

The Pennsylvania State University

The Graduate School

College of the Liberal Arts

**EFFECTS OF STATE AND TRAIT BODY SHAME  
ON HEALTH-RELATED OUTCOME MEASURES**

A Thesis in

Psychology

by

Jean M. Lamont

Submitted for Partial Fulfillment

of the Requirements

for the Degree of

Master of Science

August 2011

The thesis of Jean M. Lamont was reviewed and approved\* by the following:

Stephanie A. Shields  
Professor of Psychology and Women's Studies  
Thesis Advisor

Karen Gasper  
Professor of Psychology

Michelle G. Newman  
Associate Professor of Psychology

Melvin M. Mark  
Professor of Psychology  
Head of the Department of Psychology

\*Signatures are on file in the Graduate School.

## ABSTRACT

Body shame, a self-conscious emotion resulting from the perceived failure to meet a cultural appearance ideal as well as the attribution of this failure to the core self, is a common experience for women in Western culture. Body shame has been linked to the development of psychological disorders such as depression by way of helplessness, but other features of the body shame experience may implicate this emotion in poor physical health outcomes as well. Literature linking body shame to detrimental health behaviors and diminished interoceptive awareness suggests that body shame creates a situation in which the appearance of the body becomes an individual's central focus to the detriment of bodily well-being. However, this research does not establish a causal link between body shame and these health-related factors, nor is it a direct test of the relationship between body shame and the importance of one's bodily well-being. The purpose of the proposed research is to test whether state and trait body shame contribute to decreases in self-reports of the importance of bodily well-being. Participants who were either high or low in trait body shame were randomly assigned to either an experimental condition in which body shame is induced or a control condition. Both state and trait levels of body shame were expected to affect participant self-ratings of health orientation as well as other health-related outcome variables. State level of body shame was unaffected by the experimental manipulation; however, main effects of trait level of body shame were revealed for many of the health-related outcome variables, indicating that participants high in trait body shame reported lower interoceptive awareness, more willingness to value appearance over physical health, and more willingness to avoid health care professionals than participants low in trait body shame. Implications for future research include amending the research protocol in order to be able to test causal effects of body shame on health-related factors, testing potential mediation of the relationship between trait body shame and poor health outcomes by health-related factors, and examining other mechanisms, such as cortisol evocation, by which body shame could contribute to poor health outcomes.

**TABLE OF CONTENTS**

|   |    |
|---|----|
| List of Tables.....   | iv |
| Introduction.....   | 1  |
| What is Body Shame?.....  | 3  |
| Body Shame and Health.....  | 5  |
| The Current Study.....  | 11 |
| Hypotheses.....   | 12 |
| Method.....   | 14 |
| Participants.....   | 14 |
| Materials.....  | 15 |
| Procedure.....  | 15 |
| Results.....  | 20 |
| Discussion.....   | 22 |
| References.....   | 33 |
| Appendix A: Trait Body Shame Questionnaire.....                                       | 41 |
| Appendix B: Health Orientation, Avoidance, and Interoceptive Awareness Measures.....  | 42 |
| Appendix C: State Body Shame, General Shame, Guilt, and Negative Affect Measures..... | 43 |
| Appendix D: Health-Appearance Dilemmas.....   | 44 |

**LIST OF TABLES**

|   |    |
|---|----|
| Table 1. <i>Correlation coefficients for outcome variables .....</i>                          | 20 |
| Table 2. <i>Means and standard deviations of outcomes variables by group in Study 2.....</i>  | 21 |
| Table 3. <i>Pretest and posttest means and standard deviations by group and semester.....</i> | 27 |

## INTRODUCTION

In Western culture, women's bodies are often considered objects to be evaluated on the basis of their appearance from an external viewer's perspective, a process called sexual objectification. Internalization of this perspective is referred to as self-objectification, a situation which reliably evokes body shame. Body shame is a hedonically negative self-conscious emotion that derives from the perception that one's appearance falls short of a cultural appearance ideal and that the elements of one's appearance that do not meet this ideal represent incontrovertible flaws of the core self. Body shame has been found to contribute to poor psychological health outcomes (e.g., Grabe, Hyde, & Lindberg, 2007; Szymanski & Henning, 2007; Tiggemann & Kuring, 2004), and preliminary research suggests that trait body shame is positively correlated with poor physical health outcomes (Lamont, 2010). Research suggests that the connection between body shame and psychological health is that the near-constant evocation of body shame in women in Western culture leads to perceptions of psychological helplessness (e.g., Grabe et al., 2007; Tiggemann & Kuring, 2004) which has been shown to factor into the development of psychological disorders (Abramson, Seligman, & Teasdale, 1978). But what could explain the relationship between body shame and physical health outcomes? The purpose of this study is to examine the importance that one places on one's health as a specific feature of the body shame experience.

In their seminal article introducing objectification theory, Fredrickson & Roberts (1997) argued that when body shame is evoked, the value of the appearance of the body is placed above that of its utility and well-being such that the functioning and health of the body is less important than its appearance. This lack of attention to bodily well-being in the service of appearance is suggested by research demonstrating positive associations between trait body shame and engagement in detrimental health behaviors (Augustus-Horvath & Tylka, 2009; Calogero, 2009; Fiissel & Lafreniere, 2006; Harrell, Fredrickson, Pomerleau, & Nolen-Hoeksema, 2006) and negative associations between trait body shame and interoceptive awareness (Daubenmeir, 2005; Muehlenkamp & Saris-Baglama, 2002; Myers & Crowther, 2008). Both participation in detrimental health behaviors and diminished interoceptive awareness have been linked to poor health outcomes (e.g., Kabir, Connolly, Clancy, Koh, & Capewell, 2008; Frasure-Smith, 1987). If body shame

does cause an individual to ignore her health in the service of appearance, as this research suggests, it would follow that body shame would be associated with poor health outcomes. Thus, the mechanism by which body shame could lead to poor health outcomes may be the devaluing of physical well-being when body shame is evoked.

The research linking body shame to detrimental health behaviors and interoceptive awareness suggest that bodily well-being is ignored to some degree in the presence of body shame; however, engaging in detrimental health behaviors and diminished interoceptive awareness do not directly test objectification theory's claim that bodily well-being is sacrificed to improve appearance in the presence of body shame. Moreover, a causal relationship between body shame and these health-related factors cannot be determined based on the correlational data that is reported. The purpose of the present research is to test whether a causal relationship exists between body shame and the importance that one places on one's health. Specifically, the current research endeavors to test whether individuals experiencing increases in state body shame report the health as being less important compared to individuals who are not experiencing increased state body shame.

I begin by defining body shame as a psychological construct and discussing a specific situation that reliably evokes body shame, how the construct of body shame has been measured empirically, and research demonstrating that body shame is a routine experience for many groups of women in Western culture. Next, I discuss how and why body shame is implicated in poor psychological health outcomes, and a preliminary study linking trait body shame to poor physical health outcomes as well. To explain the mechanism through which the relationship between body shame and health outcomes may occur, I address research on trait body shame and both interoceptive awareness and propensity to engage in harmful health behaviors, and introduce another health-related that describes the importance that one places on one's own physical health. I then describe an experimental study intended to measure directly the effects of body shame on the importance that individuals place upon their physical health.

### **What is Body Shame?**

In general, shame is a negative self-conscious emotional response that occurs when a person perceives that she or he has fallen short of some ideal (M. Lewis, 1992) and attributes that shortcoming to some immutable flaw in the core self (H. B. Lewis, 1971; Tangney & Fischer, 1995). Body shame involves a comparison to the cultural ideal of what women's bodies are supposed to look like, a standard which the vast majority of women cannot achieve (Wolf, 1991). The characteristics of women's bodies that fall short of the ideal are experienced as persistent and pervasive – they are immutable flaws of the core self. The inflexibility of these defects in the self is reinforced by the failure to meet cultural ideals despite dieting, exercise, cosmetic surgery, or other interventions aimed at correcting them (McKinley & Hyde, 1996). Body shame has been linked to several negative psychological health outcomes such as depression (Grabe et al., 2007; Szymanski & Henning, 2007; Tiggemann & Kuring, 2004), eating disorders (Calogero, Davis, & Thompson, 2005; Burney & Irwin, 2000), and sexual dysfunction (Sanchez & Kiefer, 2007; Steer & Tiggemann, 2008).

Body shame has been shown to be readily evoked in situations that induce self-objectification. Fredrickson, Roberts, Noll, Quinn, & Twenge (1998) and Hebl, King, & Lin (2004) conducted similar studies in which participants were asked to try on either sweaters or swimsuits under the guise that participants would be evaluating them for a marketing study. Participants in the swimsuit conditions for both studies reported experiencing more body shame than those in the sweater condition. Authors concluded that increased body shame that participants reported was a result self-objectification. Participants in both of these studies were completely alone while they evaluated themselves, therefore suggesting that body shame is readily evoked by one's own evaluation of one's appearance.

### **How has body shame been measured?**

As a construct, body shame has been measured in a number of ways. Andrews and her colleagues (1995) have used a semi-structured interview technique to assess body shame which includes questions such as, "Have you ever felt ashamed of your body or any part of it?" (p. 279). Follow-up questions

address the length of time shame about the body was experienced, the first instance of this experience, and so on.

In addition to interviewing, three quantitative measures of body shame have been developed. The Experiences of Shame Scale (ESS; Andrews, Qian, & Valentine, 2002) contains three subscales, one of which is intended to measure bodily shame by way of items such as, “Have you felt ashamed of your body or any part of it?,” and “Have you avoided looking at yourself in the mirror?” Participants rate each of these items on a Likert-type scale ranging from one (not at all) to four (very much) depending on whether or not “they have occurred any time in the past year” (p. 41).

The Body Shame Questionnaire (BSQ; Noll & Fredrickson, 1998) asks participants to consider 28 characteristics of their bodies, including weight, skin tone, height, shape of hips, etc. For each body characteristic, participants are asked to indicate whether or not they would like to change that characteristic (“yes” or “no”) as well as the intensity of their desire to change this characteristic as well as how often they thought about changing it (both on separate 1-9 Likert-type scales). These three scores are combined into a composite body shame score. The Body Shame subscale of the Objectified Body Consciousness scale (OBC-BS; McKinley & Hyde, 1996) is intended to measure the degree to which the internalization of a cultural body standard has created negative self-conscious affect with regard to one’s body.

Researchers who investigate body shame find these measures to be somewhat incomplete. In fact, because of the desire for a convenient, quantitative measure that can effectively access the full phenomenology of shame, authors have often added to the OBC-BS and the BSQ items that have been adapted from scales that measure general shame such that they apply to the more specific construct of body shame. For instance, in addition to using the method which later became the BSQ, Fredrickson et al. (1998), devised items to measure body shame that reflected theoretical constructs (such as the motivation to hide) and items that Tangney, Miller, Flicker, and Barlow (1996) had used to measure general shame. Typically, composite scores of body shame are created by supplementing the OBC-BS and/or the BSQ with additional items to reflect this more broad conception of body shame (e.g., Hebl et al., 2004).

### **Which women experience body shame?**

In a recent review of the objectification literature, Moradi and Huang (2008) addressed the similarities that studies which sought to compare groups of women with regard to their experiences of body shame. The authors suggested that, while comparisons of groups are expected to result in group differences, group similarities are more often found. Some researchers have reasoned that, because certain subcultural values contribute to better body image (Hebl et al., 2004; Schooler, Ward, Merriwether, & Caruthers, 2004) or foster resilience against objectification (Molloy & Herzberger, 1998), ethnic minority women may be less susceptible to self-objectification. Nevertheless, both mediational and experimental studies have found little to no difference among various ethnic groups and body shame (Buchanan, Fischer, Tokar, & Yoder, 2008; Frederick, Forbes, Grigorian, & Jarcho, 2007; Grabe & Hyde, 2006; Hebl, King, & Lin, 2004). Similarly, other researchers have found no differences in body shame when dividing women into groups based sexual orientation (Haines et al., 2008; Hill & Fischer, 2008), age (Augustus-Horvath & Tylka, 2009; Cooley & Toray, 2001; Grippo & Hill, 2007; Tiggeman, 2004; Tiggeman & Lynch, 2001), feminist identity (Grippo & Hill, 2007; Hurt et al., 2007; Myers & Crowther, 2007), and socioeconomic status (Johnston-Robledo & Fred, 2008), suggesting that the degrees of self-objectification and the resultant body shame is a common experience for women in Western culture.

### **Body Shame and Health**

Because body shame is a regular occurrence for many different women in Western culture, body shame as a psychological construct has enjoyed a fair amount of attention in the psychological literature, having been shown to have implications for perceptions of reproductive processes such as fertility treatment, breastfeeding, and menstruation (Johnston-Robledo, Sheffield, Voigt, Wilcox-Constantine, 2007; Munschauer, 1997; Roberts, 2004; Roberts, & Waters, 2004; Schooler et al., 2004), relational issues in heterosexual romantic couples (Sanchez, Good, Kwang, & Saltzman, 2008; Sanchez & Kwang, 2007), and the course of psychological treatment (Swan & Andrews, 2003; Collinge, Wentworth, & Sabo, 2005). Another way in which body shame has been shown to have an impact in women's lives is its contribution to psychological health outcomes. Research has linked body shame to psychological health outcomes such

as major depressive disorder, eating disorders, and sexual dysfunction. The suggested mechanism by which body shame might lead to these outcomes is that chronic experiences of body shame lead to perceived helplessness to change apparently flawed aspects of the body (Grabe et al., 2007; Tiggemann & Kuring, 2004).

However, other aspects of body shame suggest that it could also lead to other types of health outcomes as well. For instance, that body shame places the importance of the appearance of the body over other aspects of the body, including bodily well-being and interoceptive awareness, suggests that body shame might be related to physical health outcomes as well. However, only one unpublished research study to date (Lamont, 2010) has tested the connection between body shame and physical health. In this next section, I will discuss the research linking body shame to psychological health outcomes. I will then discuss why I think that body shame would be related to physical health outcomes as well.

### **Body Shame and Psychological Health**

Fredrickson and Roberts (1997) suggest that self-objectification can lead to depression, eating disorders, and sexual dysfunction in a variety of ways, including increased anxiety and increased incidence of sexual harassment and/or assault perpetrated against women. They also assert that routine evocation of body shame could account for these poor psychological health outcomes as well. These authors and others have suggested that the consistent, negative evaluation of the inherent flaws in one's appearance may result in a chronic sense of helplessness based upon the perceived inflexibility of these apparent flaws (e.g., Grabe et al., 2007; Tiggemann & Kuring, 2004). This type of helplessness, with its emphasis on the uncontrollability of self-relevant outcomes, has been shown to contribute to the development of psychological disorders (Abramson et al., 1978).

Indeed, much research has linked body shame to poor psychological health outcomes, such as major depressive disorder. In a large-scale study of young adolescents, Grabe et al. (2007) found that self-objectification and body shame predicted depressive symptomatology for female participants, but not for male participants. Path analyses in similar studies have demonstrated that body shame acts as a mediator in

the relationship between self-objectification and depression (Szymanski & Henning, 2007; Tiggemann & Kuring, 2004).

Body shame has been implicated in eating disorders as well. Calogero and her colleagues (2005) examined the relationships among self-objectification, body shame, and eating disorder symptomatology in a sample of women who had been diagnosed with an eating disorder. The authors found that body shame partially mediated the link between self-objectification and such eating disorder symptoms as drive for thinness and internalization of appearance ideals. Burney and Irwin (2000) examined the roles of general shame-proneness, shame about eating, and shame about the body in women with eating disorders and found body shame specifically to be a more reliable predictor of eating disorder symptomatology than general shame-proneness.

Body shame has also been implicated in the symptomatology of sexual dysfunction. Sanchez and Kiefer (2007) surveyed female and male participants ranging in age from 17 to 71 years of age, and found that, among both women and men, body shame significantly predicted decreased sexual pleasure and decreased sexual arousability. In a survey of undergraduate women, Steer and Tiggemann (2008) found that increased body shame was related to increased self-consciousness during sexual activity. Further, the authors found that increased body shame was negatively related to self-reported sexual functioning indices such as arousal, orgasm, and satisfaction.

### **Body Shame and Physical Health**

Plenty of research has demonstrated linkages between body shame and psychological disorders, and has proposed mechanisms by which this connection may occur. Very little research, however, has attempted to connect body shame and physical health outcomes, with only one study to date having examined the relationship between body shame and health outcomes. Lamont (2010) surveyed 286 college-aged women with regard to trait level of body shame and self-reported health outcomes and found that higher scores on body shame scales predicted significantly higher overall reports of acute health outcomes (e.g., influenza, bronchitis;  $r = .143, p < .05$ ), marginally higher reports of chronic conditions (e.g., asthma,  $r = .110, p = .068$ ), and marginally higher reports of physical pain symptoms (e.g.,

headaches, abdominal pain;  $r = .105, p = .082$ ). While this study demonstrates a connection between body shame and health outcomes, it can provide no answers as to the process by which this relationship might occur. What could explain these results?

Part of the phenomenology of body shame may shed some light on this question. Objectification theory (Fredrickson & Roberts, 1997) suggests that when body shame is increased, the appearance of the body becomes the main focal point, making bodily well-being less important than how the body looks. This rivalry between bodily appearance and bodily well-being is suggested by research demonstrating that increased trait body shame is correlated with engagement in detrimental health behaviors such as smoking (Fiissel & Lafreniere, 2006; Harrell et al., 2006) and disordered eating (Augustus-Horvath & Tylka, 2009; Calogero, 2009) as well as studies demonstrating a negative association between body shame and interoceptive awareness (Daubenmeir, 2005; Muehlenkamp & Saris-Baglama, 2002; Myers & Crowther, 2008), which suggest that internal bodily states are ignored when appearance becomes salient.

**Body shame and detrimental health behaviors.** Body shame has been linked to behaviors that are known to have direct, negative effects on physiological health outcomes. Trait body shame has been shown to be correlated with smoking behavior. In a sample of 146 undergraduate women, Fiissel and Lafreniere (2006) found that body shame was positively correlated with self-reports of smoking behavior related to appearance concern. Similarly, Harrell and colleagues (2006) found that trait self-objectification was positively correlated with smoking behaviors, although body shame was not directly measured in this investigation.

Another detrimental health behavior that has been connected to body shame is disordered eating. Several studies have shown that body shame is linked to eating behaviors such as binge eating, restricted eating, yo-yo dieting, and purging. For instance, Augustus-Horvath and Tylka (2009) compared an older ( $M_{\text{age}} = 29.7$  years) and a younger ( $M_{\text{age}} = 19.9$  years) sample and found that body shame was significantly correlated with disordered eating, and that this relationship increased in strength in the older sample. Calogero (2009) surveyed female and male undergrads with regard to trait self-objectification, body shame,

and tendencies to engage in disordered eating and found that body shame fully mediated the relationship between self-objectification and disordered eating.

**Body shame and interoceptive awareness.** Interoceptive awareness is the ability to accurately identify and interpret physiological processes occurring within one's own body, such as hunger and thirst signals, fatigue, illness, and physiological states indicative of certain emotions (Daubenmier, 2005). Low trait interoceptive awareness has been linked to various harmful health behaviors, including both overeating (de Zwaan, Mitchell, Seim, & Specker, 1994) and undereating (Leon, Fulkerson, Perry, & Cudeck, 1993), eating disorder-related substance abuse (Stice, Burton, & Shaw, 2004; Wiederman & Pryor, 1997), self-mutilation (Favaro & Santonastaso, 1998), decreases in the importance of health status (Hansell & Mechanic, 1991) and decreased patient-initiated visits to physicians (Hansell, Sherman & Mechanic, 1991). Further, low interoceptive awareness has been related to poor health outcomes, such as decreases in self-reported health status (Hansell & Mechanic, 1991) and increased arterial blockages (Frasure-Smith, 1987).

Muehlenkamp and Saris-Baglama (2002) found body shame to be negatively related to self-reports of interoceptive awareness. Two additional studies report self-objectification, a situation which reliably evokes body shame, to also be negatively correlated with interoceptive awareness. Myers and Crowther (2008) found that trait self-objectification was negatively correlated with interoceptive awareness, and that interoceptive awareness mediated the relationship between trait self-objectification and eating disorder symptomatology. Daubenmier (2005) examined the differences between aerobics instructors and yoga instructors on trait self-objectification, body awareness, and body responsiveness (using items such as "I enjoy becoming aware of how my body feels"). Although no significant results were reported for body awareness, the author found that lower self-objectification scores predicted higher body responsiveness scores.

In terms of assessing the relationship between trait body shame and the importance of health, the literature on body shame's relationship to interoceptive awareness and health behaviors is problematic in two ways. First, while a negative relationship between trait body shame and interoceptive awareness and a positive relationship between trait body shame and detrimental health behaviors may suggest that the

overall importance of one's bodily well-being is diminished in the presence of body shame, neither of these health-related variables directly measure the importance one places on one's own health. Therefore, this research does not represent a direct test of the appearance-health dichotomy proposed by objectification theory. Secondly, while diminished interoceptive awareness and participation in detrimental health behaviors are associated with poor health outcomes, these results are only correlational. Experimental studies are needed to determine that body shame indeed does lead to decreased interoceptive awareness and participation in detrimental health behaviors. Some experimental studies have demonstrated that state increases in body shame do result in restrictive eating (e.g., Fredrickson et al., 1998; Hebl et al., 2004), which could suggest either decreases in interoceptive awareness (e.g., ignoring hunger signals) or detrimental health behaviors (e.g., starvation). However, it would be difficult to claim that the type of eating restriction demonstrated therein leads to poor health outcomes. Indeed, this research has measured restricted eating by the amount of foods such as chocolate chip cookies and chocolate milk (Fredrickson et al., 1998) or chocolate candy (Hebl et al., 2004) participants consumed after the experimental manipulation. One would be hard-pressed to argue convincingly that refraining from eating cookies would have unfavorable consequences for one's health. In short, the research relating body shame and harmful health behaviors does not provide sufficient evidence to establish causal links between body shame and the importance of bodily well-being. In the next section, I introduce a construct that I believe is a more direct measure of the value one places on one's health, or health orientation.

**Body shame and health orientation.** Health orientation is defined as the amount of importance that an individual places on her or his physical health. It is measured by way of items on the Multidimensional Body-Self Relations Questionnaire (Cash, 2004). Health orientation has been positively related to participation in certain pro-health behaviors, such as healthful meal consumption (Geeroms, Verbeke, & Van Kenhove, 2008), health information-seeking behavior (Dutta, 2007; Dutta & Bodie, 2006; Dutta & Feng, 2007; Dutta-Bergman, 2003; Finnegan, Viswanath, & Loken, 1988) and exercise adherence in later life (Meyer, Rezny, & Stuck, 2005). If body shame does indeed involve the practice of placing one's appearance over one's bodily well being, then examining health orientation, a direct measure of the

value one places on one's health, would provide a more direct test of objectification theory's claim that body shame involves valuing appearance over health.

Further, it is important to determine causal relationships between body shame and health-related outcomes variables. To date, literature examining body shame's relationship to health-related variables such as interoceptive awareness, detrimental health behaviors, and health outcomes has all been correlational. Moreover, while these results suggest that individuals high in trait body shame would value their health less than individuals low in trait body shame, these data cannot tell us whether participants high in body shame actually placed their appearance over their health. In the next section of the paper, I propose a study intended (a) to determine whether there is a causal relationship between body shame and health orientation and (b) to test whether body shame actually causes individuals to value their appearance over their health.

## **The Current Study**

### **Overview**

The purpose of the current study is two-fold: (a) to test whether acute bouts of increased body shame result in a diminished emphasis on the importance of one's own physical well-being in comparison to a control group and (b) to test whether this devaluing of bodily well-being occurs at the expense of appearance. Because trait body shame is associated with these variables, it will also be taken into consideration. This study employed a 2x2 factorial design testing trait body shame (high versus low) and level of state body shame (body shame condition versus control condition) and will be analyzed using univariate ANOVA. Level of trait body shame was included because of research indicating trait body shame's relationship to health-related outcome variables of interest in the current study. It was hypothesized that both level of trait body shame and state body shame would influence outcome variables separately as well as to interact to influence these outcome variables.

Participants with high levels of trait body shame (high TBS) and those with low levels of trait body shame (low TBS) were randomly assigned to an experimental manipulation intended to increase state body shame. Participants' state body shame was measured in order to examine the unique effects of body

shame on outcome variables. Health-related outcome variables of interest in the present study were health orientation, measured by self-reports of the amount of importance that participants place on bodily well-being, and participants' willingness to place appearance over bodily well-being, which was assessed using a novel measure whereby participants rated their willingness to participate in appearance-improving behaviors at the expense of their health. In addition, because previous literature on body shame and interoceptive awareness, a health-related outcome variable, has only been examined in terms of its associations with trait body shame, the effects of state body shame on interoceptive awareness were also examined. Finally, an exploratory health-related outcome variable expected to be affected by body shame – avoidance of health care professionals – was also included. The unique effects of state body shame on health-related outcome measures were to be determined by mediation analysis.

### **Hypotheses**

Because the target variable in this investigation is body shame, it was essential to show that the experimental manipulation has indeed evoked a significantly greater degree of body shame in the experimental condition than in the control condition. The experimental manipulation is unpleasant, and is expected to evoke many negative emotions. Therefore, in order to be able to parse out body shame's unique contribution to other outcome variables, other affective phenomena that may have occurred as a result of this manipulation, such as state general shame, state guilt, and state negative affect, were measured. Main effects of both state and trait level of body shame, as well as interactions between the two, are expected for these outcome variables. If the experimental manipulation is successful in evoking body shame as well as these other negative affective states, then

H<sub>1a</sub>: participants in the body shame condition were expected to report higher levels of body shame, state general shame, state guilt, and other state negative affect than participants in the control condition.

H<sub>1b</sub>: high TBS participants were expected to report higher levels of body shame, state general shame, state guilt, and other state negative affect than low TBS participants.

H<sub>1c</sub>: while high TBS participants were expected to report higher levels of body shame, state general shame, state guilt, and other state negative affect than low TBS participants in the control condition, these effects were expected to be exaggerated in the body shame condition.

Research suggests that body shame may lead to an individual place a premium on her or his appearance as compared to situations in which body shame is not present. As a result, an individual experiencing body shame might be expected to pay less attention to her or his physical well-being, thus rating it as less important than would an individual who is not experiencing body shame. Thus, it was expected that the experimental induction of body shame would lead to decreases in health-related outcome variables compared to control. Main effects of both state and trait levels of body shame, as well as an interaction between the two, were expected here as well. If body shame does indeed detract from the importance of one's own physical health, then

H<sub>2a</sub>: participants in the body shame condition were expected to report lower levels of health orientation and interoceptive awareness, and higher ratings of willingness to avoid health care professionals, than participants in the control condition.

H<sub>2b</sub>: high TBS participants were expected to report lower levels of health orientation and interoceptive awareness, and higher ratings of willingness to avoid health care professionals, than low TBS participants.

H<sub>2c</sub>: while high TBS participants were expected to report lower levels of health orientation and interoceptive awareness, and higher ratings of willingness to avoid health care professionals, than low TBS participants in the control condition, these effects were expected to be exaggerated in the body shame condition.

Objectification Theory (Fredrickson & Roberts, 1997) predicts that when body shame is evoked, bodily well-being is ignored in the service of appearance. Therefore, it was expected that body shame would influence the results of a health-related measure in which participants were asked to read a dilemma in which an individual must make a decision that will improve her appearance and decrease her physical well being and then rate whether they would participate in the appearance-improving behavior at the

expense of their health. If a characteristic of the body shame experience is that it compels the individual to place the importance of her or his appearance above that of his or her health, then

H<sub>3a</sub>: participants in the body shame condition were expected to be willing to sacrifice their health to improve their appearance to a greater degree than participants in the control condition.

H<sub>3b</sub>: high TBS participants were expected to be willing to sacrifice their health to improve their appearance to a greater degree than low TBS participants.

H<sub>3c</sub>: high TBS participants were expected to be willing to sacrifice their health to improve their appearance to a greater degree than low TBS participants, and these effects were expected to be especially pronounced in the body shame condition.

Finally, if state body shame specifically and uniquely contributes to the change in self-reported health attitudes, then

H<sub>4</sub>: body shame was expected to mediate the relationship between state body shame and health orientation, interoceptive awareness, avoidance of health care professionals, and participants' willingness to value appearance over health.

## **Method**

### **Participants**

Participants were 54 female undergraduate students enrolled in an introductory psychology course in the Fall semester at Penn State ( $M_{\text{age}} = 18.35$  years,  $SD_{\text{age}} = 0.62$  years). Participants identified themselves as Caucasian (86.5%), African-American (5.8%), East Asian (3.8%), and Latina (3.8%). Participants were recruited based on their scores on the Trait Body Shame Questionnaire (TBSQ; see below). This survey as a recruitment tool was completed by participants along with a number of other screening measures at the beginning of the Fall semester, such that participants were unaware that this particular screening tool was related to the present study. Participants scoring in the upper tercile of scores on the TBSQ ( $M = 4.13$ ,  $n = 25$ ) were considered to have high trait body shame, and those scoring in the lower tercile of scores on the TBSQ ( $M = 3.31$ ,  $n = 29$ ) were considered to have low trait body shame. Participants received course credit in exchange for their participation.

## Materials

All materials appear in appendices A through D.

### Body-Related Affect

**Trait body shame.** Trait body shame levels were assessed using the Trait Body Shame Questionnaire (TBSQ), which was constructed for this study by adding additional items to the OBC-Shame Subscale (McKinley & Hyde, 1996). As mentioned earlier in this thesis, adding additional items to the OBC-Shame Subscale is a common practice among body shame researchers, as this subscale is generally viewed as not measuring the entirety of the construct (e.g., Fredrickson et al, 1998; Hebl et al., 2004). The TBSQ, then, is comprised of all eight items from the Body Shame subscale of the OBC as well as 20 additional phenomenological items that have been developed by the researcher of the present study to measure body shame. The former includes items that refer directly to shameful feelings about the body (e.g., “I feel ashamed of myself when I haven’t made the effort to look my best”) and address the shame-related phenomenology associated with negative global assessments of the self (e.g. “When I am not exercising enough, I question whether or not I’m a good person”). The latter items were added in order to assess a fuller phenomenology of body shame, including concealment (e.g., “I often wish that people couldn’t see the way I look”) and comparison to an ideal (e.g., “Comparing my appearance to the way that celebrities look makes me feel unattractive”). Participants were prompted to respond to all items in terms of “how well each of the following statements describes [you] as a person *in general*” (emphasis added). Participants rated each item on a seven-point Likert-type scale, one being “never or almost never” and seven being “always or almost always.” Cronbach’s  $\alpha$  for this scale as a screening measure for the present sample ( $n = 54$ ) was .93.

In addition, the TBSQ was used as an outcome variable. Previous studies have used similar trait body shame measures as outcome variables and have demonstrated that this seemingly stable measure can be affected in experimental manipulations (Fredrickson et al., 1998; Hebl et al., 2004). Cronbach’s  $\alpha$  for this scale as an outcome measure in the present study was .91.

**State body shame.** Level of state body shame was measured using items adapted from the State Shame and Guilt Scale (Marschall, Sanftner, & Tangney, 1994). Specifically, items intended to measure general shame (e.g., “I want to sink into the floor and disappear”) were reworded to reflect shame about the body (e.g., “I want to cover up my body”). Participants rated 10 of these items on a seven-point Likert-type scale in terms of how they “feel right now,” one being “not at all” and seven being “very much so.” Cronbach’s  $\alpha$  for this scale was .88.

### **General Negative Affect**

**State shame and guilt.** In order to distinguish the effects of body shame from general shame as well as guilt, levels of general shame and guilt were measured using the State Shame and Guilt Scale (Marschall et al., 1994). Shame items ( $n = 3$ ), such as “I feel like I am a bad person,” reflect negative global assessments of the core self, whereas guilt items ( $n = 3$ ), such as “I cannot stop thinking about something bad I have done,” while still focusing on negative self-conscious affect, reflect negative assessments of a specific action. Participants rated each item on a seven-point Likert-type scale in terms of how they “feel right now,” one being “not at all” and seven being “very much so.” Cronbach’s  $\alpha$ s for these scales were  $\alpha_{\text{shame}} = .75$  and  $\alpha_{\text{guilt}} = .80$ .

**State negative affect.** It is expected that the body shame condition will evoke a variety of negative emotions and views of the self in addition to body shame. Therefore, it is essential for the planned mediational analysis to distinguish between body shame and other negative states, such as negative affect, general shame, and decreased self-esteem, in order to demonstrate that body shame specifically, rather than just temporary negative self-worth, is driving the hypothesized decrease in health attitudes. State negative affect was measured using 27 emotion labels that participants were asked to rate on a 7-point Likert-type scale in terms of how they “feel right now,” one being “not at all” and seven being “very much so.” Negative affect was conceived as higher ratings on negative affect labels (e.g., “sad,” “angry at self”) and lower ratings on positive affect labels (e.g., “proud,” “at ease”). Ratings of positive affect labels were reverse-scored and combined with ratings of negative affect labels to create a composite negative affect score. Cronbach’s  $\alpha$  for this scale was .94.

## Health-Related Outcome Measures

**Health orientation.** Health orientation was measured using 37 items from the Multidimensional Body-Self Awareness Questionnaire (Cash, 2000). Participants rated items such as “I don't do anything that I know might threaten my health,” and “I don't care to improve my abilities in physical activities (R)” on a 7-point Likert scale ranging from “strongly disagree” to “strongly agree.” Cronbach's  $\alpha$  for this scale was .91.

**Avoidance of doctor.** Three items were used to measure the degree to which the participant felt discomfort with or fear of physicians or diagnosis in Study 1 (i.e., “When I go to the doctor, I have trouble communicating what's wrong,” “I avoid going to the doctor because I'm afraid something will be wrong,” and “I am afraid of hearing bad news from my doctor”) were used to assess avoidance of health care professionals. Cronbach's  $\alpha$  for these three items was .66.

**Interoceptive awareness.** Interoceptive awareness was measured using items from Daubenmier (2005) intended to assess the degree to which an individual is motivated to become aware of bodily sensations. Participants rated items such as “it is important for me to know how my body is feeling throughout the day” and “I enjoy becoming aware of how my body feels” on a seven-point Likert-type scale ranging from 1 = “not at all” to 7 = “very much so.” Cronbach's alpha for this scale was .65.

**Health-appearance dilemmas.** In order to measure empirically the act of valuing appearance at the expense of health, a set of 13 short scenarios were devised by the researcher to described an individual having to choose between engaging in an activity that would improve her appearance at the expense of her health.

“Megan is preparing for an upcoming wedding in which she is a bridesmaid, and going tanning for a number of sessions will make her look 10 lbs lighter in pictures. However, Megan's doctor recently found a pre-cancerous lesion on Megan's skin, making even a couple of tanning sessions really dangerous for her. If you were in Megan's position, would you go tanning?”

Participants read these scenarios and rated each of them how likely they would be to engage in this appearance-improving behavior and rated it on a scale of 1 (definitely not) to 6 (definitely yes). The rating

scale was designed with no midpoint so that the participants would not be able to remain neutral (i.e., choose the center number of the scale) with regard to the dilemma. In short, participants would be forced to choose between health and appearance in order to solve the dilemma. Face validity for this measure was assessed by the peers of the researcher. Cronbach's  $\alpha$  for this measure was .80.

### **Procedure**

High TBS participants were randomly assigned to either the body shame condition ( $n = 15$ ) and the control condition ( $n = 10$ ). Similarly, low TBS participants were randomly assigned to the body shame condition ( $n = 10$ ) and the control condition ( $n = 19$ ). Upon arrival at the lab, each participant was greeted by a research assistant and asked to put her belongings (backpack, pocketbook, cell phone, coat and shoes) in a plastic tub. Participants were told that in which they were participating was about physical attributes and personality characteristics, and that they would be asked to provide some basic body measurements and to answer some questions about themselves.

The room in which the study took place is referred to as the dressing room. The dressing room was a small space created out of curtain dividers and located in 626 Moore Building on Penn State's University Park campus. It contained a digital scale, a measuring tape, and a full-length mirror. The participant was told that, after she had stepped into the dressing room, she would be given 10 minutes to complete the task described in the research packet on the table. Participants were told that they probably would not take the entire time, but to standardize among participants, they would just need to wait out the ten minutes if they finished early.

### **Body Shame Condition**

In the body shame condition, the research packet contained instructions for the participant to remove all clothing except for her undergarments, to weigh herself and take her own measurements (height as well as measurements in inches around the waist, hips, and bust), and to record these measurements in the research materials packet. The participant's view of herself in the full length mirror and the recording of actual body measurements were all part of the experimental manipulation, and were expected to evoke state body shame. Previous research (e.g., Fredrickson et al., 1998; Hebl et al., 2004) suggests that body

shame can be induced quite readily in female participants by having her body weight and shape made salient to her – in this case, through the taking of body measurements and the full length mirror – even absent the suspicion that she can be viewed by another person. After they were finished taking their measurements, participants were instructed via the research materials to put on a hospital gown.

Once ten minutes had elapsed, the researcher returned to the dressing room to hand the participant the packet of outcome measures. This step was in place to ensure that participants in this condition had actually disrobed and put on the hospital gown. In order to maintain a high level of body shame, each participant was instructed to remain in her undergarments while she completed the outcome measures. In order to accomplish this without making the participant suspicious, the participant was told that, since digital scales can be inaccurate, taking a second measure after a few minutes is recommended in order to obtain an accurate weight measurement. Therefore, she was asked to remain in her undergarments until she had completed the outcome measures, and then to weigh herself again and record the measurement. After the participant was finished with the procedure, she was instructed to redress and exit the dressing room. At this point, the research assistant met the participant, returned her belongings, and provided both verbal and written debriefing.

### **Control Condition**

In the control condition, the research packet contained instructions for the participant to take body measurements and to record them, but these measurements were of the sole of the left foot, the left forearm, and the palm of the left hand. The digital scale had been removed from the room, and the mirrors were covered by curtains. Once ten minutes had elapsed, the researcher returned to the dressing room to hand the participant the packet of outcome measures. After the participant was finished with the procedure, she was instructed to exit the dressing room, at which point the research assistant met the participant, returned her belongings, and provided both verbal and written debriefing.

## Results

### Tests of Hypotheses

A series of univariate ANOVAs was performed in order to test hypotheses 1, 2, and 3.

Correlations among all of these outcome variables appear in Table 1.

Table 1. *Correlation coefficients for outcome variables.*

|                                | (1)     | (2)     | (3)     | (4)     | (5)     | (6)     | (7)   | (8)     | (9)   |
|--------------------------------|---------|---------|---------|---------|---------|---------|-------|---------|-------|
| (1) Trait Body Shame           | 1.000   |         |         |         |         |         |       |         |       |
| (2) State Body Shame           | .878 *  | 1.000   |         |         |         |         |       |         |       |
| (3) State Shame                | .567 *  | .630 *  | 1.000   |         |         |         |       |         |       |
| (4) State Guilt                | .489 *  | .509 *  | .528 *  | 1.000   |         |         |       |         |       |
| (5) State Negative Affect      | .433 *  | .476 *  | .585 *  | .374 *  | 1.000   |         |       |         |       |
| (6) Interoceptive Awareness    | -.414 * | -.366 * | -.468 * | -.165   | -.444 * | 1.000   |       |         |       |
| (7) Health Orientation         | -.179   | -.193   | -.119   | .059    | -.440 * | .501 *  | 1.000 |         |       |
| (8) Avoidance of Doctor        | -.432 * | -.325 * | -.301 * | -.269 * | -.396 * | .282 *  | .200  | 1.000   |       |
| (9) Health-Appearance Dilemmas | .750 *  | .669 *  | .615 *  | .389 *  | .462 *  | -.570 * | -.156 | -.456 * | 1.000 |

\*  $p < .05$

Hypothesis 1a, that participants in the body shame condition would report higher levels of body shame, state general shame, state guilt, and other state negative affect than participants in the control condition, was not supported. No significant main effects of body shame were revealed for any of these outcome measures [ $F_{\text{TBSQ}}(1, 53) = .412, ns, \eta^2 = .008$ ;  $F_{\text{state body shame}}(1, 53) = .405, ns, \eta^2 = .008$ ;  $F_{\text{state general shame}}(1, 53) = .970, ns, \eta^2 = .019$ ;  $F_{\text{state guilt}}(1, 53) = .067, ns, \eta^2 = .001$ ;  $F_{\text{state negative affect}}(1, 53) = .866, ns, \eta^2 = .017$ ]. Hypothesis 1b, that high TBS participants were expected to report higher levels of body shame, state general shame, state guilt, and other state negative affect than low TBS participants, was supported. A significant main effect of trait was revealed in that high TBS participants reported significantly higher

levels of body shame [ $F_{\text{TBSQ}}(1, 53) = 67.16, p < .001, \eta^2 = .578$ ;  $F_{\text{state body shame}}(1, 53) = 48.55, p < .001, \eta^2 = .493$ ], state shame [ $F(1, 53) = 11.51, p = .001, \eta^2 = .187$ ], state guilt [ $F(1, 53) = 7.01, p < .05, \eta^2 = .123$ ], state negative affect [ $F(1, 53) = 7.99, p < .01, \eta^2 = .138$ ] than participants low in trait body shame. The hypothesized interaction between state and trait levels of body shame (Hypothesis 1c) on body-related and general negative affect measures was not revealed. Means and standard deviations appear in Table 2.

*Table 2. Means and standard deviations of outcomes variables by group .*

| Outcome Measure         | Body Shame Condition |           |                    |           | Control Condition   |           |                    |           |
|-------------------------|----------------------|-----------|--------------------|-----------|---------------------|-----------|--------------------|-----------|
|                         | high trait (n = 15)  |           | low trait (n = 10) |           | high trait (n = 10) |           | low trait (n = 19) |           |
|                         | <i>M</i>             | <i>SD</i> | <i>M</i>           | <i>SD</i> | <i>M</i>            | <i>SD</i> | <i>M</i>           | <i>SD</i> |
| Trait Body Shame        | 5.02                 | 1.16      | 2.33               | 1.04      | 5.18                | 1.61      | 2.46               | 0.95      |
| State Body Shame        | 4.33                 | 1.02      | 2.44               | 0.46      | 4.49                | 1.37      | 2.63               | 0.82      |
| State General Shame     | 1.71                 | 0.78      | 1.10               | 0.23      | 1.43                | 0.50      | 1.11               | 0.22      |
| State General Guilt     | 2.13                 | 1.05      | 1.30               | 0.46      | 1.40                | 0.77      | 1.90               | 1.12      |
| State Negative Affect   | 3.34                 | 0.85      | 2.50               | 0.75      | 2.89                | 0.53      | 2.58               | 0.69      |
| Health Orientation      | 4.63                 | 0.83      | 5.02               | 0.74      | 4.78                | 0.87      | 4.66               | 0.81      |
| Interoceptive Awareness | 4.33                 | 1.01      | 5.42               | 0.79      | 4.61                | 0.78      | 5.02               | 0.86      |
| Avoidance of Doctor     | 4.96                 | 1.50      | 5.77               | 1.06      | 4.87                | 0.98      | 5.65               | 1.35      |
| Health Dilemmas         | 3.29                 | 0.82      | 2.61               | 0.65      | 3.15                | 0.72      | 2.32               | 0.35      |

Hypothesis 2a, that participants in the body shame condition would report lower levels of health orientation and interoceptive awareness, as well as more willingness to avoid health care professionals, than participants in the control condition, was not supported. No significant main effects of condition were found for any of these outcome measures [ $F_{\text{health orientation}}(1, 53) = .221, ns, \eta^2 = .006$ ;  $F_{\text{interoceptive awareness}}(1, 53) = .059, ns, \eta^2 = .001$ ;  $F_{\text{avoidance}}(1, 53) = .080, ns, \eta^2 = .002$ ] Hypothesis 2b, that high TBS participants would report lower levels of health orientation, internal locus of control, and interoceptive awareness, and more willingness to avoid health care professionals, than low TBS participants, was partially supported. While significant main effects of trait were not revealed for health orientation [ $F_{\text{health orientation}}(1, 53) = .327, ns, \eta^2 = .018$ ], high TBS participants reported less interoceptive awareness [ $F(1, 53) = 9.07, p < .01, \eta^2 =$

.154] and more avoidance of health care professionals [ $F(1, 53) = 4.78, p < .05, \eta^2 = .087$ ] than participants low in trait body shame. The hypothesized interaction between state and trait body shame (hypothesis 2c) on health-related outcome measures was not revealed.

The third set of hypotheses described predictions about the tendency for individuals to place their appearance over their bodily well-being was tested by having participants complete health dilemmas. Hypothesis 3a, that participants in the body shame condition would be willing to sacrifice their health to improve their appearance to a greater degree than participants in the control condition, who will place similar import on appearance and health, was not supported [ $F(1, 53) = 1.40, ns, \eta^2 = .027$ ]. Hypothesis 3b, that high TBS participants would be willing to sacrifice their health to improve their appearance to a greater degree than low TBS participants, was supported. Participants high in trait body shame were significantly more likely to be willing to sacrifice their health to improve their appearance [ $F(1, 53) = 18.01, p < .001, \eta^2 = .625$ ] than participants low in trait body shame in either condition. The hypothesized interaction between state and trait levels of body shame (hypothesis 3c) on willingness to sacrifice health in order to improve appearance was not supported.

Because no differences between the body shame condition and the control condition on state body shame, Hypothesis 4, which stated that body shame would mediate the relationship between condition and health-related outcome variables, was unable to be tested.

### **Discussion**

A series of univariate ANOVAs revealed no effect of state body shame on any of the outcome measures, but revealed a significant effect of trait body shame on nearly all of the outcome measures. Specifically, the high trait body shame group, regardless of condition, reported higher levels of body shame, state general shame, state guilt, and state negative affect. Moreover, while no differences were revealed for health orientation, participants high in trait body shame reported lower levels of interoceptive awareness, a greater willingness to avoid visiting a health care professional when sick, and a greater willingness to place appearance over health than participants who were low in trait body shame.

### **Reasons for these results**

While significant main effects of trait level of body shame were found on most of the outcome measures, the results revealed no effect of body shame for either of the trait levels. In the next section, I examine two possible reasons for this: (a) that the experimental manipulation was ineffective in producing state body shame in participants, and (b) that some flaw in the design of the study prevented effects from occurring.

#### **Manipulation was not effective.**

Participants in both the body shame and the control conditions reported similar levels of body shame and other ratings of state negative affect. This suggests that the experimental manipulation intended to induce state body shame and other negative affective state was not effective. I will discuss two potential reasons for this: (a) that the evaluative component was not evident, and (b) that the cover story for the experiment may not have been effective.

**Evaluative component may not have been as evident.** That the present manipulation was ineffective is surprising given this manipulation was based on a well-known experimental paradigm in the self-objectification literature that has been shown to reliably evoke state body shame in participants. Fredrickson et al. (1998) and Hebl et al. (2004) manipulated state body shame in participants by having them try on a swimsuit alone and in front of a mirror. While the procedure in the current study seems similar, it differs from the swimsuit paradigm in some key ways that may have detracted from its effectiveness in producing state body shame in participants.

Because the swimsuit in the previous studies is small and revealing, it was assumed that viewing oneself in a mirror one's undergarments would lead to a similar affective state. Further, it was believed that the additional experience of measuring one's body would increase the state even further. While undergarments do indeed reveal much of the body, and measurement does include a more private evaluative component, it may be that the swimsuit more effectively produces body shame because it may evoke the thought of being evaluated by others. For instance, the experience of wearing a swimsuit may evoke the idea of evaluation by another, because these garments are often worn in public places such as the

beach or a swimming pool. While undergarments are revealing, they are not often worn in public, perhaps decreasing the implied evaluation by another. It is possible that, while both Fredrickson et al. (1998) and Hebl et al. (2004) claimed that their manipulation was effective in inducing body shame even when the participant was alone, perhaps the swimsuit implied the potential for evaluation to the participants.

**Cover story may not have been believable.** Participants in Fredrickson et al. (1998) and Hebl et al. (2004) were led to believe that they were participating in a marketing study and rated many products in addition to the clothing they tried on, including perfume, cookies, and commercial soft drinks. Therefore, it was likely not apparent to the participants in these studies that the experiment was intended to focus on self-objectification or to elicit body shame. Participants in the current study, on the other hand, were told that they would be taking body measurements to see how they relate to certain personality characteristics. Compared to the swimsuit studies, this cover story is quite flimsy, and participants may have guessed that they were expected to feel negatively about their bodies. Since shame as an emotion is difficult to admit feeling (Tangney & Dearing, 2002), it is possible that the participants resisted feeling shame because they knew what the study was supposed to be measuring.

In order to examine whether participants saw through the cover story, a subset of 6 participants in the body shame condition answered open-ended questions regarding the purpose of the study. Specifically, participants were asked to describe (a) what they thought the study was about, (b) if it was easy to guess what the experimenter was trying to measure and (c) if there was anything they thought the experimenter could do to improve participants' comfort level. The first two questions addressed potential problems with the cover story in a direct manner, whereas the third question was aimed at getting participants to talk about the evaluative experience in a way that would assess whether or not they felt an appropriate level of evaluation during the experimental procedure. Four out of the six participants who answered the questions indicated that it was obvious that the researchers wanted them to feel self-conscious or negatively about their bodies. For instance, participants described that the experimenter wanted to "make you feel uncomfortable, exposed, [and] conscious about your weight" or "depressed, frustrated and self-conscious,"

and that “the mirrors were there to make people feel self-conscious.” These responses suggest that the cover story was indeed insufficient to mask the true purpose of the study.

Given that participants appeared to be able to guess that they were expected to feel negatively about their bodies based on having taken measurements, it is possible that they attributed the negative feelings that they might have about their bodies to external factors. Classic social psychological research has shown that, if given the opportunity, participants will attribute negative life events to external sources. Schwarz and Clore (1983) examined the effect of participants’ expectations for how their surroundings might affect their mood on the attributions that participants made for negative life events. Participants who expected that the room they were in would negatively affect their mood provided more external, unstable reasons for negative life events. Baumgardner and Arkin (1988) found that individuals in a negative mood were more likely to attribute the failure on a college entrance exam to external events. In these studies, the explanation that the authors offer for their findings is that, when participants expect that they are supposed to feel badly, they attribute their mood to external factors. Since internal attributions are a necessary condition of the negative self-conscious emotions of interest in the study (i.e., body shame, general shame, and guilt; Fredrickson & Roberts, 1997; Tangney, 2003), it is possible that the external attributions for the negative affect experienced in the study prevented participants from feeling self-conscious emotions. Unfortunately, there is no way to test the hypothesis that body shame was alleviated because participants misattributed their negative feelings about their bodies to the situation given the data in hand. Moreover, this misattribution, while it may alleviate internally-attributed body shame in participants, would not be expected to alleviate all negative affect. For instance, participants in studies by Schwarz and Clore (1983) and Baumgardner and Arkin (1988), even though they made external attributions, still reported negative affect. In the current study, negative affect was not increased by the experimental manipulation.

#### **Design may have compromised results.**

In order to further determine whether the experimental manipulation was not effective, additional analyses were run to examine potential design flaws in the study that were unrelated to the manipulation:

(a) the idea that trait levels of body shame may have overridden state experiences of body shame, and (b) that the control condition may not have served as a neutral comparison point for the body shame group.

**Trait effect may have washed out state effect.** The original analysis only included individuals in the upper and lower terciles of scores on a trait body shame measure. If trait body shame is a very stable trait characteristic, it is possible that state body shame is unmanipulable at high and low trait levels. To test for this possibility, a separate sample of mid-level trait body shame participants ( $n = 29$ ) was recently taken through the same protocol. Participants were female undergraduate students enrolled in an introductory psychology course in the Spring semester at Penn State ( $M_{\text{age}} = 19.41$  years,  $SD_{\text{age}} = 2.95$  years). Nevertheless, again, the results revealed no difference in state body shame between the groups [ $F(1, 28) = .512$ ,  $ns$ ,  $\eta^2 = .008$ ]; Therefore, it is apparent that this experimental manipulation was ineffective at evoking state body shame in participants.

**Control group may not have been ideal comparison.** It is possible that no difference was found between the experimental and control groups because the control condition induced an affective state similar to the experimental condition. In order to explore this possibility, TBSQ scores from the screening (pretest) were compared to TBSQ scores collected during the experimental procedure (posttest). Recall that, although the TBSQ is intended to measure trait body shame, parts of it have been used to assess state body shame after experimental manipulations (Fredrickson et al., 1998; Hebl et al., 2004).

Table 3. *Pretest and posttest means and standard deviations by group and semester.*

|                               | pretest TBSQ    |           | posttest TBSQ |           |
|-------------------------------|-----------------|-----------|---------------|-----------|
|                               | <i>M</i>        | <i>SD</i> | <i>M</i>      | <i>SD</i> |
|                               | Fall Semester   |           |               |           |
| body shame condition          |                 |           |               |           |
| high trait (n = 15)           | 5.39            | 1.20      | 4.65*         | 0.97      |
| low trait (n = 10)            | 2.42            | 0.51      | 1.99          | 0.72      |
| control condition             |                 |           |               |           |
| high trait (n = 10)           | 5.46            | 0.60      | 4.54*         | 1.74      |
| low trait (n = 19)            | 2.61            | 0.48      | 2.35          | 0.84      |
|                               | Spring Semester |           |               |           |
| body shame condition (n = 15) | 4.15            | 0.35      | 3.65*         | 0.85      |
| control condition (n = 14)    | 4.14            | 0.38      | 4.242         | 0.85      |

\* significant difference from pretest mean ( $p < .05$ )

A repeated-measures ANOVA revealed that, for the high and low trait participants tested in the Fall semester, trait body shame decreased from pretest to posttest for all four groups [ $F(1, 53) 17.941 = ; p$

< .001,  $\eta^2 = .281$ ]. Pairwise comparisons revealed that posttest means for the high trait group in both the body shame and the control condition were significantly lower than pretest (screening) means. These means appear in Table 3.

The screening for this study took place in the beginning of the Fall semester, whereas the actual study (posttest) occurred at the end of the fall semester. It is possible that the variable of interest decreased over the course of the semester. For instance, Aubrey (2007) examined college women over the course of 12 month panel study and found that self-consciousness about bodily appearance decreased from the first measurement to the second. However, other researchers have investigated changes in psychological traits related to bodily appearance over the course of the first year in college and have reported mixed results. Delinsky and Wilson (2008) surveyed women once in their first semester of college and then again in their second semester, and found that eating disorder symptomatology increased in college women over the course of the first year. Still other studies have shown body image to remain stable throughout the first year of college. Vohs, Heatherton, and Herrin (2001) surveyed women once at the end of their senior year in high school and once after the first semester of college and found that disordered eating and dieting remained unchanged, even though participants reported having gained weight from the first to the second test. Stable body image across college semesters was also reported by Bradford and Petrie (2008).

In order to test whether this effect held in a sample whose pretest (screening) and posttest measure occurred closer together, pre- and posttest TBSQ scores were compared across condition for moderate trait-level participants who were run in the Spring semester. A repeated measure ANOVA revealed a significant difference between pretest and posttest scores for these participants as well ( $[F(1, 27) = 2.08; ns, \eta^2 = .072]$ ), but unlike the previous results, pairwise comparisons revealed that only the body shame condition decreased in trait body shame, and that the control condition remained the same. These means also appear in Table 4. These results, of course, are confounded by semester and trait level of body shame.

### **Solutions**

Given the previous considerations, it appears that the current study yielded no results not because of a design flaw having to do with trait levels considered or a problematic control group, but as a result of

an manipulation ineffective at producing body shame. In the next section, I discuss improvements the current study in order to amend the flaws in the current manipulation such that state body shame may be elicited.

### **Strengthen the Evaluative Component**

One way to improve the current study would be to strengthen the evaluative component in the body shame group. One obvious improvement to the study would be to run the exact paradigm that Fredrickson et al. (1998) and Hebl et al. (2004) ran in order to induce body shame in participants. This had been avoided because of the funding required to run it successfully. For instance, authors of these articles provided swimsuits for the experimental condition, and sweaters for the control, in multiple sizes, in addition to having participants try and rate other products to maintain the cover story. I've argued earlier that the evaluative component inherent in the swimsuit as well as a good cover story were both missing from the current study. Implementing the original procedure from which the current study was based would alleviate both of these problems.

Nevertheless, research on objectification suggests that less costly, lower impact studies are effective at producing body shame in participants. For instance, Harper and Tiggemann (2008) found that female participants viewed a series of advertisements featuring the thin ideal female body reported greater self-objectification and body shame than women who viewed ads that didn't feature the thin female body ideal. Roberts and Gettman (2004) were able to evoke appearance anxiety, body shame, and decreased interest in sex by simply having participants unscramble sentences containing words like "slender," "sexiness," and "elegance," suggesting that the "mere exposure" (p. 20) to objectifying words creates a state of self-objectification and therefore increased body shame in women.

In an initial iteration of this project, part of the procedure was to provide the participants with magazines that they could peruse as they waited for various parts of the experiment. In the body shame condition, the magazines would have been fashion magazines that typically depict objectified images of women (*Elle*, *Cosmopolitan*, and *Vogue*), and the magazines for the control condition would have been those that do not typically depict objectified images of women: an architecture magazine (*Dwell*), a

horticulture magazine (*The American Gardener*), and a general news magazine (*Time*). The magazines had initially been included as part of the experimental manipulation because it had been demonstrated that the suggestion of the cultural body ideal, which is conveyed by fashion magazines, is enough to create body shame in women. The magazines were removed from the procedure because it would have been impossible to control how long participants looked at the magazines and what content they actually saw. However, regardless of how closely and for how long participants engaged with the magazines may be moot, as it is possible that just having the magazines in the room would remind the participants of the cultural body ideal, thus helping to evoke body shame.

Exposing the participants to a media ideal could also be achieved in a more controlled manner. In order to standardize the content and duration of participants' engaging with objectifying media images, another study could be performed. Participants would be told that they were participating in two studies: one which involved rating products sold in magazines, and another that dealt with health. In the ostensible first study, participants would be asked to rate advertisements on a number of characteristics, such as their effectiveness at selling a product. These advertisements would depict objectifying images of women, and in reality, would serve as the experimental manipulation, expected to increase body shame in participants. The ostensible second study would be simply the completion of the outcome measures described in the current study.

### **Improve the cover story**

If I remain with the current paradigm, one way to improve the cover story would be to provide a logical reason that the participants would need to take these measurements. Recall that there was no good alternative reason that the participants were to be undressing in front of a mirror except to evoke body shame, and it was evident to participants that they were supposed to feel negative self-conscious emotions with regard to their bodies. One way of providing an alternative explanation for why participants would need to take accurate measurements would be to tell them that body mass index (BMI) is a long standing measure in the psychology literature but has recently been called under scrutiny for being inaccurate because it only takes into account weight, height and age. The participants would be told that the new way

to get a more accurate measure of how body characteristics involves taking many body measurements in addition to height and weight. Further, since this inaccurate BMI has been related to a number of psychological variables, it is important for psychological researchers overhaul this research by examining how this new method of body measurement predicts these psychological characteristics. Outcome measures of interest (body shame, health orientation, etc.) would be imbedded in other personality questionnaires to disguise the true intent of the measures.

### **Future Directions & Conclusions**

Even though the failure of the experimental manipulation in the current study prevents us from making conclusions about the causal nature of the relationship between body shame and health-related outcome variables, significant main effects for trait body shame with regard to health-related outcome variables were revealed. Recall that my critique of the literature tying body shame to detrimental health behaviors and interoceptive awareness is two-fold: (a) it does not provide a direct test of the claim made in objectification theory (Fredrickson & Roberts, 1997) that body shame causes individuals to value appearance over bodily well-being, and (b) the correlational nature of the data linking body shame and these health-related factors do not allow us to draw causal conclusions about them. Since the experimental manipulation did not work, the problem of being unable to link body shame to health-related factors remains unresolved. Nevertheless, this study is the first of its kind to link trait body shame to factors that represent direct measures of the importance of one's physical health.

In short, the data presented herein provide at least correlational evidence that individuals high in trait body shame tend to value their health less than those who are low in trait body shame. This evidence suggests that trait body shame is negatively related to the value that one places on one's own physical well-being. A next step, then, would be to test whether body shame were indeed related to physical health outcomes (e.g., influenza, lupus, sexually transmitted infections) *by way of* diminished importance of bodily well-being. A future study is needed in which mediational analysis is used to examine whether trait body shame leads to physical health outcomes is mediated by the willingness to devalue one's health.

Nevertheless, physical health outcomes represent a vast construct, and researching even a few variables that might impact it, such as the importance that one places on or the amount of control one perceived to have over one's physical health, may leave a lot of variance unexplained. That is to say, even if body shame were to predict poor health outcomes in the future directions proposed above, and health orientation and health locus of control were to mediate this to some degree, myriad other variables may have an impact on physical health outcomes, some independent of and some related to body shame, potentially to varying degrees. Moreover, it's possible that body shame could be related to health outcomes via other mediators as well. For instance, results of recent research have suggested that shame-related emotions may be linked to poor physical health outcomes as well (Gruenewald, Dickerson, & Kemeny, 2007). Working from Sapolsky's (1982) conclusion that cortisol is released specifically in response to psychosocial stress in baboons, Gruenewald, Dickerson, and Kemeny (2007) proposed that cortisol is released specifically when stress is the result of self-conscious emotions. Further research by these authors and their colleagues into this question reveals that, indeed, psychosocial stress in the form of negative social evaluation is a more reliable elicitor of cortisol than other stressful events, such as a cold-pressor task, which induces physical stress (Dickerson & Kemeny, 2004; Dickerson, Kemeny, Aziz, Kim, & Fahey, 2007; Gruenewald, Kemeny, Aziz, & Fahey, 2004). Based on these findings, Gruenewald et al. (2007) predict that routine experiences of social evaluative threat will result in heightened release of cortisol, perhaps resulting in cortisol dysregulation, and therefore leading to poorer health outcomes. Certainly, self-objectification presents a situation in which one's body is being evaluated in response to a standard, which is why it creates body shame at all. Body shame, then, represents a response to social evaluative threat, and could thus also result in cortisol evocation. Another possible pathway by which body shame could lead to poor health outcomes is body shame's potential evocation of cortisol. However, no research to date has tested this relationship.

In conclusion, the purpose of the present study was to test whether state evocations of body shame caused individuals who were high and low in trait body shame to devalue their health. The extant literature on body shame and health-related factors do not represent direct tests of the value that one places on one's

health and presents only correlational findings. The experimental manipulation aimed at increasing state body shame in participants in the present study was not effective, and therefore did not allow an examination of the causal relationship between body shame and the importance that one places on one's health. Nevertheless, significant main effects of trait were found for nearly all of the outcome variables. Specifically, high TBS participants reported more body shame, state general shame, state guilt, and state negative affect than low TBS participants. Moreover, high TBS participants reported lower interoceptive awareness, more willingness to avoid health care professionals, and more willingness to sacrifice health in order to improve appearance than low TBS participants. These main effects of trait body shame on many of the health-related outcome variables provide a more direct test of and support objectification theory's claim that the experience of body shame involves the devaluing of one's physical health. Future directions include improving the manipulation to test causal effects of body shame on health-related factors, a mediational analysis linking trait body shame to poor health outcomes by way of health orientation, and examining other mechanisms, such as cortisol evocation, by which body shame could potentially be linked to poor health outcomes.

## References

- Abramson, L. Y., Seligman, M. E. P., & Teasdale, J. (1978). Learned helplessness in humans: Critique and reformulation. *Journal of Abnormal Psychology, 87*, 49–74.
- Andrews, B. (1995). Bodily shame as a mediator between abusive experiences and depression. *Journal of Abnormal Psychology, 104*, 277-285.
- Andrews, B., Qian, M., & Valentine, J. D. (2002). Predicting depressive symptoms with a new measure of shame: The Experience of Shame Scale. *British Journal of Clinical Psychology, 41*, 29-42.
- Aubrey, J. S. (2007). Does television exposure influence college-aged women's sexual self-concept? *Media Psychology, 10*, 157-181.
- Augustus-Horvath, C. L. & Tylka, T. L. (2009). A test and extension of objectification theory as it predicts disordered eating: Does women's age matter? *Journal of Counseling Psychology, 56*, 253-265.
- Baumgardner, A. H. & Arkin, R. M. (1988). Affective state mediates causal attributions for success and failure. *Motivation & Emotion, 12*, 99-111.
- Bradford, J. W., Petrie, T. A. (2008). Sociocultural factors and the development of disordered eating: A longitudinal analysis of competing hypotheses. *Journal of Counseling Psychology, 55*, 246-262.
- Buchanan, T. S., Fischer, A. R., Tokar, D. M., & Yoder, J. D. (2008). Testing a culture-specific extension of objectification theory regarding African American women's body image. *Counseling Psychologist, 36*(5), 697-718.
- Burney, J. & Irwin, H. J. (2000). Shame and guilt in women with eating-disorder symptomatology. *Journal of Clinical Psychology, 56*, 51-61.
- Calogero, R. M. & Thompson, J. K. (2009). Potential implications of the objectification of women's bodies for women's sexual satisfaction. *Body Image, 6*, 145-148.
- Calogero, R. M. (2009). Objectification processes and disordered eating in British women and men. *Journal of Health Psychology, 14*, 394-402.
- Calogero, R. M., Davis, W. N., & Thompson, J. K. (2005). The role of self-objectification in the experience of women with eating disorders. *Sex Roles, 52*, 43-50.

- Cash, T. J. (2004). *The Multidimensional Body-Self Relations Questionnaire Users Manual*.
- Collinge, W., Wentworth, R., & Sabo, S. (2005). Integrating complementary therapies into community mental health practice: An exploration. *The Journal of Alternative & Complementary Medicine, 11*, 569-574.
- Daubenmier, J. J. (2005). The relationship of yoga, body awareness, and body responsiveness to self-objectification and disordered eating. *Psychology of Women Quarterly, 29*, 207-219.
- De Zwaan, M., Mitchell, J. E., Seim, H. C., Specker, S. M., Pyle, R. L., Raymond, N. C., et al. (1994). Eating related and general psychopathology in obese females with binge eating disorder. *International Journal of Eating Disorders, 15*, 43-52.
- Delinsky, S. S., & Wilson, G. T. (2008). Weight gain, dietary restraint, and disordered eating in the freshman year of college. *Eating Behaviors, 9*, 82-90.
- Dickerson, S. S. & Kemeny, M. E. (2004). Acute stressors and cortisol responses: A theoretical integration and synthesis of laboratory research. *Psychological Bulletin, 130*, 355-391.
- Dickerson, S. S., Kemeny, M. E., Aziz, N., Kim, K. H., & Fahey, J. L. (2007). Immunological effects of induced shame and guilt. *Psychosomatic Medicine, 66*, 124-131.
- Dutta, M. J. & Bodie, G. (2006). Health orientation as a predictor of exercising: A psychographic approach. *Social Marketing Quarterly, 12*, 3-18.
- Dutta, M. J. (2007). Health information processing from television: The role of health orientation. *Health Communication, 21*, 1-9.
- Dutta-Bergman, M. (2003). Trusted online sources of health information: Differences in demographics, health beliefs, and health-information orientation. *Journal of Medical and Internet Research, 5*(3), e21.
- Favaro, A. & Santonastaso, P. (1998). Impulsive and compulsive self-injurious behavior in bulimia nervosa: Prevalence and psychological correlates. *Journal of Nervous & Mental Disease, 186*(3), 157-165.

- Fiissel, D. L. & Lafreniere, K. D. (2006). Weight control motives for cigarette smoking: Further consequences of the sexual objectification of women? *Feminism & Psychology, 16*, 327-344.
- Finnegan, J. R., Viswanath, K., & Loken, M. A. (1988). Predictors of cardiovascular health knowledge among suburban cable TV subscribers and non-subscribers. *Health Education Research: Theory & Practice, 3*(2), 141-151.
- Frasure-Smith, N. (1987). Levels of somatic awareness in relation to angiographic findings. *Journal of Psychosomatic Research, 31*, 545-554.
- Frederick, D. A., Forbes, G. B., Grigorian, K. E., & Jarcho, J. M. (2007). The UCLA Body Project I: Gender and ethnic differences in self-objectification and body satisfaction among 2,206 undergraduates. *Sex Roles, 57*, 317-327.
- Fredrickson, B. L. & Roberts, T. A. (1997). Objectification theory: Toward understanding women's lived experiences and mental health risks. *Psychology of Women Quarterly, 21*(2), 173-206.
- Fredrickson, B. L., Roberts, T.-A., Noll, S. M., Quinn, D. M., & Twenge, J. M. (1998). That swimsuit becomes you: Sex differences in self-objectification, restrained eating, and math performance. *Journal of Personality & Social Psychology, 75*(1), 269-284.
- Gapinski, K. D., Brownell, K. D., & LaFrance, M. (2003). Body objectification and "fat talk": Effects on emotion, motivation, and cognitive performance. *Sex Roles, 48*, 377-388.
- Geeroms, N., Verbeke, W., & Van Kenhove, P. (2008). Consumers' health-related motive orientations and ready meal consumption behaviour. *Appetite, 51*, 704-712.
- Grabe, S. & Hyde, J. S. (2006). Ethnicity and body dissatisfaction among women in the United States: A meta-analysis. *Psychological Bulletin, 132*, 622-640.
- Grabe, S., Hyde, J. S., & Lindberg, S. M. (2007). Body objectification and depression in adolescents: The role of gender, shame, and rumination. *Psychology of Women Quarterly, 31*(2), 164-175.
- Grippio, K. P. & Hill, M. S. (2008). Self-objectification, habitual body monitoring, and body dissatisfaction in older European American women: Exploring age and feminism as moderators. *Body Image, 5*(2), 173-182.

- Gruenewald, T. L., Kemeny, M. E., Aziz, N., & Fahey, J. L. (2004). Acute threat to the social self: Shame, social self-esteem, and cortisol activity. *Psychosomatic Medicine*, *66*, 915-924.
- Gruenewald, T. L., Dickerson, S. S., Kemeny, M. E. (2007). A social function for self-conscious emotions: The social self preservation theory. In J. L. Tracy, R. W. Robins, & J. P. Tangney (Eds.), *The self-conscious emotions: Theory and research* (pp. 68-87). New York: Guilford.
- Haines, M. E., Erchull, M. J., Liss, M., Turner, D. L., Nelson, J. A., Ramsey, L. R., et al. (2008). Predictors and effects of self-objectification in lesbians. *Psychology of Women Quarterly*, *32*, 181-187.
- Hansell, S. & Mechanic, D. (1991). Body awareness and self-assessed health among older adults. *Journal of Aging & Health*, *3*(4), 473-492.
- Hansell, S., Sherman, G., & Mechanic, D. (1991). Body awareness and medical care utilization among older adults in an HMO. *Journals of Gerontology*, *46*(3), S151-S159.
- Harper, B. & Tiggemann, M. (2008). The effect of thin ideal media images on women's self-objectification, mood, and body image. *Sex Roles*, *58*, 9-10.
- Harrell, Z. A. T., Fredrickson, B. L., Pomerleau, C. S., & Nolen-Hoeksema, S. (2006). The role of trait self-objectification in smoking among college women. *Sex Roles*, *54*, 735-743.
- Hebl, M. R., King, E. B., & Lin, J. (2004). The swimsuit becomes us all: Ethnicity, gender, and vulnerability to self-objectification. *Personality & Social Psychology Bulletin*, *30*, 1322-1331.
- Hill, M. S. & Fischer, A. R. (2008). Examining objectification theory: Lesbian and heterosexual women's experiences with self-objectification. *Counseling Psychologist*, *36*(5), 745-776.
- Hurt, M. M., Nelson, J. A., Turner, D. L., Haines, M. E., Ramsey, L. R., Erchull, M. J., & Liss, M. (2007). Feminism: What is it good for? Feminine norms and objectification as the link between feminist identity and clinically relevant outcomes. *Sex Roles*, *57*(5-6), 355-363.
- Johnston-Robledo, I. & Fred, V. (2008). Self-objectification and lower income pregnant women's breastfeeding attitudes. *Journal of Applied Social Psychology*, *38*, 1-21.

- Johnston-Robledo, I., Sheffield, K., Voigt, J., Wilcox-Constantine, J. (2007). Reproductive shame: Self-objectification and young women's attitudes toward their reproductive functioning. *Women & Health, 46*, 25-39.
- Kabir, Z., Connolly, G. N., Clancy, L., Koh, H. K., & Capewell, S. (2008). Coronary heart disease deaths and decreased smoking prevalence in Massachusetts, 1993-2003. *American Journal of Public Health, 98*, 1468-1469.
- Lamont, J. M. (2010). *Associations among trait body shame, physical health attitudes, and actual physical health outcomes*. Unpublished data, Department of Psychology, The Pennsylvania State University, University Park, PA.
- Leon, G. R., Fulkerson, J. A., Perry, C. L., & Cudeck, R. (1993). Personality and behavioral vulnerabilities associated with risk status for eating disorders in adolescent girls. *Journal of Abnormal Psychology, 102*, 438-444.
- Lewis, H. B. (1971). Shame and guilt in neurosis. *Psychoanalytic Review, 58*, 419-438.
- Lewis, M. (1992). *Shame: The exposed self*. New York: Free Press.
- Marschall, D.E., Sanftner, J., & Tangney, J.P. (1994). *The State Shame and Guilt Scale*. Fairfax, VA: George Mason University.
- Martins, Y., Tiggemann, M., & Kirkbride, A. (2007). Those Speedos become them: The role of self-objectification in gay and heterosexual men's body image. *Personality & Social Psychology Bulletin, 33*, 634-647.
- McKinley, N. M. & Hyde, J. S. (1996). The objectified body consciousness scale: Development and validation. *Psychology of Women Quarterly, 20*, 181-215.
- Mercurio, A. E. & Landry, L. J. (2008). Self-objectification and well-being: The impact of self-objectification on women's overall sense of self-worth and life satisfaction. *Sex Roles, 58*, 458-466.
- Meuhlenkamp, J. J. & Saris-Baglama, R. N. (2002). Self-objectification and its psychological outcomes for college women. *Psychology of Women Quarterly, 26*, 371-379.

- Meyer, K., Rezny, L., & Stuck, A. E. (2005). Physical activity in the second half of life: Current situation in Switzerland. *Journal of Public Health, 13*, 179-184.
- Molloy, B. L. & Herzberger, S. D. (1998). Body image and self-esteem: A comparison of African-American and Caucasian women. *Sex Roles, 38*, 631-643.
- Moradi, B. & Huang, Y.-P. (2008). Objectification theory and psychology of women: A decade of advances and future directions. *Psychology of Women Quarterly, 32*, 377-398.
- Munschauer, C. A. (1997). Shame: The dark shadow of infertility. In M. R. Lansky & A. P. Morrison (Eds.), *The widening scope of shame* (pp. 313-338). Mahwah, NJ: Analytic.
- Myers, T. A. & Crowther, J. H. (2007). Sociocultural pressures, thin-ideal internalization, self-objectification, and body dissatisfaction: Could feminist beliefs be a moderating factor? *Body Image, 4*, 296-308.
- Myers, T. A. & Crowther, J. H. (2008). Is self-objectification related to interoceptive awareness? An examination of potential mediating pathways to disordered eating attitudes. *Psychology of Women Quarterly, 32*, 172-180.
- Noll, S. M. & Fredrickson, B. L. (1998). A mediational model linking self-objectification, body shame, and disordered eating. *Psychology of Women Quarterly, 22*, 623-636.
- Parsons, E. M. & Betz, N. E. (2001). The relationship of participation in sports and physical activity to body objectification, instrumentality, and locus of control among young women. *Psychology of Women Quarterly, 25*, 209-222.
- Quinn, D. M., Kallen, R. W., & Cathey, C. (2006). Body on my mind: The lingering effect of state self-objectification. *Sex Roles, 55*, 869-874.
- Roberts, T.-A. & Gettman, J. Y. (2004). Mere exposure: Gender differences in the negative effects of priming a state of self-objectification. *Sex Roles, 51*, 17-27.
- Roberts, T.-A. & Waters, P. L. (2004). Self-objectification and that "not so fresh feeling": Feminist therapeutic interventions for healthy female embodiment. *Women & Therapy, 27*, 5-21.

- Roberts, T.-A. (2004). Female trouble: The menstrual self-evaluation scale and women's self-objectification. *Psychology of Women Quarterly*, 28, 22-26.
- Sanchez, D. T. & Keifer, A. K. (2007). Body concerns in and out of the bedroom: Implications for sexual pleasure and problems. *Archives of Sexual Behavior*, 36, 808-820.
- Sanchez, D. T. & Kwang, T., (2007). When the relationship becomes her: Revisiting women's body concerns from a relationship contingency perspective. *Psychology of Women Quarterly*, 31, 401-414.
- Sanchez, D. T., Good, J. J., Kwang, T., & Saltzman, E. (2008). When finding a mate feels urgent: Why relationship contingency predicts men's and women's body shame. *Social Psychology*, 39, 90-102.
- Sapolsky, R. M. (1982). The endocrine stress-response and social status in the wild baboon. *Hormones & Behavior*, 16, 279-292.
- Schooler, D., Ward, M. L., Merriwether, A., & Caruthers, A. S. (2004). Cycles of shame: Menstrual shame, body shame, and sexual decision-making. *Journal of Sex Research*, 42, 324-334.
- Schwarz, N. & Clore, G. (1983). Mood, misattribution, and judgments of well-being: Informative and directive functions of affective states. *Journal of Personality & Social Psychology*, 45(3), 513-523.
- Steer, A. & Tiggemann, M. (2008). The role of self-objectification in women's sexual functioning. *Journal of Social & Clinical Psychology*, 27, 205-225.
- Stice, E., Burton, E. M., & Shaw, H. (2004). Prospective relations between bulimic pathology, depression, and substance abuse: Unpacking comorbidity in adolescent girls. *Journal of Consulting & Clinical Psychology*, 72, 62-71.
- Swan, S. & Andrews, B. (2003). The relationship between shame, eating disorders and disclosure in treatment. *British Journal of Clinical Psychology*, 42, 367-378.
- Szymanski, D. M. & Henning, S. L. (2007). The role of self-objectification in women's depression: A test of objectification theory. *Sex Roles*, 56, 45-53.
- Tangney, J. P. & Dearing, R. L. (2002). *Shame and guilt*. New York: Guilford.

- Tangney, J. P. & Fischer, K. W. (1995). *Self-conscious emotions: The psychology of shame, guilt, embarrassment, and pride*. New York: Guilford.
- Tangney, J. P., Miller, R. S., Flicker, L., & Barlow D. H. (1996). Are shame, embarrassment, and guilt distinct emotions? *Journal of Personality & Social Psychology*, 70, 1256-1269.
- Tiggemann, M. & Kuring (2004). The role of body objectification in disordered eating and depressed mood. *British Journal of Clinical Psychology*, 43, 299-311.
- Vohs, K. D., Heatherton, T. F., & Herrin, M. (2001). Disordered eating and the transition to college: A prospective study. *International Journal of Eating Disorders*, 29, 280-288.
- Wiederman, M. W. & Pryor, T. (1997). The relationship between substance use and clinical characteristics among adolescent girls with anorexia nervosa or bulimia nervosa. *Journal of Child & Adolescent Substance Abuse*, 6, 39-47.
- Wolf, N. (1991). *The beauty myth*. New York: Anchor.

## Appendix A

### Trait Body Shame Questionnaire

INSTRUCTIONS: Below are a number of statements that women sometimes use to describe how they feel about their bodies. Please read each statement carefully. Then, please indicate the degree to which the statement applies to the type of person you are in general by circling the corresponding number to the right of that item.

|   | not<br>at all |   |   |   |   |   | very<br>much |
|---|---------------|---|---|---|---|---|--------------|
| <b>OBC-Shame Subscale (McKinley &amp; Hyde, 1997)</b>                                       |               |   |   |   |   |   |              |
| 1. When I can't control my weight, I feel like something must be wrong with me.             | 1             | 2 | 3 | 4 | 5 | 6 | 7            |
| 2. I feel ashamed of myself when I haven't made the effort to look my best.                 | 1             | 2 | 3 | 4 | 5 | 6 | 7            |
| 3. 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            |
| 4. I would be ashamed for people to know what I really weigh.                               | 1             | 2 | 3 | 4 | 5 | 6 | 7            |
| 5. I don't worry that something is wrong with me when I don't exercise as much as I should. | 1             | 2 | 3 | 4 | 5 | 6 | 7            |
| 6. When I am not exercising enough, I question whether or not I'm a good person.            | 1             | 2 | 3 | 4 | 5 | 6 | 7            |
| 7. Even when I can't control my weight, I think I'm an okay person.                         | 1             | 2 | 3 | 4 | 5 | 6 | 7            |
| 8. When I'm not the size I think I should be, I feel ashamed.                               | 1             | 2 | 3 | 4 | 5 | 6 | 7            |
| <b>Additional Body Shame Items</b>  |               |   |   |   |   |   |              |
| 1. When my clothes don't fit right, I feel ashamed of myself.                               | 1             | 2 | 3 | 4 | 5 | 6 | 7            |
| 2. Comparing my appearance to the way that celebrities look makes me feel unattractive.     | 1             | 2 | 3 | 4 | 5 | 6 | 7            |
| 3. Being really sweaty makes me feel like a disgusting person.                              | 1             | 2 | 3 | 4 | 5 | 6 | 7            |
| 4. On days I know I don't look my best, I wish I could just be invisible.                   | 1             | 2 | 3 | 4 | 5 | 6 | 7            |
| 5. If I don't feel thin, I feel as though I'm an inferior person.                           | 1             | 2 | 3 | 4 | 5 | 6 | 7            |
| 6. I would be very embarrassed if someone noticed my body odor.                             | 1             | 2 | 3 | 4 | 5 | 6 | 7            |
| 7. I get angry at myself when my body doesn't look the way I think it should.               | 1             | 2 | 3 | 4 | 5 | 6 | 7            |
| 8. I often wish I had a better body.  | 1             | 2 | 3 | 4 | 5 | 6 | 7            |
| 9. If someone wants to evaluate me on the way that I look, that's their problem - not mine. | 1             | 2 | 3 | 4 | 5 | 6 | 7            |
| 10. I really would not care if someone noticed how sweaty I was after walking to class.     | 1             | 2 | 3 | 4 | 5 | 6 | 7            |
| 11. Sometimes, I feel like I need to work harder at keeping thin.                           | 1             | 2 | 3 | 4 | 5 | 6 | 7            |
| 12. Looking through fashion magazines makes me wish I had a better body.                    | 1             | 2 | 3 | 4 | 5 | 6 | 7            |
| 13. I often wish that people couldn't see the way I look.                                   | 1             | 2 | 3 | 4 | 5 | 6 | 7            |
| 14. I usually feel self-conscious about my body.  | 1             | 2 | 3 | 4 | 5 | 6 | 7            |
| 15. I feel bad when I don't feel like a thin person.  | 1             | 2 | 3 | 4 | 5 | 6 | 7            |
| 16. I get frustrated with myself when I gain weight.  | 1             | 2 | 3 | 4 | 5 | 6 | 7            |
| 17. I can get really upset if an item of clothing I try on in the store doesn't fit right.  | 1             | 2 | 3 | 4 | 5 | 6 | 7            |
| 18. When I feel fat or bloated, I try to hide my body.                                      | 1             | 2 | 3 | 4 | 5 | 6 | 7            |
| 19. Seeing models in advertisements makes me feel bad about my body.                        | 1             | 2 | 3 | 4 | 5 | 6 | 7            |
| 20. I feel hopeless when I think about changing my appearance.                              | 1             | 2 | 3 | 4 | 5 | 6 | 7            |

## Appendix B

### Health Orientation, Avoidance of Health Care Professionals, & Interoceptive Awareness Items

**INSTRUCTIONS:** Below are a number of statements that people sometimes use to describe how they feel. Please read each statement carefully. Then, please indicate the degree to which the statement applies to the type of person you are in general by circling the corresponding number on the scale to the right of that item:

|  |   | not<br>at all |   |   |   |   | very<br>much |
|--|---|---------------|---|---|---|---|--------------|
| <b>Health Orientation (Cash, 2000)</b>                                       |   |               |   |   |   |   |              |
| 1. My health is a matter of unexpected ups and downs.                        | 1 | 2             | 3 | 4 | 5 | 6 | 7            |
| 2. I do things to increase my physical strength.                             | 1 | 2             | 3 | 4 | 5 | 6 | 7            |
| 3. Good health is one of the most important things in my life.               | 1 | 2             | 3 | 4 | 5 | 6 | 7            |
| 4. I am very well-coordinated.   | 1 | 2             | 3 | 4 | 5 | 6 | 7            |
| 5. I am a physically healthy person.   | 1 | 2             | 3 | 4 | 5 | 6 | 7            |
| 6. Being physically fit is not a strong priority in my life (R).             | 1 | 2             | 3 | 4 | 5 | 6 | 7            |
| 7. I do not actively do things to keep physically fit (R).                   | 1 | 2             | 3 | 4 | 5 | 6 | 7            |
| 8. I would pass most physical fitness tests.                                 | 1 | 2             | 3 | 4 | 5 | 6 | 7            |
| 9. At the first sign of illness, I seek medical advice.                      | 1 | 2             | 3 | 4 | 5 | 6 | 7            |
| 10. I seldom think about my athletic skills (R).                             | 1 | 2             | 3 | 4 | 5 | 6 | 7            |
| 11. I often feel vulnerable to sickness (R).                                 | 1 | 2             | 3 | 4 | 5 | 6 | 7            |
| 12. I am in control of my health.  | 1 | 2             | 3 | 4 | 5 | 6 | 7            |
| 13. I work to improve my stamina.  | 1 | 2             | 3 | 4 | 5 | 6 | 7            |
| 14. If I'm coming down with a cold or flu, I just ignore it (R).             | 1 | 2             | 3 | 4 | 5 | 6 | 7            |
| 15. I am not involved in a regular exercise program (R).                     | 1 | 2             | 3 | 4 | 5 | 6 | 7            |
| 16. I know a lot about physical fitness.                                     | 1 | 2             | 3 | 4 | 5 | 6 | 7            |
| 17. Participating in sports is not important to me (R).                      | 1 | 2             | 3 | 4 | 5 | 6 | 7            |
| 18. I pay close attention to my body for any signs of illness.               | 1 | 2             | 3 | 4 | 5 | 6 | 7            |
| 19. I am seldom physically ill.  | 1 | 2             | 3 | 4 | 5 | 6 | 7            |
| 20. I make no special effort to eat a balanced and nutritious diet (R).      | 1 | 2             | 3 | 4 | 5 | 6 | 7            |
| 21. I don't care to improve my abilities in physical activities (R).         | 1 | 2             | 3 | 4 | 5 | 6 | 7            |
| 22. I have deliberately developed a health lifestyle.                        | 1 | 2             | 3 | 4 | 5 | 6 | 7            |
| 23. I do poorly in physical sports or games (R).                             | 1 | 2             | 3 | 4 | 5 | 6 | 7            |
| 24. I often read books and magazines that pertain to health.                 | 1 | 2             | 3 | 4 | 5 | 6 | 7            |
| 25. I don't do anything that I know might threaten my health.                | 1 | 2             | 3 | 4 | 5 | 6 | 7            |
| 26. I easily learn physical skills.  | 1 | 2             | 3 | 4 | 5 | 6 | 7            |
| 27. If I am sick, I don't pay much attention to my symptoms (R).             | 1 | 2             | 3 | 4 | 5 | 6 | 7            |
| 28. I am very conscious of even small changes in my weight.                  | 1 | 2             | 3 | 4 | 5 | 6 | 7            |
| 29. My physical endurance is good.   | 1 | 2             | 3 | 4 | 5 | 6 | 7            |
| 30. I try to be physically active.   | 1 | 2             | 3 | 4 | 5 | 6 | 7            |
| 31. From day to day, I never know how my body will feel (R).                 | 1 | 2             | 3 | 4 | 5 | 6 | 7            |
| 32. I play a sport regularly throughout the year.                            | 1 | 2             | 3 | 4 | 5 | 6 | 7            |
| 33. I know a lot about things that affect my physical health.                | 1 | 2             | 3 | 4 | 5 | 6 | 7            |
| 34. I am on a weight-loss diet.  | 1 | 2             | 3 | 4 | 5 | 6 | 7            |
| 35. I take my health for granted (R).  | 1 | 2             | 3 | 4 | 5 | 6 | 7            |
| 36. It is important that I have superior physical strength.                  | 1 | 2             | 3 | 4 | 5 | 6 | 7            |
| 37. I am very aware of small changes in my physical health.                  | 1 | 2             | 3 | 4 | 5 | 6 | 7            |
| <b>Avoidance of Health Care Professionals</b>                                |   |               |   |   |   |   |              |
| 1. I avoid going to the doctor because I'm afraid something will be wrong.   | 1 | 2             | 3 | 4 | 5 | 6 | 7            |
| 2. I am afraid of hearing bad news from my doctor.                           | 1 | 2             | 3 | 4 | 5 | 6 | 7            |
| 3. When I go to the doctor, I have trouble communicating what's wrong.       | 1 | 2             | 3 | 4 | 5 | 6 | 7            |
| <b>Interoceptive Awareness (Daubenmier, 2005)</b>                            |   |               |   |   |   |   |              |
| 1. It is important for me to know how my body is feeling throughout the day. | 1 | 2             | 3 | 4 | 5 | 6 | 7            |
| 2. I enjoy becoming aware of how my body feels.                              | 1 | 2             | 3 | 4 | 5 | 6 | 7            |
| 3. I 'listen' to my body to advise me about what to do.                      | 1 | 2             | 3 | 4 | 5 | 6 | 7            |
| 4. I suppress my bodily feelings and sensations (R).                         | 1 | 2             | 3 | 4 | 5 | 6 | 7            |
| 5. My mind and my body often want to do different things (R).                | 1 | 2             | 3 | 4 | 5 | 6 | 7            |
| 6. My bodily desires lead me to do things that I end up regretting (R).      | 1 | 2             | 3 | 4 | 5 | 6 | 7            |
| 7. I am confident that my body will let me know what is good for me          | 1 | 2             | 3 | 4 | 5 | 6 | 7            |

## Appendix C

## State Body Shame, General Shame, Guilt, and Negative Affect

INSTRUCTIONS: Below are some words that people sometimes use to describe how they are feeling at a given moment. Please indicate how you are feeling *RIGHT NOW* by circling one of the numbers on the scale to right of each item.

**State Body Shame***Right now...*

|   | not<br>at all | 2 | 3 | 4 | 5 | 6 | very<br>much |
|---|---------------|---|---|---|---|---|--------------|
| 1. ...I am angry at myself because of the way I look.       | 1             | 2 | 3 | 4 | 5 | 6 | 7            |
| 2. ...I feel self-conscious about my body.                  | 1             | 2 | 3 | 4 | 5 | 6 | 7            |
| 3. ...I feel like I should exercise more.                   | 1             | 2 | 3 | 4 | 5 | 6 | 7            |
| 4. ...I want to cover up my body.                           | 1             | 2 | 3 | 4 | 5 | 6 | 7            |
| 5. ...I feel hopeless about improving my appearance.        | 1             | 2 | 3 | 4 | 5 | 6 | 7            |
| 6. ...I am ashamed of the way I look.                       | 1             | 2 | 3 | 4 | 5 | 6 | 7            |
| 7. ...I don't feel as though I should change my diet.       | 1             | 2 | 3 | 4 | 5 | 6 | 7            |
| 8. ...I am proud of the way I look (R).                     | 1             | 2 | 3 | 4 | 5 | 6 | 7            |
| 9. ...I don't feel like a thin person.                      | 1             | 2 | 3 | 4 | 5 | 6 | 7            |
| 10. ...I don't care what people think about how I look (R). | 1             | 2 | 3 | 4 | 5 | 6 | 7            |

**State General Shame (Marschall et al., 1994)***Right now...*

|  |   |   |   |   |   |   |   |
|--|---|---|---|---|---|---|---|
| 1. ...I feel proud (R).                            | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 2. ...I want to sink into the floor and disappear. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 3. ...I feel ashamed.                              | 1 | 2 | 3 | 4 | 5 | 6 | 7 |

**State Guilt (Marschall et al., 1994)***Right now...*

|   |   |   |   |   |   |   |   |
|---|---|---|---|---|---|---|---|
| 1. ...I feel like apologizing, confessing.    | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 2. ...I feel bad about something I have done. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 3. ...I feel remorse, regret.                 | 1 | 2 | 3 | 4 | 5 | 6 | 7 |

**State Negative Affect***Right now, I feel...*

|                       |   |   |   |   |   |   |   |
|-----------------------|---|---|---|---|---|---|---|
| 1. Happy (R)          | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 2. Upset              | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 3. Content (R)        | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 4. Calm (R)           | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 5. Anxious            | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 6. Full of energy (R) | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 7. Frustrated         | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 8. Confident (R)      | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 9. Tired              | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 10. Alert (R)         | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 11. Furious           | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 12. Pleased (R)       | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 13. Lively (R)        | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 14. Uneasy            | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 15. Grouchy           | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 16. Depressed         | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 17. Enthusiastic (R)  | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 18. Tense             | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 19. Bad-Tempered      | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 20. Energetic (R)     | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 21. Gloomy            | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 22. Cheerful (R)      | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 23. On Edge           | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 24. Full-of-pep (R)   | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 25. Glum              | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 26. Worn-out          | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 27. Joyful (R)        | 1 | 2 | 3 | 4 | 5 | 6 | 7 |

## Appendix D

### Health-Appearance Dilemmas (Study 2)

INSTRUCTIONS: Each of the following scenarios describes a college-aged women having to decide whether or not to participate in a behavior that has a positive and a negative outcome. Since you are a college-aged woman, we want to see what kind of choice you would make if you were in this position. Please read each scenario carefully. Then, rate how likely you would be to engage in the behavior described in the scenario on the scale below the scenario.

|   | definitely<br>no |   |   |   |   |   | definitely<br>yes |
|---|------------------|---|---|---|---|---|-------------------|
| 1. Megan is preparing for an upcoming wedding in which she is a bridesmaid, and going tanning for a number of sessions will make her look 10 lbs lighter in pictures. However, Megan's doctor recently found a pre-cancerous lesion on Megan's skin, making even a couple of tanning sessions really dangerous for her. <b>If you were in Megan's position, would you go tanning?</b>   | 1                | 2 | 3 | 4 | 5 | 6 |                   |
| 2. Meena is going out tonight on a first date with someone she really likes. The lip-plumping lip gloss she just bought will make her lips look plump and kissable, but it does so by causing an extreme allergic reaction when applied. <b>If you were in Meena's position, would you use the lip-plumping lip gloss?</b>  | 1                | 2 | 3 | 4 | 5 | 6 |                   |
| 3. Janelle was just asked last minute to go on Spring Break with her roommate's friends from home, and would like to lose a few pounds before wearing her bikini. She considers taking an rapid weight loss supplement in order to shed pounds quickly, but has read that this product has been linked to heart problems and stroke, even if just taken once. <b>If you were in Janelle's position, would you take the rapid weight loss supplement?</b>                              | 1                | 2 | 3 | 4 | 5 | 6 |                   |
| 4. Kim is going out with her girlfriends tonight and she knows that wearing high heels with her outfit will make her look slimmer. However, the group is planning on bar hopping, and all of the walking would be uncomfortable in heels. <b>If you were in Kim's position, would you wear the high heels?</b>  | 1                | 2 | 3 | 4 | 5 | 6 |                   |
| 5. Katie's friends are all planning on going on an extreme diet in order to lose weight quickly, and they want her to join them. While this diet is an effective weight loss strategy, it sounds really unhealthy. <b>If you were in Katie's position, would you go on the diet?</b>  | 1                | 2 | 3 | 4 | 5 | 6 |                   |
| 6. Liz's sister has started smoking and has lost 20 lbs., and is getting a lot of attention as a result. Liz would also like to lose weight and get attention; however, she has heard that smoking is associated with a number of health-related problems, such as hypertension and lung cancer. <b>If you were in Liz's position, would you start smoking in order to lose weight?</b>   | 1                | 2 | 3 | 4 | 5 | 6 |                   |
| 7. Ilana is going shopping with her girlfriends, but she's gained a couple of pounds and dreads going into the dressing room to try on clothes. Ilana is thinking about not eating for the day of the shopping trip until dinner, because it will make her feel thinner while she's trying on clothes. However, it will also make her feel dizzy and give her a headache. <b>If you were in Ilana's position, would you skip breakfast and lunch on the day of the shopping trip?</b> | 1                | 2 | 3 | 4 | 5 | 6 |                   |
| 8. Denise has developed severe acne over the last couple of months, and her dermatologist fears that this trend will continue if not treated. The only medicine that will treat Denise's skin condition, however, has been shown to have detrimental effects on the kidneys over the longer term. <b>If you were in Denise's position, would you take the acne medication?</b>  | 1                | 2 | 3 | 4 | 5 | 6 |                   |

## Appendix D (con't.)

## Health-Appearance Dilemmas

|  | definitely<br>no |   |   |   |   | definitely<br>yes |
|--|------------------|---|---|---|---|-------------------|
| 9. Cristina is annoyed by her period, and has just read about a controversial new medication that prevents women from having periods at all. However, this medication has also been shown to cause venous blood clots in 20% of its users. <b>If you were in Cristina's position, would you take the medication that would stop your period?</b>   | 1                | 2 | 3 | 4 | 5 | 6                 |
| 10. Rachelle has been having migraines and goes to the doctor to see what she can do about them. The doctor prescribes her a medication that will get rid of her migraines but that has been found to cause abdominal bloating in a high percentage of its users. <b>If you were in Rachelle's position, would you take the migraine medication (R)?</b>   | 1                | 2 | 3 | 4 | 5 | 6                 |
| 11. Lynn has just been diagnosed with a mild case of rheumatoid arthritis, which sometimes makes it painful for her to do everyday tasks, like buttoning a blouse. Her doctor prescribed her a steroid, which is commonly used to treat Lynn's condition, but which is known to cause weight gain in most of its users. <b>If you were in Lynn's position, would you take the steroid (R)?</b>                           | 1                | 2 | 3 | 4 | 5 | 6                 |
| 12. Alyssa recently had what her doctor thinks was a mild seizure due to dehydration. While her doctor thinks that there is only a slim chance that Alyssa will have another seizure, he wants to put her on preventative medication, just in case. A well-known side-effect of this medication is a noticeable loss in muscle tone. <b>If you were in Alyssa's position, would you take the seizure medication (R)?</b> | 1                | 2 | 3 | 4 | 5 | 6                 |
| 13. Lauren has been feeling tired and run down, and one of her friends has suggested that she isn't getting enough vitamins and minerals. Lauren's friend suggests that she take a multivitamin supplement, but Lauren has heard that multivitamin supplements have been linked to increased abdominal fat. <b>If you were in Lauren's position, would you start using the multivitamin (R)?</b>                         | 1                | 2 | 3 | 4 | 5 | 6                 |