psychological Services: 732-932-9070
 - k. Livingston College Counseling Center: 732-445-4140
 - l. Mason Gross School of the Arts: 732-932-9360, ext. 508
 - m. Rutgers College Counseling Center: 732-932-7884
 - n. School of Engineering: 732-445-2687
 - o. School of Pharmacy: 732-445-2675, ext. 629
 - p. University College Office of Advising and Counseling: 732-932-8074

For more information, visit: <http://www.rci.rutgers.edu/~rccc/otherser.html>
13. Participant's rights: If you wish further information regarding your rights as a research participant, you may contact the IRB Coordinator, in the Office of Research and Sponsored Programs by telephone at (732) 932-1050, ext. 2104. Address: 3 Rutgers Plaza, New Brunswick, NJ, 08901-8559. Email: humansubjects@orsp.rutgers.edu

14. Conclusion: By signing below, you indicate that you have read and understood this consent form and that you freely agree to participate in this research study. Keep one copy of this consent form for your records and return the other copy to the investigator present.
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Name of Participant (printed)	Signature	Date
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Name of Investigator (printed)	Signature	Date
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Appendix L: Informed Consent for Control Condition

Personality and Physique

PI: Dr. Diana Sanchez, PhD, Rutgers University Psychology Department, Tillett Hall,
53 Avenue E, Piscataway, NJ, 08854
Email: disanche@rci.rutgers.edu, Phone: (732) 445-3552

1. **Participation:** You have volunteered to participate in a research study focused on examining relationships between personality and physique. To participate in this study you must speak fluent English.
2. **Purpose:** The purpose of this study is to understand how personality influences perceptions related to one's physique.
3. **Selection of participants:** This study has targeted Rutgers University students.
4. **Procedure:** This is a one session study. Your participation involves the following:
 - (D) **Completing questionnaires** You will be asked to complete a questionnaire packet assessing how one views and experiences his or her own body. This will include measures of body esteem, objectified body consciousness, self-objectification, body consciousness, multidimensional body-self relations, self-esteem and autonomy, gender identification, sociocultural attitudes towards appearance, appearance training, internalization, fear of negative evaluation, self-efficacy, and social comparison to models and peers. These questions should take approximately 60 minutes to complete.
 - (E) **Debriefing** At the conclusion of the study session, you will receive a debriefing form explaining some of the reasons behind why we asked certain questions, and you will be fully debriefed about the research study. Any questions or concerns that you have will be addressed then. At this time, you will be able to request the findings of the research when they become available.
5. **Risks:** There are no known risks to participating in this study.
6. **Benefits:** There are no direct benefits to you. However, this research will provide the foundation for subsequent research examining men's versus women's body image, self-esteem, and how one views his or her own body. It may be used in designing interventions to foster a relationship that has adaptive consequences for men and women's mental and physical health.
7. **Alternative procedures:** The alternative to participating in this study is not to participate. If you do not wish to participate, you may withdraw at any time without penalty, even after the study has begun. In the case of withdrawal, all information with which you have provided us and all records of your participation will be permanently destroyed.
8. **Compensation:** You will be assigned 2 RPU's after completion of the study today.

9. Costs: There will be no costs to you for participating in this research study.
10. Confidentiality: You will be assigned a random subject number that will be used on each questionnaire. For the duration of the experiment, all of your information will be completely confidential. At the end of the data collection, once RPU's are assigned, any list connecting email addresses and subject numbers will be destroyed. At this point, any information obtained in connection with the study will be completely anonymous. In any written reports or publications, no one will be identified or identifiable and only aggregate data will be presented.
11. Withdrawal: Your participation in this study is completely voluntary. You may discontinue your participation at any time for any reason without penalty.
12. Injury/Disclaimer: We do not expect this study to result in any injuries. It is possible that you will feel uncomfortable at certain points in the study or when answering some of the items contained in the questionnaires. If this is the case, you may skip any question that you deem too personal. Again, it is your right as a participant to withdraw from the study at any time without penalty. Additionally, if as a result of your participation in this study, you should desire psychological counseling, we will be happy to refer you to your undergraduate college's counseling center, which offers free services to its students.
- q. Cook College Counseling Center: 732-932-9150
 - r. Douglass College Psychological Services: 732-932-9070
 - s. Livingston College Counseling Center: 732-445-4140
 - t. Mason Gross School of the Arts: 732-932-9360, ext. 508
 - u. Rutgers College Counseling Center: 732-932-7884
 - v. School of Engineering: 732-445-2687
 - w. School of Pharmacy: 732-445-2675, ext. 629
 - x. University College Office of Advising and Counseling: 732-932-8074
- For more information, visit: <http://www.rci.rutgers.edu/~rccc/otherser.html>
13. Participant's rights: If you wish further information regarding your rights as a research participant, you may contact the IRB Coordinator, in the Office of Research and Sponsored Programs by telephone at (732) 932-1050, ext. 2104. Address: 3 Rutgers Plaza, New Brunswick, NJ, 08901-8559. Email: humansubjects@orsp.rutgers.edu

14. Conclusion: By signing below, you indicate that you have read and understood this consent form and that you freely agree to participate in this research study. Keep one copy of this consent form for your records and return the other copy to the investigator present.
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Name of Participant (printed)	Signature	Date
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Name of Investigator (printed)	Signature	Date
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Appendix M: Script for Appearance-Threat Condition

Hi, my name is _____. I will be your experimenter. I work with Dr. Sanchez and we greatly appreciate your willingness to participate in our study.

This study is a 2 PART STUDY. You will receive 2 RPU's for the completion of today's study, which consists of a 45-minute survey as well as a short task that will take about 10 minutes.

Because this is a 2-part study, we will record your subject numbers so that we can use the same subject numbers for the survey and the task. This will allow us to link your task with your survey. The list carrying the subject numbers will be held in the strictest confidence. Dr. Sanchez and Tara Broccoli, her graduate assistant, will keep this information and destroy this information after the data has been collected and your credit has been assigned.

After everyone has completed their surveys, you will be taken into another lab with a different research assistant that will take 2 full-length photographs of you. One photograph will be taken of your front view and one photograph will be taken of your back view. Your photographs will be coded with regard to how similar they are to both typical Rutgers University students and supermodels of your sex. We will then use those codes to analyze the relationship between personality dimensions and physique. Dr. Sanchez and her graduate assistant, Tara Broccoli, will keep the photographs in strict confidence. They will be destroyed after data analysis.

Appendix N: Script for Body Competence-Threat Condition

Hi, my name is _____. I will be your experimenter. I work with Dr. Sanchez and we greatly appreciate your willingness to participate in our study.

This study is a 2 PART STUDY. You will receive 2 RPU's for the completion of today's study, which consists of a 45-minute survey as well as a short task that will take about 10 minutes.

Because this is a 2-part study, we will record your subject numbers so that we can use the same subject numbers for the survey and the task. This will allow us to link your task with your survey. The list carrying the subject numbers will be held in the strictest confidence. Dr. Sanchez and Tara Broccoli, her graduate assistant, will keep this information and destroy this information after the data has been collected and your credit has been assigned.

When you have completed the survey, please let me know. At that time, you will be taken into another lab with a different research assistant that will ask you to participate in a strength test. The test will require you to lift weights that range from extremely light (1 pound) to extremely heavy (300 pounds) in order to develop an index of your strength as a measure of body competence. You will be able to stop whenever you have reached your maximum. If at any point you experience pain or any physical discomfort, please inform your experimenter right away. We will then code your strength index with regard to how similar it is to both typical Rutgers University students and Rutgers athletes of your sex. We will then use those codes to analyze the relationship between personality dimensions and physique. Dr. Sanchez and her graduate assistant, Tara Broccoli, will keep the results of the strength test in strict confidence. They will be destroyed after data analysis.

Appendix O: Script for Control Condition

Hi, my name is _____. I will be your experimenter. I work with Dr. Sanchez and we greatly appreciate your willingness to participate in our study.

This study is a 1 PART STUDY. You will receive 2 RPUs for the completion of today's study, which consists of a 60-minute survey.

We will record your subject numbers so that we can use the numbers instead of your names on the questionnaires. We will keep the list matching subject numbers with email addresses only until your RPU's have been assigned. The list carrying the subject numbers will be held in the strictest confidence. Dr. Sanchez and Tara Broccoli, her graduate assistant, will keep this information and destroy this information after the data has been collected and your credit has been assigned.

When you have completed the survey, please me know. At that time, you will be done with this experiment. Dr. Sanchez and her graduate assistant, Tara Broccoli, will keep the surveys in strict confidence. They will be destroyed after data analysis.

Appendix P: Youth Risk Behavior Survey

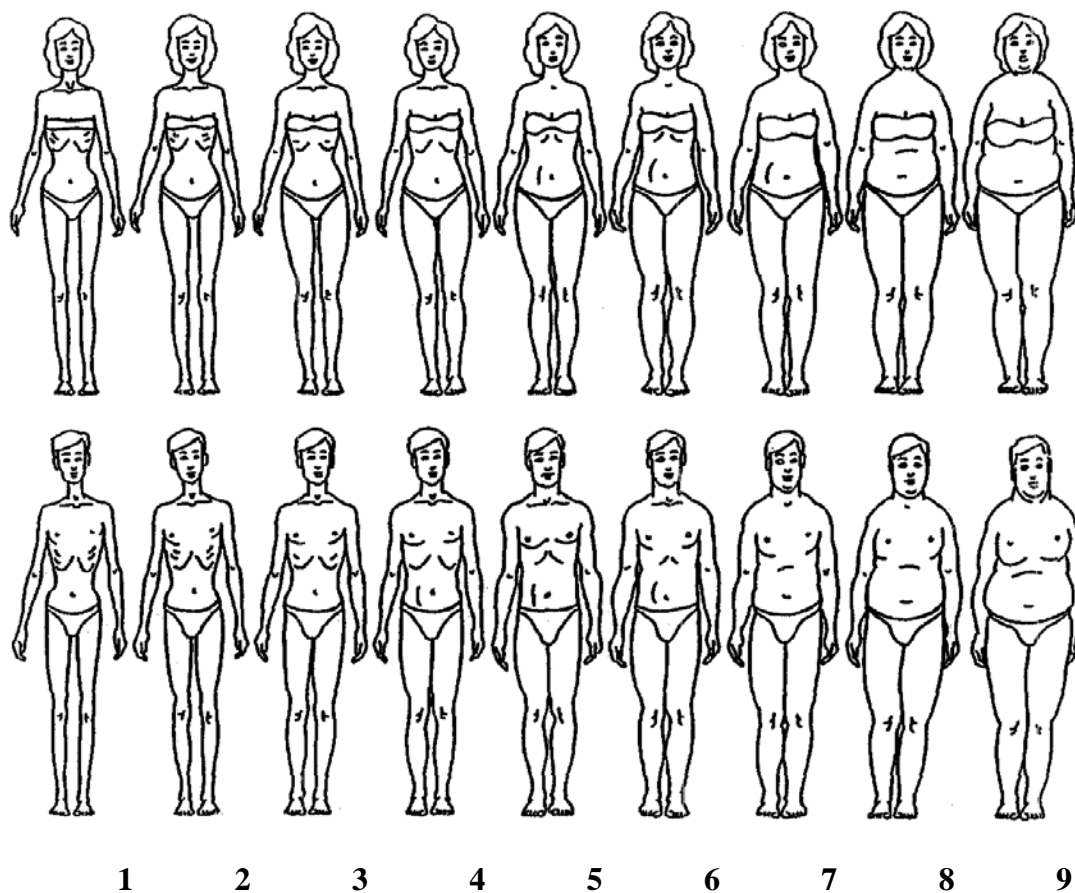
1. During the past 7 days, how many times did you drink 100% fruit juices such as orange juice, apple juice, or grape juice? (Do not count punch, Kool-Aid, sports drinks, or other fruit-flavored drinks.)
 - a. I did not drink 100% fruit juice during the past 7 days
 - b. 1 to 3 times during the past 7 days
 - c. 4 to 6 times during the past 7 days
 - d. 1 time per day
 - e. 2 times per day
 - f. 3 times per day
 - g. 4 or more times per day
2. During the past 7 days, how many times did you eat fruit? (Do not count fruit juice.)
 - a. I did not eat fruit during the past 7 days
 - b. 1 to 3 times during the past 7 days
 - c. 4 to 6 times during the past 7 days
 - d. 1 time per day
 - e. 2 times per day
 - f. 3 times per day
 - g. 4 or more times per day
3. During the past 7 days, how many times did you eat a green salad?
 - a. I did not eat green salad during the past 7 days
 - b. 1 to 3 times during the past 7 days
 - c. 4 to 6 times during the past 7 days
 - d. 1 time per day
 - e. 2 times per day
 - f. 3 times per day
 - g. 4 or more times per day

4. During the past 7 days, how many times did you eat potatoes? (Do not count French fries, fried potatoes, or potato chips.)
 - a. I did not eat potatoes during the past 7 days
 - b. 1 to 3 times during the past 7 days
 - c. 4 to 6 times during the past 7 days
 - d. 1 time per day
 - e. 2 times per day
 - f. 3 times per day
 - g. 4 or more times per day
5. During the past 7 days, how many times did you eat carrots?
 - a. I did not eat carrots during the past 7 days
 - b. 1 to 3 times during the past 7 days
 - c. 4 to 6 times during the past 7 days
 - d. 1 time per day
 - e. 2 times per day
 - f. 3 times per day
 - g. 4 or more times per day
6. During the past 7 days, how many times did you eat other vegetables? (Do not count green salad, potatoes, or carrots.)
 - a. I did not eat other vegetables during the past 7 days
 - b. 1 to 3 times during the past 7 days
 - c. 4 to 6 times during the past 7 days
 - d. 1 time per day
 - e. 2 times per day
 - f. 3 times per day
 - g. 4 or more times per day
7. During the past 7 days, how many glasses of milk did you drink? (Include the milk you drank in a glass or cup, from a carton, or with cereal.)
 - a. I did not drink milk during the past 7 days
 - b. 1 to 3 glasses during the past 7 days
 - c. 4 to 6 glasses during the past 7 days
 - d. 1 glass per day
 - e. 2 glasses per day
 - f. 3 glasses per day
 - g. 4 or more glasses per day

8. On how many of the past 7 days did you exercise or participate in physical activity for at least 20 minutes that made you sweat and breathe hard, such as basketball, soccer, running, swimming laps, fast bicycling, fast dancing, or similar aerobic activities?
- a. 0 day
 - b. 1 day
 - c. 2 days
 - d. 3 days
 - e. 4 days
 - f. 5 days
 - g. 6 days
 - h. 7 days
9. On how many of the past 7 days, did you participate in physical activity for at least 30 minutes that did not make you sweat or breathe hard, such as fast walking, slow bicycling, skating, pushing a lawn mower, or mopping floors?
- a. 0 day
 - b. 1 day
 - c. 2 days
 - d. 3 days
 - e. 4 days
 - f. 5 days
 - g. 6 days
 - h. 7 days
10. During the past 7 days, on how many days were you physically active for a total of at least 60 minutes? (Add up all the time you spend in any kind of physical activity that increases your heart rate and makes you breathe hard some of the time.)
- a. 0 day
 - b. 1 day
 - c. 2 days
 - d. 3 days
 - e. 4 days
 - f. 5 days
 - g. 6 days
 - h. 7 days

Appendix Q: Contour Drawing Rating Scale

Please use the figure below to answer the following questions.



1. Using the figure above, please select (by circling the number that corresponds to your selection) the same-sex figure that most looks like you.

1 2 3 4 5 6 7 8 9

2. Using the figure above, please select (by circling the number that corresponds to your selection) the same-sex figure that you would most like to look like.

1 2 3 4 5 6 7 8 9

Curriculum Vita

Tara Lynn Broccoli

Education

Graduate: Rutgers University, New Brunswick, NJ

Social/Health Psychology
Ph.D., May, 2008

Rutgers University, New Brunswick, NJ

Social/Health Psychology
M.S., 2005

Undergraduate: Connecticut College, New London, CT

Psychology (Major)/ Women's Studies (Minor)
B.A., *cum laude*, 2002

Principal Positions

2006-present Body Disconnect: Causes and Consequences

2006-2007 Stigma, Health, and Close Relationships Laboratory Coordinator

2003-2005 Depressive Symptoms and Health Behavior: Adaptive and Maladaptive Effects

2003-2004 The Impact of a Relative's Mammogram: "A Teachable Moment"

2003 Postpartum Depression: Identification and Intervention

2003 Risk Communication Bibliography

2002-2003 Internet Use Among Women With Recurrent Breast Cancer

Publications

- Broccoli, T. L. & Sanchez, D. T. (in press). Implicit hopelessness and sexual risk taking behavior: Exploring nonconscious predictors of risky behavior. *Journal of Applied Social Psychology*.
- Sanchez, D. T., & Broccoli, T. L. (in press). The romance of self-objectification: Does priming romantic relationships induce states of self-objectification? Manuscript under revision. *Sex Roles*.