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Perceptions of Cosmetic Alteration in Different Sized Attractive Women

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A thesis  
presented to  
the faculty of the Department of Psychology  
East Tennessee State University

In partial fulfillment  
of the requirements for the degree  
of the Masters of Arts in Psychology

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Deborah S. White  
May 2003

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Keywords: physical attractiveness stereotype, cosmetic surgery, liposuction

## ABSTRACT

### Perceptions of Cosmetic Alteration in Different Sized Attractive Women

by

Deborah S. White

Two experimental phases examined the characteristics impacting the physical attractiveness stereotype and a potential stereotype shift. From reading a description of a hypothetical target, Phase 1 of this study revealed that participants considered an overweight attractive woman significantly more likely to help a friend in need and significantly more likely to become a friend than an underweight attractive woman. These findings provide understanding of how particular stereotypes may provide social benefits. In Phase 2, knowledge of the woman's plans for liposuction, which was disclosed in a second description of the target, dramatically lowered the participants' evaluations of her physical attractiveness, willingness to help a friend in need, and likelihood as a potential friend. The women's ratings of the target's willingness to help a friend dropped significantly more than the men's ratings. These results indicate that evaluations of physically attractive women may decline if they choose to unnaturally alter their appearance.

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## CHAPTER 1

### INTRODUCTION

Physical attractiveness is a pervasive characteristic that strongly influences all aspects of life. In particular, it plays an integral role in interpersonal evaluations and in the formation of stereotypes. Because one's appearance is usually the most readily available information during interpersonal encounters, it may be the initial basis of predicting the traits of others. According to Paul (1998), individuals rely on stereotypes to form expectations. Without even realizing it, individuals categorize others into groups according to unconscious evaluations of them through a process called "automatic" or "implicit stereotyping" (Paul, p. 52). For example, it appears that attractive individuals are often put into a category that is accompanied by a wealth of positive attributes. This phenomenon can be explained by the physical attractiveness stereotype, which assumes "what is beautiful is good" (Dion, Berscheid, & Walster, 1972, p. 285). For instance, physically attractive individuals are considered more altruistic, intelligent, and honest (Dion et al.) more mentally sound (Martin, Friedmeyer & Moore, 1977) less guilty of criminal charges (Abwender & Hough, 2001), and more responsible for positive life events (Seligman, Paschall, & Takata, 1974). In a sense, an attractiveness "halo" is associated with those who are beautiful, and desirable characteristics extend to all areas of the individual, not just to his or her physical appearance.

It is interesting that when asked directly, individuals usually play down the importance of physical attractiveness in their interpersonal relationships. However, it appears that attractiveness holds far more personal and societal value than is recognized. Physical attractiveness affects a person's judgments beginning as early as infancy. Researchers (Langlois, Ritter, Roggman, & Vaughn, 1991) have revealed that infants who were given a choice of photographs of an attractive or unattractive individual almost always preferred to view the attractive target. Infants are also on the receiving end of the physical attractiveness stereotype. Hildebrandt and Fitzgerald (1978) revealed that newborns that were rated higher in physical attractiveness received more smiles, touching and attention from adults than their less attractive

counterparts. The trend of differential treatment of attractive people seems to continue throughout the entire life span and one's socialization may be influenced by his or her level of physical attractiveness (Patzer, 1985). Nearly all childhood fairy tales consist of a beautiful prince or princess and a hideously ugly and evil witch and strong influence accompanies these dichotomous images. Likewise as we grow older, the media links positive attributes to the physically attractive person (Patzer, 1985). Consequently, the physical attractiveness stereotype of "what is beautiful is good" is a pervasive and well-established assumption by adulthood.

Physical appearance is associated with a plethora of stereotypes. People routinely place individuals into categories based on the color of their skin, the color of their hair, whether or not they wear glasses, and their body size and weight. In recent years, researchers have focused on the role of body size and weight as an indicator of physical attractiveness. Many researchers have shown that slender individuals are considered more physically attractive than overweight individuals (Lundberg & Sheehan, 1994; Singh, 1993; Tassinary & Hansen, 1998; Tovee, Maisey, Emery, & Cornelissen, 1999). Such preferences are portrayed in the media: 69% of women television characters are slender, while only 5% are overweight (Silverstein, Peterson, Perdue, & Kelly, 1986). Guillen and Barr (1994) analyzed nutrition and fitness messages between 1970 and 1990 from a popular magazine for adolescent women and found that the emphasis and frequency of these messages dramatically increased during this period with the major focus being to lose weight and to enhance attractiveness. Also, the body shape of the models became less curvy, with the hip to waist ratio decreasing. Thus, it appears that the dimension of thinness is playing an increasing role in perceived physical attractiveness. In fact, Davis, Shuster, Dionne, and Claridge (2001) suggest that a characterization of the current physical attractiveness stereotype is "what is beautiful must be thin" (p.155).

Because of the ubiquitous social benefits that accrue with attractiveness, individuals have concluded that it pays to maximize one's beauty. Evidence derived from numerous anthropological excavations reveal that attempts to enhance individual physical attractiveness, according to the graves of Cro-Magnon man and the tombs of ancient Egypt, extend back many years (Patzer, 1985). In current times, people resort to tanning beds, beauty salons, and

expensive cosmetics to attempt to enhance their physical presentation. Some go so far as to have cosmetic surgery done; the number of people doing so appears to be on the rise. In fact, the number of people having cosmetic plastic surgery performed has tripled in the past 10 years (American Society of Plastic Surgeons (ASPS), 2002).

The desire for thinness is also revealed in the type of cosmetic surgeries that have been done. For instance, liposuction is a surgical procedure that involves the removal of fat deposits beneath the skin of targeted areas (e.g. abdomen, lower back, thighs) using a hollow stainless steel tube and the assistance of a powerful vacuum (Liposuction.com, 2002). In 2001, there were 195,153 liposuction surgeries conducted by ASPS surgeons, which was a 313% increase from the number of liposuction surgeries conducted in 1992. This increase was second only to breast augmentation (533% increase). Another weight reduction procedure, the tummy tuck, increased by 231%. Of total surgical patients, 80% were women. These statistics suggest that many women are turning to expensive surgical procedures seemingly to enhance their attractiveness in hopes of receiving more positive evaluations from others. However, one should consider if participation in drastic cosmetic alteration might negatively influence these interpersonal evaluations.

The purpose of the current study was to examine the physical attractiveness stereotype through analysis of men and women's interpersonal ratings of an attractive woman who varied in weight and in her level of public exposure through various modeling situations. It also examined whether the ratings of this woman would change following exposure of her willingness to participate in an invasive alteration procedure (i.e. liposuction), thus assessing the possibility of a stereotype shift.

### *Theories*

The sociobiological perspective suggests that physical attractiveness serves as a signal of health, the ability to pass on good genes, and is an indicator of potential mate desirability. The gender role theory suggests that culture determines the different levels of emphasis placed on physical attractiveness for men and women. These theories provide an explanation for the

preferences for slender body sizes as a characteristic of a woman's physical attractiveness, which may signal her fertility or femininity.

### *Sociobiological Theory*

Darwin (1871) proposed a theory of sexual selection in which physical attractiveness plays a role. Simply stated, men prefer women in terms of their ability to bear children and produce superior offspring, while women seek men in terms of their ability to provide and protect their resources. Each is aimed toward the attainment of evolutionary goals and is manifested through physical presentation. Namely, characteristics of a woman's healthy, youth and fertility may be manifested by the shine of her hair, the symmetry of her face, or the shape of her body (Barber, 1995; Scheib, Gangestad, & Thornhill, 1999; Wade, 2000). Likewise, a man must appear strong and capable of social dominance, which may be signaled by his strong chin, broad chest, and small waist (Wade). Buss et al. (1990) sought to provide evidence for this theoretical stance by surveying individuals from 37 cultures on 31 characteristics that may be desired in potential mates. The researchers examined the sex differences in preferred characteristics and found the most pronounced differences between men and women were their preferences for physical attractiveness and earning potential. Indeed, in nearly every sample, men valued physical appearance more than women did, while women valued earning potential more than men did. These findings were consistent across cultures. Supporters of the sociobiology perspective attribute the modern day differences seen in men and women's preferences for attractiveness to natural selection. The most desirable characteristics (i.e. attractiveness in women and financial stability in men) are chosen over others to perpetuate these characteristics in the species.

A corollary view of the sociobiological position is that preferences for a woman's body size and shape is determined by her waist-to-hip ratio (WHR). The shape of a woman's body is determined by the amount of fat she possesses as well as the way it is distributed. Singh (1993) explained that the distribution of a woman's body fat, especially on her waist and hips, is one of the main features that determines her attractiveness. Singh found that men and women regard

normal weight female figures with low WHRs as more attractive and healthy than those figures with a higher WHR who had the same or lower body weight. An explanation supporting the WHR as an indicator of women's attractiveness is that it holds functional significance by serving as a predictor of her fecundity.

In recent years, however, researchers have challenged the WHR hypothesis as the most adequate explanation for body size and shape preferences. Tassinary and Hansen (1998) revealed that the weight of a woman was a much more potent predictor of attractiveness than the WHR. They found that light and moderate-weight figures were judged to be much more attractive than heavy figures. Likewise, Tovee et al. (1999) found that body mass index (BMI), which is one's weight scaled for height, is the primary determinant of physical attractiveness. The researchers revealed that increases in BMI radically reduced attractiveness ratings. Since BMI is also strongly linked to health and reproductive potential, this measure may also signal a person's desirability as a potential mate. Regardless of whether WHR or BMI is a better predictor, overweight figures tend to be rated lowest in physical attractiveness.

### *Gender-Role Theory*

The gender-role theory suggests that there are various behaviors or norms that are expected for men and women. These gender stereotypes can influence perceptions of personality traits, role behaviors and physical characteristics. Rhode (1990) points out that exemplary men and women are described in terms of physical traits. For instance, a macho man is often muscular with a hairy chest and mustache, while a sexy woman has long hair and an appealing figure and facial appearance. It appears that there are greater expectations for women to appear physically attractive, especially in regards to body size and shape. Gillespie (1996) claims that women have been the targets of the majority of marketing ideology. The shape and appearance of their bodies have become central to their self-identity; preoccupation with their bodies is viewed as normal feminine behavior.

These claims are supported in the work of Malkin, Wornian, and Chrisler (1999) who conducted a content analysis of 21 popular women and men's magazines to assess the gender

messages these magazines contained. They found that the messages sent out by the media regarding bodily appearance are quite different for women and men. For instance, 78% of the magazines most frequently read by women contained some message about bodily appearance (i.e. diet, exercise, cosmetic surgery), whereas none of the covers of men's magazines contained such messages. The researchers concluded that the majority of the most popular women's magazines focused on changing and improving one's self often through weight related messages, while men's magazines focused on the outside world, news, politics, hobbies, and activities.

Likewise, Knight and Giuliano (2001) examined the gender-stereotypical portrayals of men and women athletes by the print media. The researchers noted that the media tend to focus on women athletes' attractiveness more so than their athleticism; the opposite was true for men. When a woman athlete serves as a reference group or role model, women are reminded of the large emphasis that is placed on attractiveness rather than abilities. Consistent with societal norms of femininity, women may attempt to appear feminine by choosing behaviors that enhance their physical attractiveness.

### *Comparison of Theories*

Doosje, Rojahn, and Fischer (1999) compared the strengths of the evolutionary perspective and gender role theory in terms of partner preferences. Participants indicated the most important characteristics of a potential partner using both open-ended questions and a ranking of pre-selected characteristics. Partner preferences were evaluated based on gender, age, political orientation and level of education. The investigators believed that the two perspectives (i.e., sociobiological and gender role) allow for similar predictions of women valuing earning capacity, while men value attractiveness. The results revealed that men preferred physical attractiveness more than women did. Researchers demonstrated that the importance placed on attractiveness depended not only on one's gender, but also on his or her level of education, political orientation and age as well. Considering that the sociobiological perspective attributes the crucial differences in preference solely to gender, it appears that the gender role theory may provide a better explanation of mate preferences and attractiveness as it encompasses the social

roles men and women play and the specific cultural variables that are attributed to each (Doosje et al.).

Buss, Shackelford, Kirkpatrick, and Larsen (2001) questioned the contemporary value of the sociobiological approach to mate preferences considering the drastic cultural changes that have taken place over the years. For instance, do men still value fertility in a woman considering the rise of available birth control procedures? Conversely, as women continually advance in the workforce, is there still a preference for a man with financial stability or strong provider characteristics? In attempt to answer such questions, Buss et al. reviewed past findings concerning mate preferences spanning the years from 1939 to 1996. They examined changes in preferences toward chastity, financial resources, housekeeping skills and mutual attraction and love. There has been a shift of greater importance placed on physical attractiveness for men and women. In 1939, men ranked attractiveness as 14<sup>th</sup> in importance, but in 1996 it was ranked 8<sup>th</sup>. Women ranked attractiveness as 17<sup>th</sup> in 1939 and 13<sup>th</sup> in 1996. The results seem to indicate that attractiveness is growing in stated importance, regardless of gender specific needs to perpetuate the species. However, an alternate explanation is that there is just a greater willingness to acknowledge attractiveness as important in selecting a mate. The researchers suggest that the enormous increase in visual media (e.g. television, movies, internet etc.) may account for this significant shift (Buss et al.).

Based on the previous findings, it seems as though the best theoretical model for explaining the role of attractiveness in relationships is the gender role theory. Many women believe that in order to appear feminine, they must appear beautiful and slender. With this in mind, it is not surprising that the beauty aids, diet, and cosmetic surgery industries are booming.

#### *Research on the Influence of Attractiveness in Interpersonal Evaluations*

For years, researchers have been concerned with the impact that physical attractiveness has had on social perception and interpersonal relationships. A plethora of research has demonstrated that in a variety of situations physically attractive individuals are assigned an array of positive characteristics, compared to unattractive individuals. As previously mentioned, this

physical attractiveness “halo” affects individuals as early as infancy (Hildebrandt & Fitzgerald, 1978). It exists throughout childhood as teachers, parents, and fellow children (Lerner & Lerner, 1977; LaVoie & Adams, 1974; Dion, 1973) all tend to rate physically attractive children as more social and intelligent than unattractive children. This phenomenon appears to continue into late adulthood, as the marriage adjustment of couples aged 64 to 86 years old seemed to be influenced by perceived physical attractiveness (Peterson & Miller, 1980). These studies demonstrated the pervasiveness of the physical attractiveness stereotype for individuals of all ages.

### *Potential Positive Attributions*

*“What is Beautiful is Good” Stereotype.* A classic study conducted by Dion, Berscheid, and Walster (1972) has played a monumental role in the understanding of this “what is beautiful is good” stereotype. The researchers found that physically attractive persons were assumed to possess more socially desirable personality traits than unattractive individuals, as well as being expected to lead better lives. The participants were undergraduates who believed they were involved in a study measuring accuracy of person perception. Each participant was given a picture of an attractive individual, a person of average attractiveness, and an unattractive individual. After viewing the photos, the participants rated each person on 27 different personality traits (e.g. altruism, self-assertiveness, sexual promiscuity, sincerity, sophistication, etc.). Next they ranked the three target individuals in terms of who had the most or least of a given trait (e.g. marital happiness, parental happiness, social and professional happiness, and total happiness). The results of the 27 ratings were compiled to exhibit an overall score of social desirability. The more attractive individual was rated higher in terms of social desirability as well as being rated higher in all forms of happiness. These findings were enormously influential in generating new research in this area to a number of unique situations.

*“What is Beautiful is Good” in a Variety of Settings.* Darby and Jeffers (1988) used a simulated courtroom trial to examine the effect of defendant and juror attractiveness on legal



decisions and found that when rated by college participants, the more attractive defendants were less frequently convicted, less severely punished, and considered less responsible for the offenses. Also, attractive defendants were rated as more trustworthy and happier than the unattractive defendants. Martin, Freidmeyer, and Moore (1977) investigated the effect of patient attractiveness on their diagnosis of psychopathology and found that hospital staff members considered more attractive individuals to be better adjusted than the less attractive patients.

Researchers have determined that attractive individuals are assumed to be more responsible for positive life events and less responsible for the negative, whereas the opposite is true for unattractive individuals (Seligman et al., 1974). Likewise, attractiveness has been known to have beneficial effects in employment interview situations (Schmitt, 1976) and in attaining social status in social groups (Anderson, John, Keltner, & Kring, 2001), as well as being associated with achievement related variables in men (Chia, Allred, Grossnickle, & Lee, 1996). These findings provide ample support for the notion that individuals attribute diverse characteristics to others regardless of sufficient knowledge concerning those attributes.

### *Potential Negative Attributions*

*When Beauty May Fail.* In spite of the previous findings, some researchers (Cash & Janda, 1984; Dermer & Theil, 1975; Eagly, Ashmore, Makhijan, & Lango, 1991) have noted exceptions to the “what is beautiful is good” stereotype. For instance, using as an assessment similar to Dion et al., Dermer and Theil found that attributions of vanity, egotism, likelihood of marital disaster, and likelihood of being bourgeois were more often associated with physically attractive individuals than their less attractive counterparts. Cash and Janda found similar results in their observations that attractive people were considered vain and egotistical, which led them to label this aspect the “what is beautiful is self-centered” stereotype (p. 52). It would be interesting to determine if such a negative stereotype might accompany a woman’s willed participation in drastic measures to enhance her physical attractiveness, particularly if she was already judged to be of above average attractiveness.

*The Presence of a Jealousy Effect Operating in Women Evaluators.* Larose, Tracy, and McKelvie (1993) examined gender differences in ratings of physical attractiveness and revealed the possibility of a jealousy effect operating in women. In accord with the physical attractiveness stereotype, attractive photographs were rated as more attractive than unattractive ones; however, the size of the effect of attractiveness was significantly greater for men than for women raters. The effect was also greater for photographs of men than for photographs of women. The researchers revealed that men and women evaluated attractive men about the same; however, women rated attractive women significantly lower than men. Such effects may reflect the presence of jealousy in women. Dijkstra and Buunk (2001) examined a jealousy effect relative to body size and shape showing that college students who encountered potential rivals with relatively low waist-to-hip ratios evoked more jealousy in women than in men. These findings indicate that during interpersonal evaluations, women may form more negative stereotypes toward slender, attractive women than do men.

*Models Who Are Loathed.* Thornton and Moore (1993) revealed that self-ratings of attractiveness by men and women exposed to highly attractive same-sex stimulus persons were lower than those of persons not so exposed. This indicated the presence of a “physical attractiveness contrast effect” (Thornton & Moore, p. 474), which has manifested in numerous research settings as women lower their own self-assessments after viewing idealized advertising images (Gulas & McKeage, 2000; Hogg, Bruce, & Hough, 1999; Thomas, 2002). It is clear that women experience negative affect from observing and possibly comparing themselves with beautiful models. Bower (2001) investigated how such feelings may lead to feeling negatively toward the model. She found that women did reveal negative feelings toward attractive same sex models and this could potentially impact advertisement effectiveness. Likewise, Ryckham, Butler, Thornton, and Linder (1997) examined various subtype stereotypes associated with particular body shapes and found that one commonly associated with thin, attractive women is being considered a “fashion model”. They revealed that some of the attributions associated with this stereotype are negative. For instance, attractive persons are phony, unintelligent, and self-

absorbed. Considering these results, an attractive professional model could be threatening to a woman's self-esteem, causing her to project undesirable interpersonal traits to the model.

### *The Role of Cosmetic Surgery in Physical Attractiveness*

#### *Relevant Statistics*

As previously mentioned, the number of people participating in cosmetic surgery procedures is steadily increasing, especially among women. The American Society of Plastic and Reconstructive Surgery (ASPS) (2002) reports that in the year 2001, there were 1,917,139 cosmetic surgery procedures completed, of which 80% of the patients were women. According to the ASPS, this figure represents an enormous increase in the number of procedures conducted from nine years before (412,901). These efforts of beautification have become increasingly expensive. There was a 198% increase of funds spent on cosmetic surgeries between the years of 1992 and 2000 (ASPS, 2001). But why are individuals becoming more willing to undergo drastic invasive procedures and spend considerable amounts of money to enhance their appearance?

The increasing willingness of people to undergo these procedures may be facilitated by improved technology and the refinement of medical procedures (Gilman, 1998). Adamson, who was the president of the American Academy of Facial Plastic and Reconstructive Surgeons in 1995, stated

survey numbers demonstrate that technological advances are making cosmetic and reconstructive procedures more accessible and desirable. Several factors, including the lowering of social stigma, refinements in procedures, and abbreviated recovery time, are leading to the younger generation embracing facial cosmetic surgery in large numbers (Gilman, p.11).

It also appears that, for many, cosmetic surgery is thought to be a "quick fix" for what may be underlying psychological problems. Often individuals who are psychologically unhappy with themselves or their appearance seek body alterations as a means of improving their self-image (Hasan, 2000; Sarwer, Wadden, Pertschuk, & Whitaker, 1998; Vargel & Usu, 2001). In a

sense, “the beautiful becomes the happy” myth is perpetuated (Gilman, 1998, p.7). In fact, Gilman reports that after surveying patients following aesthetic surgery, 57% reported a decrease in self-consciousness, 16.5% felt improved social acceptance, and 14.7% felt surgery improved their professional chances. The idea that a beautiful body leads to a happy psyche is a complex and somewhat disturbing phenomenon that warrants better understanding.

### *Possible Social Consequences Following Cosmetic Surgery*

White, Bailey, and Roberts (2002) explored the potentially negative attributions that may be linked to physically attractive individuals resorting to drastic appearance modification. They revealed that the desirable characteristics typically attributed to highly attractive individuals are jeopardized when knowledge of unnatural attainment of their beauty is revealed. College participants assigned character ratings to an attractive woman that had either participated in mild (e.g. common hygiene), moderate (e.g. use of expensive hair dye and tanning beds) or severe (e.g. facial cosmetic surgery and liposuction) alterations of her appearance. Analysis of responses indicated that the level of appearance modification that the woman had undergone had strong effects on interpersonal perceptions of her. For example, the woman that had undergone severe appearance modification was rated significantly lower in terms of romantic success, self like, and desirability as a fellow employee than the women undergoing mild or moderate appearance modification. Also, the woman of severe modification was rated significantly higher in egocentricism than the other two women. These findings may signal serious implications for interpersonal encounters such as a dating relationship, friendship, or employment situation, as one may be quick to make personality judgments after realizing an attractive partner, friend or employee had undergone severe appearance modification (i.e. cosmetic surgery).

Gillespie (1996) investigated the decision to undergo cosmetic surgery by women. She contested that while women may feel that body alterations will enhance personal and social influence; it, in fact, merely widens the gap of social inequality between the sexes. Although there has been a decline in other restrictions on women’s roles such as occupational and political freedoms, their increasing contribution and visibility in the public world may encourage women

to turn attention to their appearance and shape (Gillespie). Women are often surrounded with unrealistic images that may instigate feelings of insecurity leading them to seek extreme self-enhancing measures. Gillespie argues that such striving can never be satisfying or liberating and that women that undergo such procedures are participating in practices that merely encourage others to treat them as sexual objects. It follows from this argument that many women are contributing to the social institutions that oppress them.

### *The Current Study*

#### *Statement of the Problem*

It is no secret that attractiveness largely impacts situations that often have nothing to do with an individual's appearance. But that is the nature of stereotypes: a single trait becomes the foundation for building a large psychological edifice. Therefore, there are countless implications concerning the stereotypic perception of individuals in situations that affect our daily lives such as employment, dating, or political elections. It is important to understand stereotypes associated with attractiveness because it is as readily available information as age and gender. Therefore, to more fully understand the pressures to shape first impressions, the current study sought to explore the potential rewards and costs of a woman attempting to alter her appearance via cosmetic surgery.

#### *Objectives of the Current Study*

The current research consisted of two experimental phases that sought to answer two broad questions. The first was designed to replicate prior studies confirming the presence of a physical attractiveness stereotype. The current study assessed whether attributions of a physically attractive woman might be affected by knowledge of her body size (i.e. being slightly underweight or slightly overweight) or her type of public exposure (i.e. different levels of modeling experiences such as appearing in popular magazine advertisements versus appearing in her university brochure). The second question dealt with the vulnerability of attributions associated with the physical attractiveness stereotype when knowledge of the attractive woman's

plans to undergo the drastic alteration procedure of liposuction was revealed. Thus, in a second phase of the experiment it was determined whether disclosure of such information might cause interpersonal ratings of the attractive woman to be lower. This phase of the study investigated a stereotype penalty that occurring following an invasive alteration procedure, such as liposuction.

### *Variables*

Three independent variables were manipulated in Phase 1. Vignettes of a hypothetical attractive woman named Christine were used to assess interpersonal evaluations of her. The gender of the participant was an organismic independent variable set at two levels: men and women. The body size of Christine was a second independent variable set at two levels: slightly underweight vs. slightly overweight. The third independent variable was described by the modeling experiences of Christine, which were also set at two levels: professional vs. non-professional model.

Three dependent variables were measured in Phase 1 using Likert rating scales. These included a rating of Christine's physical attractiveness and two interpersonal evaluations of her including a rating of her willingness to help a friend in need and a rating of the likelihood of the participant to becoming a personal friend to Christine, if given the opportunity. In phase 1 of the study, the attractiveness, helping and friendship ratings were obtained from the participants prior to they reading a vignette about Christine's plan to have liposuction surgery. In Phase 2, participants rated Christine on the three dependent variables following knowledge of her planned surgery. The pre-liposuction ratings assessed attributions associated with the physical attractiveness stereotype. The post-liposuction ratings were used to derive the change scores that resulted from algebraically summing the differences between the first and second evaluations. Thus, Phase 2 of the study examined any potential stereotype shift in the dependent variables resulting from the cosmetic surgery.

## *Hypotheses*

*Pre-liposuction Hypotheses for Phase 1.* Based on the physical attractiveness stereotype (Dion et al., 1973), the hypothesis for the pre-liposuction ratings was that the attractive woman would be rated higher in all conditions. It was expected, however, that men would provide higher ratings on all dependent measures than women due to women experiencing more threat to their self-esteem by observing an attractive female model (i.e., jealousy effect) (Dijkstra & Buunk, 2001, Larose et al., 1993). It was also expected that the underweight woman would be rated higher in physical attractiveness than the overweight woman (Lundberg & Sheehan, 1996), but lower on the two interpersonal evaluations than the overweight woman (Ryckham et al., 1997). Also, it was expected that the professional model would be rated higher in attractiveness but lower in interpersonal evaluations than the non-professional model (Bower, 2001).

Overall, the researcher expected that for the physical attractiveness rating, men would rate the underweight, professional woman model the highest potentially because she would represent the most idealized image and would not provoke jealousy in them. The lowest physical attractiveness rating was expected to be given to the overweight non-professional model rated by the men because she would be the least appealing to him. For the two interpersonal ratings, it was expected that the women would rate the overweight non-professional model the highest because she would represent as the most appropriate reference group for the women and thus would evoke the highest identification in them. The lowest interpersonal rating was expected to be given to the underweight professional model rated by the women because she would evoke the greatest level of jealousy and perhaps resentment in women participants.

*Post-liposuction Hypotheses for Phase 2.* For Phase 2, significantly lower ratings were predicted in the ratings of the target's physical attractiveness, her willingness to help a friend in need, and the likelihood of becoming friends with her following the liposuction procedure. The present investigator assumed that the participants would see the liposuction procedure as unnecessary and they would attribute unhealthy motives, such as egocentrism and low self-esteem to the target (White et al., 2002). It was expected that this effect would be most

pronounced for the women raters, particularly under the non-professional model and underweight woman conditions.

Overall, the investigator expected that the evaluations of helping and friendship would result in a lower rating than the physical attractiveness evaluation, as participants may feel less favorably about the target's personality following liposuction, but not necessarily her physical attractiveness. Specifically, the underweight non-professional woman rated by the women would show the lowest evaluations, while the overweight, professional model rated by the men would result in the smallest decrease in evaluations.



## CHAPTER 2

### METHOD

#### *Participants*

Undergraduate students, 418 men and women of age 18 or older from lower level social science courses at a mid-sized southeastern university participated. Table 1 displays the sample size for each condition.

Table 1  
Sample Sizes of Participants for Design Combination

	<u>Professional Model</u>		<u>Non-professional Model</u>		Total
	Underweight	Overweight	Underweight	Overweight	
Men	33	40	27	36	136
Women	74	66	74	66	280
Total	107	106	101	102	416

The majority of the participants were Caucasian (82.1%); the remaining were Black (4.7%), Asian (.9%) and Hispanic (.9%). Most participants were underclassmen: freshmen (46.4%), sophomores (31.7%), juniors (12.4%), and seniors (5.8%). The age of the participants ranged from 18-55 with a mean of 20.65 years and standard deviation of 4.40. Some instructors offered the students extra-credit toward their course grade as an inducement to participate. In this situation, those who chose not to participate were given an option of an alternative library assignment for the same amount of extra credit. All participants were randomly distributed within a gender category to receive one of four different initial descriptions of a hypothetical attractive woman named Christine. This yielded a total of eight experimental groups.

## *Materials*

The research booklet included a coversheet (see Appendix A), one of the four initial descriptive vignettes of Christine (see Appendix B), a dependent variables measure (see Appendix C), a second vignette of Christine providing additional information on a liposuction procedure (see Appendix D), a second presentation of the original dependent variables measure, and a post-experimental questionnaire (see Appendix E).

### *Coversheet and Pre-liposuction Description of Christine*

The cover sheet of the research booklet indicated the purpose of the research, explained the participants' confidentiality rights, and provided simple instructions to accompany those that given by the experimenter. Following the cover sheet, each research booklet contained one of four descriptive vignettes of Christine. These included: Christine as either a (1) slightly underweight professional model, (2) slightly overweight professional model, (3) slightly underweight non-professional model or (4) slightly overweight non-professional model. The professional model was defined as a college student who was recently hired by a prestigious modeling agency who currently appears in advertisements in popular women's magazines. The non-professional model was described as a college student that was recently chosen to pose for campus publicity photos who currently appears in the latest university advertising brochure. The weight variable was defined by indicating that Christine was either a slightly underweight woman occupying a slender figure or that she was a slightly overweight woman occupying a fuller figure.

### *Dependent Variables Measure*

The dependent variables measure allowed the participants to provide interpersonal ratings of Christine. These ratings were made on a seven-point Likert scale and addressed Christine's physical attractiveness, her willingness to help a friend in need, and the likelihood that the participant would become friends with Christine if given the opportunity. The Likert scale had two end anchors ranging from a less positive rating (1) to a more positive rating (7).

Coefficients of stability for each dependent variable for both pre-liposuction and post-liposuction ratings were obtained using a sample of 20 participants from an upper-level psychology course. These students were given the descriptions of Christine as an overweight, non-professional model and completed the three pre-liposuction Likert ratings. They also read the second description of Christine indicating her willingness to have liposuction surgery and completed the three post-liposuction Likert ratings. The 20 participants did this on two separate occasions three weeks apart. The corresponding responses of each participant from the two testing occasions were paired using an anonymous code that they assigned to their dependent measures questionnaires (consisting of any combination of two letters and two numbers). Pearson's  $r$  coefficients were calculated to determine the coefficients of stability between the ratings from the first testing occasion and the second testing occasion (see Table 2).

Table 2  
Correlation Coefficients of Stability for the Pre-liposuction and Post-liposuction Ratings

	<i>Pre-liposuction ratings</i>	<i>Post-liposuction ratings</i>
Physical Attractiveness	.05	-.08
Helpfulness	.43	.50
Friendship Desirability	.58	.72

*Post-liposuction Description of Christine*

The second vignette presented to the participants remained constant for all experimental groups. This vignette revealed that Christine had made an appointment with a physician for the cosmetic surgical procedure of liposuction. Liposuction was defined as a surgical procedure that involves the removal of fat from deposits beneath the skin of targeted areas (e.g. abdomen, lower back, thighs) using a hollow stainless steel tube and the assistance of a powerful vacuum (Liposuction.com, 2002). Potential risks (e.g. gaining the weight back quickly and prolonged discomfort) of the procedure were also presented. After reading this information, the

participants rated Christine again on perceived physical attractiveness, likelihood of helping a friend in need, and likelihood of becoming friends with her.

### *Post-Experimental Questionnaire*

The post-experimental questionnaire included questions regarding demographic information of the participant, a series of participant self-ratings, and three validity questions. The demographic information included age, gender, race, and class status of the participant. The participants' self ratings involved obtaining a rating of their own attractiveness and body weight in relation to other persons they encounter on a daily basis, as well as in relation to media figures (e.g., How would you rate your physical attractiveness in comparison to your same-aged counterparts that you may work or go to school with? Participants also rated their satisfaction with their own attractiveness and body weight (e.g., How satisfied are you with your body weight?). These ratings were made on a Likert- type scale with 1 indicating a less positive rating and 7 indicating a more positive rating. A final portion of the post-experimental questionnaire consisted of three validity questions to ensure that the participants completely read and understood both of the vignettes: What was the name of the woman that you read about in this study?, What was one of the risks of liposuction that was mentioned in this study?, and Indicate one characteristic about the physical appearance of the woman that you read about. Only two participants answered more than one incorrectly so their responses were eliminated from the statistical analysis.

### *Procedure*

The participants were asked by the experimenter to participate in a study designed to assess college students' perceptions of a hypothetical individual (i.e. Christine). Prior to the distribution of the research booklets, the experimenter gave detailed instructions and explained the confidentiality rights, the risks and benefits of participation, and extra-credit policy to the participants. Next, the participants were given research booklets and were asked to carefully read the instructions before they began. In phase 1, the participants read an initial description of

Christine (one of four) and provided three pre-liposuction ratings of her. In phase 2, the participants read about Christine's willingness to have liposuction surgery and provided three post-liposuction ratings of her.

Upon completion of all three questionnaires (i.e., two dependent variable measures and a post-experimental questionnaire), the participants returned the booklets to the experimenter. The participants were thanked for their participation and provided with contact information regarding obtaining a summary of the final results following the completion of the research project.

### *Research Design*

The data collected were compiled and analyzed using the Statistical Package for the Social Sciences (SPSS 10.0). The research design for experimental phases 1 and 2 was a 2 (gender of participant) x 2 (professional or non-professional model) x 2 (underweight or overweight) between-subjects factorial with unequal cell sizes (see Table 1). The raw scores from the pre-liposuction ratings in phase 1 and the change scores that occurred from algebraically summing the differences between pre-liposuction and post-liposuction ratings in phase 2 were subjected to analysis.

For further analysis, a fourth variable was added to the design yielding a 2 x 2 x 2 x 2 mixed-design MANOVA with repeated measures on the last factor (pre-liposuction and post-liposuction ratings). This assessed the degree of shift from the first set of ratings (phase 1) to the second (phase 2) set of ratings.

### *Phase 1*

In the first phase of the experiment, the pre-liposuction ratings were analyzed using a Hotellings  $F$  multivariate analysis of variance (MANOVA) in order to detect any intercorrelation among the dependent variables. For each significant dependent variable, a separate univariate Analysis of Variance (ANOVA) ( $2 \times 2 \times 2$ ) was conducted. An interaction that approached significance was further analyzed using independent and correlated groups  $t$ -tests to determine where the approaching significant differences existed among the interaction means.

### *Phase 2*

In the second phase of the experiment, the post-liposuction ratings allowed for an analysis of change scores derived by algebraically summing the differences between a participant's first set of ratings (pre-liposuction) and his or her second set of ratings (post-liposuction). The change scores were analyzed using a Hotellings  $F$  MANOVA and separate  $2 \times 2 \times 2$  univariate ANOVAs to determine if the degrees of shift in the participants' ratings were significantly different among the levels of the independent variables. A significant interaction was further analyzed using independent and correlated groups  $t$ -tests to determine where the significant differences existed among the interaction means.

A mixed-design factorial allowed for a within subject analysis of each participants' first and second sets of ratings in connection with the between subject conditions. A Hotellings  $F$  MANOVA and separate  $2 \times 2 \times 2 \times 2$  univariate ANOVAs were conducted to determine if there was a significant shift in the participants' ratings from the pre-liposuction ratings to the post-liposuction ratings and whether these shifts differed according to the levels of the independent variables. Independent groups and correlated groups  $t$ -tests were conducted to determine where the significant differences existed among the interaction means.

### *Correlation Matrix*

Finally, the information collected in the post-experimental questionnaire (i.e., demographic information and self-ratings) was combined with the dependent variables and compiled into a correlation matrix to provide additional insight to the research findings.

### *Independent Groups t-tests*

A series of independent groups *t*-tests examined the mean differences between men and women's responses to various questions from the post-experimental questionnaire (e.g. How would you rate your physical attractiveness in comparison to others your age that appear in advertisements and television shows?, How satisfied are you with your body weight?).

### *Correlated Groups t-tests*

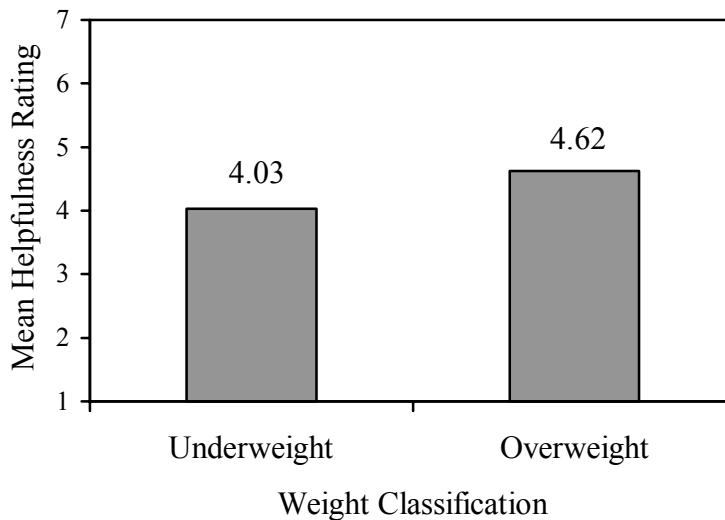
A series of correlated groups *t*-tests examined the mean differences between two separate responses given by each individual (e.g. How satisfied are you with your body weight? and How likely is it that you would have the surgical procedure of liposuction?).

CHAPTER 3  
RESULTS

*Pre-liposuction Ratings of Phase 1*

*Statistically Significant Main Effects*

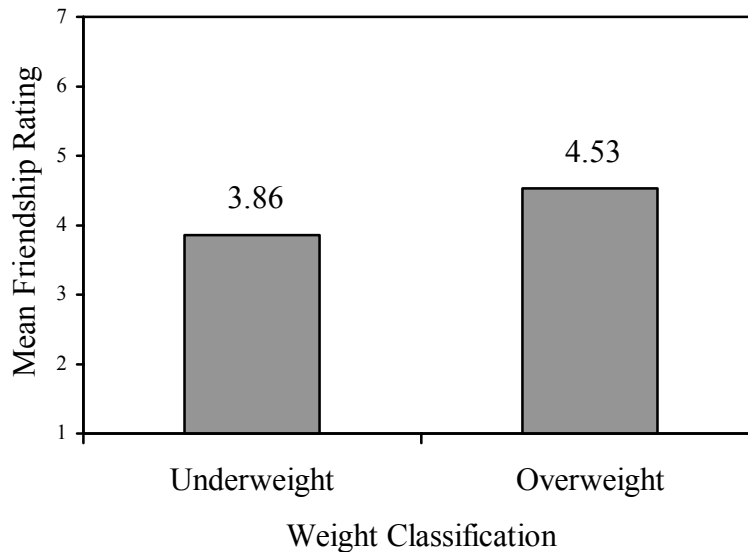
A Hotelling's  $F$  multivariate analysis of variance (MANOVA) revealed a significant main effect for the weight variable,  $F(3, 406) = 7.65, p \leq .05$  on perceived physical attractiveness and helpfulness of the target, and likelihood of becoming friends with her. For each significant dependent variable, a separate univariate analysis of variance (ANOVA) was conducted. There were significant differences in ratings between the underweight and overweight target for perceived willingness to help a friend in need and likelihood of becoming friends with the target. For the willingness to help a friend variable,  $F(1, 415) = 16.19, p \leq .05$ , the overweight target ( $M = 4.62, SD = 1.29$ ) was perceived to be significantly more likely to help a friend in need than the underweight target ( $M = 4.03, SD = 1.22$ ) (see Figure 1).



*Figure 1.* Mean Rating of Target Helpfulness Based on Target's Weight



Likewise, for the likelihood of friendship variable,  $F(1, 415) = 11.87, p \leq .05$ , the participants considered themselves much more likely to become friends with the overweight target ( $M = 4.53, SD = 1.56$ ) than they did with the underweight target ( $M = 3.88, SD = 1.56$ ) (see Figure 2). These differences existed regardless of model type of the target or the gender of the participant.



*Figure 2. Mean Rating of Friendship Likelihood Based on Target's Weight*

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#### *Statistically Non-Significant Main Effects*

The MANOVA revealed that the main effect of gender was statistically non-significant for each of the dependent variables,  $F(3, 406) = .818, p > .05$ . There were no statistically significant differences between men and women's ratings of the target's perceived physical attractiveness, willingness to help a friend in need, and likelihood of friendship (see Table 3).

Table 3

Means and Standard Deviations of Dependent Variable Ratings by Men and Women Participants in Phase 1

	<u>Mean and standard deviation</u>		<u>Sample Size</u>	
	Men	Women	Men	Women
Physical Attractiveness	5.38 (1.09)	5.44 (1.00)	136	280
Helpfulness	4.21 (1.26)	4.38 (1.30)	136	280
Friendship Likelihood	4.11 (1.74)	4.24 (1.52)	136	280

The MANOVA revealed that the main effect of the model type variable was also statistically non-significant for all dependent variables indicating that the professional model and the non-professional model were rated equally on physical attractiveness, willingness to help a friend in need, and friendship likelihood (see Table 4).

Table 4

Means and Standard Deviations of Dependent Variable Ratings for the Professional and Non-professional Model in Phase 1

	<u>Mean and standard deviation</u>		<u>Sample Size</u>	
	Prof.	Non-Prof	Prof.	Non-prof.
Physical Attractiveness	5.41 (1.05)	5.43 (1.02)	213	203
Helpfulness	4.21 (1.36)	4.44 (1.20)	213	203
Friendship Likelihood	4.12 (1.72)	4.28 (1.45)	213	203

An ANOVA revealed that the main effect of the weight variable for the dependent variable of physical attractiveness was statistically non-significant as the underweight target ( $M$

= 5.45,  $SD = 1.03$ ) was rated approximately equal to the overweight target ( $M = 5.40$ ,  $SD = 1.04$ ),  $F(1, 415) = .876$ ,  $p > .05$ .

#### *Statistically Non-Significant Interaction Effects*

There were no statistically significant interaction effects for any of the independent variable combinations: Gender x Weight, Gender x Model Type, Weight x Model Type, and Gender x Weight x Model Type. However, the likelihood of friendship rating for the Gender x Weight interaction approached significance,  $F(1, 415) = 3.83$ ,  $p = .074$ , and deserves attention. An independent groups  $t$ -test revealed that men and women's rating of likelihood of becoming friends with the underweight target did not differ significantly,  $t(206) = .54$ ,  $p > .05$ , as the underweight target was rated only slightly higher in likelihood of friendship by men ( $M = 3.97$ ,  $SD = 1.73$ ) than by women ( $M = 3.83$ ,  $SD = 1.49$ ). However, another  $t$ -test revealed that while both ratings were higher for the overweight target, women rated her significantly higher ( $M = 4.70$ ,  $SD = 1.56$ ) than the men ( $M = 4.24$ ,  $SD = 1.75$ ),  $t(206) = -2.06$ ,  $p \leq .05$ . So, the men's ratings of the underweight target ( $M = 3.97$ ,  $SD = 1.73$ ) and the overweight target ( $M = 4.24$ ,  $SD = 1.75$ ) did not differ significantly,  $t(134) = -.90$ ,  $p > .05$ ; the women's ratings of the underweight target ( $M = 3.83$ ,  $SD = 1.49$ ) did differ from their ratings of the overweight target ( $M = 4.70$ ,  $SD = 1.56$ ),  $t(278) = -4.92$ ,  $p \leq .05$ . A graphical representation of these means can be viewed in Figure 3.

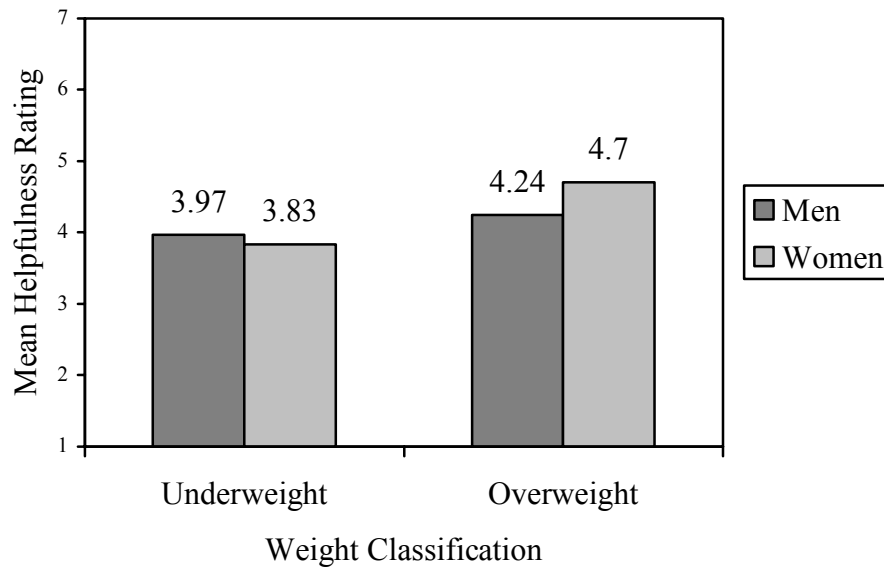


Figure 3. Mean Ratings of Target Helpfulness Based on Gender and Target's Weight

### *Post-liposuction Ratings of Phase 2*

#### *Analysis of Change Scores*

A Hotelling's  $F$  MANOVA was conducted on the change scores derived by algebraically summing the response of the pre and post liposuction ratings to determine if the change in ratings were significantly different among the varying levels of the independent variable. The Hotelling's  $F$  MANOVA indicated no statistically significant effects. However, consideration of separate  $2 \times 2 \times 2$  univariate ANOVAs indicated a significant main effect of gender for the dependent variable perceived willingness of the target to help a friend in need,  $F(1, 416) = 4.45$ ,  $p \leq .05$ . It appears that women's post liposuction ratings of perceived willingness of the target to help a friend in need ( $M = -.33$ ,  $SD = .93$ ) indicated a significantly greater decrease from pre-liposuction ratings than the men's post liposuction ratings ( $M = -.11$ ,  $SD = 1.07$ ), with a mean difference of  $-.22$  and a standard error of  $.10$  (see Figure 4). No other statistically significant effects revealed.

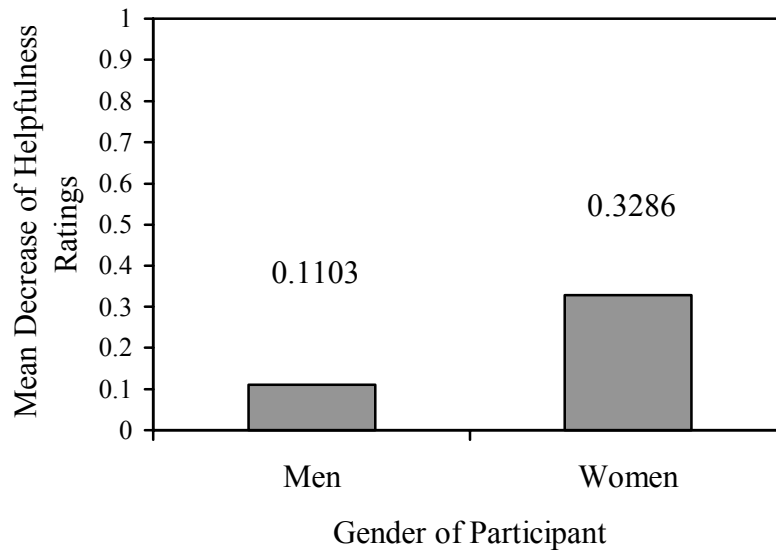


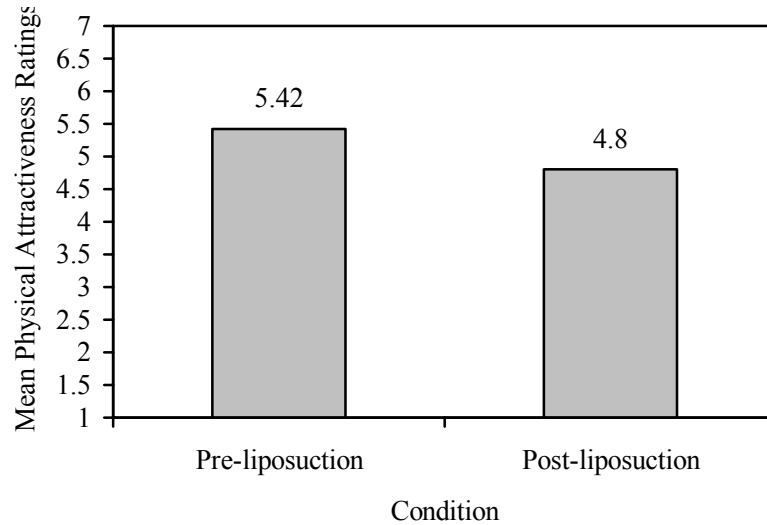
Figure 4. Mean Decrease in Ratings of Target Helpfulness Based on Gender

#### *Mixed Design MANOVA*

A general downward shift of scores occurring from the pre-liposuction ratings to the post-liposuctions ratings indicated the need for further analysis. Consequently, a 2 x 2 x 2 x 2 (gender of participant, weight of target, model type of target, and pre-post measures) mixed-design MANOVA with repeated measures on the last factor was conducted to assess the overall shift of scores from the first set of ratings (pre-liposuction) to the second set of ratings (post-liposuction).

For the within subjects effects, the MANOVA revealed a significant main effect on the pre-post variable  $F(3, 406) = 43.73, p < .05$ . A subsequent 2 x 2 x 2 x 2 mixed design univariate ANOVA revealed statistically significant effects for all three dependent variables: ratings of perceived physical attractiveness,  $F(1, 408) = 107.51, p \leq .05$ ; ratings of perceived willingness of the target to help a friend in need,  $F(1, 408) = 17.81, p \leq .05$ ; and ratings of perceived likelihood of becoming friends with the target,  $F(1, 408) = 28.96, p \leq .05$ . All ratings were subject to a highly significant decrease from the pre-liposuction ratings to the post-liposuction ratings. Pre-

liposuction ratings of physical attractiveness ( $M = 5.42$ ,  $SD = .054$ ) were significantly higher than post liposuction ratings of physical attractiveness ( $M = 4.78$ ,  $SD = .07$ ) (see Figure 5).



*Figure 5.* Mean Ratings of Target Physical Attractiveness Prior To and Following the Liposuction Condition

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Likewise, pre-liposuction ratings of the target's willingness to help a friend in need ( $M = 4.30$ ,  $SD = .67$ ) were significantly higher than post liposuction ratings of the target's willingness to help a friend in need ( $M = 4.08$ ,  $SD = .07$ ) (See Figure 6).

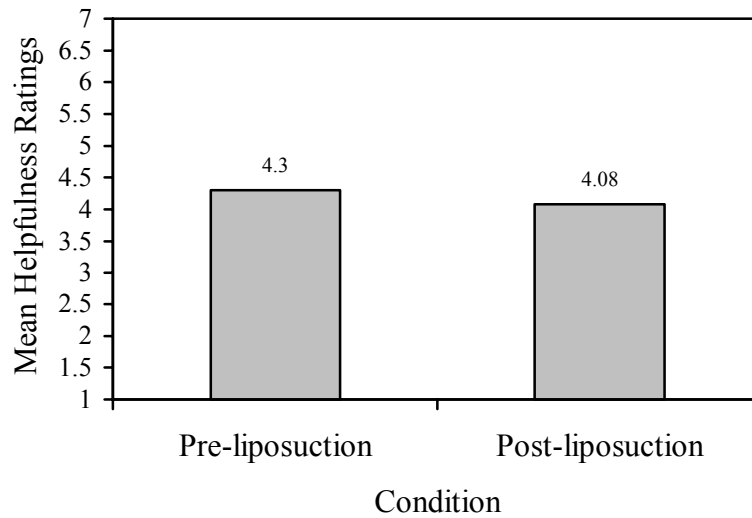


Figure 6. Mean Ratings of Target Helpfulness Prior to and Following the Liposuction Condition

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Finally, pre-liposuction ratings of likelihood of becoming friends with the target ( $M = 4.83$ ,  $SD = .083$ ) were significantly higher than post liposuction ratings of likelihood of becoming friends with the target ( $M = 3.902$ ,  $SD = .086$ ) (See Figure 7).

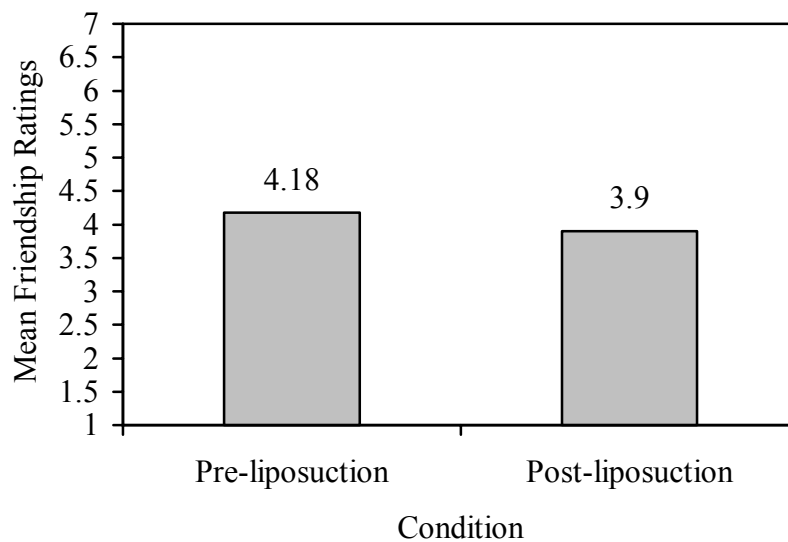


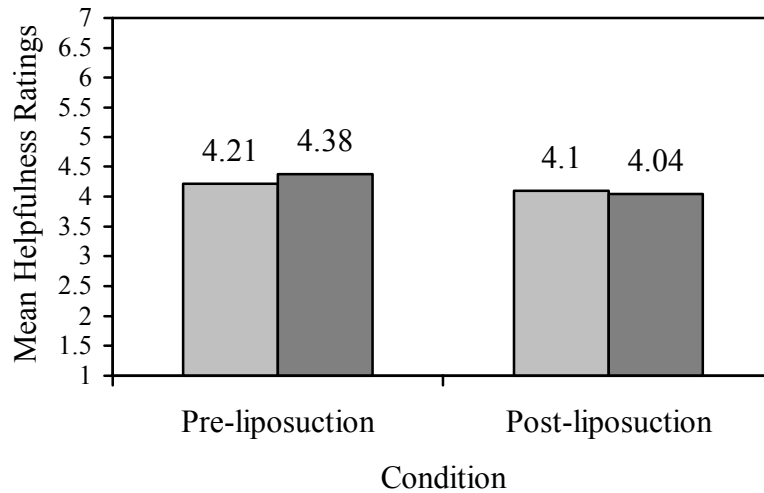
Figure 7. Mean Ratings of Likelihood of Becoming Friends with the Target Prior To and Following the Liposuction Condition

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All of these decreases occurred regardless of the gender of the participant, the weight of the target, or the model type of the target. The four-factor analysis therefore revealed the large magnitude of shift in ratings that were disguised in the main effects of the three-factor analysis.

The subsequent ANOVA tests also revealed a significant interaction effect moderating the effects of the pre-post and gender variables on the perceived willingness of the target to help a friend in need dependent variable,  $F(1, 408) = 4.57, p \leq .05$ . It appears that prior to the liposuction condition, men rated the target ( $M = 4.21, SD = 1.26$ ) slightly lower than women ( $M = 4.38, SD = 1.30$ ) in perceived willingness of the target to help a friend in need. An independent groups t-test revealed that these differences were not statistically significant,  $t(416) = -1.20, p \geq .05$ . Following the liposuction condition, both men and women's ratings of the target's willingness to help a friend dropped; in post-liposuction ratings the men's ratings of willingness to help a friend ( $M = 4.10, SD = 1.31$ ) were higher than the women's post-liposuction ratings ( $M = 4.04, SD = 1.41$ ); these differences were also not statistically significant,  $t(414) = .417, p \geq .05$ . There was a significant difference, however, in the mean decrease of the women's ratings ( $M = -0.33, SD = 0.93$ ) in comparison to the men's ( $M = -.11, SD = .1.07$ ),  $t(416) = 32.138, p \leq .05$ . Specifically, the difference between the women's pre-liposuction ( $M = 4.38, SD = 1.30$ ) and post-liposuction ratings ( $M = 4.04, SD = 1.41$ ) indicated a significant decrease,  $t(279) = 5.92, p \leq .05$ , while the difference between the men's pre-liposuction ( $M = 4.21, SD = 1.26$ ) and post-liposuction ratings ( $M = 4.10, SD = 1.31$ ) did not,  $t(279) = 5.92, p \geq .05$ . Figure 8 further delineates the interaction effect showing the only significant difference in ratings occurred between the women's pre-liposuction and post-liposuction ratings of the target's willingness to help a friend in need.





*Figure 8.* Mean Ratings of Target Helpfulness Prior To and Following the Liposuction Condition Based on Gender and Target’s Weight

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#### *Correlation Matrix*

All responses given by participants, including the dependent ratings of the target and the responses from the follow-up questionnaire, were compiled and analyzed within a Pearson Product Moment Correlation Coefficients global matrix. From this analysis, some interesting relationships were revealed. Self-attractiveness ratings in comparison to peers were positively correlated with all of the dependent variable ratings for both the pre-liposuction and post-liposuction conditions: attractiveness rating of the target ( $r = .108, p < .05; r = .159, p < .05$ ), helpfulness rating of the target ( $r = .150, p < .05; r = .148, p < .05$ ), and desirability of the target as a potential friend ( $r = .370, p < .05; r = .359, p < .05$ ) (See Table 5).

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Table 5

## Correlation Matrix of Self-Attractiveness Ratings in Comparison to Peers with Pre and Post Liposuction Ratings

	Self-Att	Pre-Att	Pre-Help	Pre-Fri	Post-Att	Post-Help	Post-Fri
Self-att	1.00	.108*	.150**	.370***	.159**	.148**	.359***
Pre-Att		1.00	.159**	.176***	.564***	.192***	.219***
Pre-Help			1.00	.477***	.170***	.722***	.453***
Pre-Fri				1.00	.200***	.519***	.816***
Post-Att					1.00	.260***	.272***
Post-Help						1.00	.608***
Post-Fri							1.00

Note.  $p < .05^*$ ,  $p < .01^{**}$ ,  $p < .001^{***}$

Note. Self-Att (self attractiveness in comparison to peers), Pre-Att (pre-liposuction attractiveness rating of target), Pre-Help (pre-liposuction helpfulness rating of target), Pre-Fri (pre-liposuction rating of target), Post-Att (post-liposuction rating of target), Post-Help (post-liposuction rating of target), Post-Fri (post-liposuction rating of target)

Self-attractiveness ratings in comparison to models were positively correlated with two of the dependent variable ratings for both the pre-liposuction and post-liposuction conditions: helpfulness rating of the target ( $r = .096$ ,  $p < .05$ ;  $r = .096$ ,  $p < .05$ ), and desirability of the target as a potential friend ( $r = .247$ ,  $p < .05$ ;  $r = .237$ ,  $p < .05$ ) (See Table 6).

Table 6

## Correlation Matrix of Self-Attractiveness Ratings in Comparison to Models with Pre and Post Liposuction Ratings

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	Self att	Pre-Att	Pre-Help	Pre-Fri	Post-Att	Post-Help	Post-Fri
Self-att	1.00	-.068	.096*	.247***	-.008	.096*	.237***
Pre-Att		1.00	.159**	.176***	.564***	.192***	.219***
Pre-Help			1.00	.477***	.170***	.722***	.453***
Pre-Fri				1.00	.200***	.519***	.816***
Post-Att					1.00	.260***	.272***
Post-Help						1.00	.608***
Post-Fri							1.00

---

Note.  $p < .05^*$ ,  $p < .01^{**}$ ,  $p < .001^{***}$

Note. Self-Att (self attractiveness in comparison to models), see Table 5 for remaining explanations

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Ratings of satisfaction with one's own physical attractiveness ( $r = .163$ ,  $p < .05$ ;  $r = .156$ ,  $p < .05$ ) were correlated with the ratings of likelihood of becoming friends with the attractive target in both pre-liposuction and post-liposuction conditions. This self-rating of satisfaction with physical attractiveness did not correlate with the remaining two dependent ratings in either conditions, attractiveness of the target ( $r = .009$ ,  $p > .05$ ;  $r = -.001$ ,  $p > .05$ ) nor helpfulness of the target ( $r = .010$ ,  $p > .05$ ;  $r = .037$ ,  $p > .05$ ).

Finally, the participants' willingness to have liposuction ratings were negatively correlated with the following: self-attractiveness rating in comparison to peers ( $r = -.130$ ,  $p < .05$ ), self-attractiveness rating in comparison to models ( $r = -.265$ ,  $p < .05$ ), satisfaction with one's own physical attractiveness ( $r = -.265$ ,  $p < .05$ ) and satisfaction with one's own body weight ( $r = -.289$ ,  $p < .05$ ) (See Table 7).

Table 7

## Correlation Matrix of Participants' Willingness to Have Liposuction with Self-Attractiveness and Satisfaction Ratings

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	Liposuction	Attpeer	Attmodel	Satatt	Satbody
Liposuction	1.00	-.130**	-.084	-.265***	-.289***
Attpeer		1.00	.627***	.107*	.527***
Attmodel			1.00	.502***	.426***
Satatt				1.00	.765***
Satbody					1.00

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Note.  $p < .05^*$ ,  $p < .01^{**}$ ,  $p < .001^{***}$

Note. Liposuction (participants' willingness to have liposuction surgery), Attpeer (self-attractiveness rating in comparison to peers), Attmodel (self attractiveness rating in comparison to models), Satatt (satisfaction with one's own attractiveness), Satbody (satisfaction with one's own body weight)

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#### *Independent Groups t-tests*

Subsequent independent groups *t*-tests analyzed the gender differences of responses given by the participants on the follow-up questionnaire. These included self-ratings of physical attractiveness and body weight, ratings of satisfaction with these characteristics, and willingness to undergo the liposuction procedure.

A *t*-test revealed a significant difference between men and women in their self rating of body weight in comparison to one's peers,  $t(412) = -2.75$ ,  $p \leq .05$ , with women considering themselves significantly greater in weight in comparison to peers ( $M = 4.42$ ,  $SD = 1.31$ ) than men do ( $M = 4.02$ ,  $SD = 1.44$ ).

A significant difference occurred between men and women in their indication of satisfaction with their appearance,  $t(412) = 2.23$ ,  $p \leq .05$ , with men indicating significantly

greater satisfaction with their appearance ( $M = 4.73, SD = 1.56$ ) than women indicate ( $M = 4.37, SD = 1.54$ ). Another  $t$ -test revealed a significant difference between the genders in their indication of satisfaction with their body weight,  $t(412) = 4.37, p \leq .05$ , with men indicating significantly greater satisfaction with their body weight ( $M = 4.56, SD = 1.68$ ) than women indicate ( $M = 3.76, SD = 1.54$ ).

There was also a significant difference between men and women in their indication of willingness to undergo the liposuction procedure,  $t(412) = -2.59, p \leq .05$ , with women indicating a significantly greater willingness to undergo liposuction ( $M = 1.83, SD = 1.49$ ) than men indicate ( $M = 1.44, SD = 1.29$ ). Another  $t$ -test revealed a significant difference between the genders in their indication of willingness to undergo the liposuction procedure if he or she could do so free of cost,  $t(412) = -4.08, p \leq .05$ , with women indicating a significantly greater willingness to undergo liposuction at a free cost ( $M = 2.72, SD = 2.26$ ) than men indicate ( $M = 1.82, SD = 1.69$ ).

#### *Correlated Groups t-test*

Subsequent correlated groups  $t$ -tests examined whether a set of two responses given by each individual significantly differed. This analysis revealed interesting differences among the six self-ratings: physical attractiveness in comparison to peers, physical attractiveness in comparison to models, body weight in comparison to peers, body weight in comparison to models, satisfaction with one's physical attractiveness, and satisfaction with one's body weight.

The self-ratings of physical attractiveness in comparison to peers ( $M = 4.37, SD = 1.17$ ) were significantly greater than self-ratings of physical attractiveness in comparison to models ( $M = 3.49, SD = 1.42$ ),  $t(426) = 13.99, p \leq .05$ . There were no significant differences between self-ratings of body weight in comparison to peers and self-ratings of body weight in comparison to models,  $t(421) = 1.26, p > .05$ .

Satisfaction with one's own attractiveness ( $M = 4.49, SD = 1.55$ ) was determined to be significantly higher than satisfaction with one's own body weight ( $M = 4.03, SD = 1.78$ ),  $t(423)$

= 8.22,  $p \leq .05$ . This difference occurred for all participants; however, it is interesting to consider the satisfaction indications given by men and women participants. A correlated groups  $t$  test was conducted using only the women participants, again revealing that satisfaction with one's own attractiveness ( $M = 4.37$ ,  $SD = 1.54$ ) was significantly higher than satisfaction with one's own body weight ( $M = 3.75$ ,  $SD = 1.76$ ),  $t(423) = 9.02$ ,  $p \leq .05$ . When this analysis was conducted using only the men participants, no statistically significant differences were revealed,  $t(423) = 1.63$ ,  $p > .05$ , thus indicating that men's satisfaction with their physical attractiveness ( $M = 4.73$ ,  $SD = 1.56$ ) is approximately equal to their satisfaction with their body weight ( $M = 4.57$ ,  $SD = 1.70$ ).

## CHAPTER 4

### DISCUSSION

A number of important trends emerged from the statistical analysis. Results from the first experiment provide further understanding of the factors that may be impacting the attributions associated with the physical attractiveness stereotype, while results from the second experiment reveal the vulnerability of these attributions that may result in stereotype shift following revelation of a woman's attempts to unnaturally enhance her physical attractiveness through a cosmetic surgical procedure. The between and within subjects correlational analysis and *t*-tests provided further insight to these findings while also revealing trends in the participants' self-reports of their behaviors and opinions regarding their own physical attractiveness.

#### *Positive Stereotypes Evidenced in Phase 1*

One of the most reliable findings that emerged from the first experiment was the impact of the weight of the target on two of the dependent variable ratings. Although there were no significant differences between the underweight and overweight targets in ratings of physical attractiveness, the ratings of the helpfulness of the target and likelihood of becoming friends with her did differ significantly according to her weight. As previously established by Dion et al. (1972), physically attractive individuals are subject to a "halo effect" of which these individuals are rated positively along a variety of dimensions. The researcher of the current study hypothesized that description of an attractive person's weight may influence such attributions. The findings revealed that this did occur. According to previous research (Lundberg & Sheehan, 1996; Tassinary & Hansen, 1998; Tovee et al., 1999) underweight individuals are considered more physically attractive than overweight individuals. The current study did not reveal such effects, which may be due to the nature of the target's description that the participants read. Both the underweight and overweight targets were described as a physically attractive beauty contest winner and so the slight discrepancy in described weight may not have been as

significantly influential on participants' ratings as suspected. The weight variable, however, did impact the remaining dependent ratings in support of the hypothesis. In particular, the overweight target was considered to be more likely to help a friend in need than the underweight target as well as participants considering themselves much more likely to become friends with her. These findings may be better understood with consideration of previous research findings dealing with personality stereotypes associated with various physiques.

Ryckman et al. (1997) revealed that there are often favorable and unfavorable traits associated with the various stereotypes and subtype stereotypes that accompany Sheldon's (1940) classic descriptions of the endomorphic (overweight), mesomorphic (muscular) and ectomorphic (thin) physiques. For instance, Ryckman et al. revealed that although some of the characteristics commonly associated with endomorphs are being "lazy, sloppy, dirty, disorganized, ugly and stupid"; at other times endomorphs may be perceived as "humorous, caring, friendly, kind and modest" (p. 101). Likewise, stereotypes associated with the ectomorph may be favorable (intelligent, energetic, scholarly) or they may be unfavorable (tense, insecure, weak or psychologically unhealthy) (Ryckman et al.).

Of particular relevance to the current study are the findings of subtype stereotypes associated with the woman endomorph and woman ectomorph. Ryckman et al. revealed that "motherly" characteristics are often associated with women endomorphs which might include being considered "caring, agreeable, happy, generous, kind, understanding, gentle, sensitive and honest" (p.124). They also labeled an unfavorable subtype stereotype of the woman ectomorph as "anorexic", which includes characteristics of insecurity, being tense, depressed, irritable, and dissatisfied. Another subtype stereotype associated with the female ectomorph was a "fashion model", which might include being labeled as conceited, phony, or unintelligent (p.129). Although there were unfavorable stereotypes associated with woman endomorphs and favorable stereotypes associated with women ectomorphs, it is possible that some of the described associations were operating in the current study. If so, these subtype stereotypes may explain the significant differences in the participants' ratings of perceived willingness of the target to help a



friend in need and perceived likelihood of becoming friends with the target that existed between the underweight and overweight targets.

In spite of the robust main effects of the weight variable, the model type and gender variables failed to produce significant differences in the dependent ratings. It was anticipated that the professional model would be rated higher in physical attractiveness, but lower in helpfulness and friendship likelihood. This hypothesis was grounded by the idea that idealized images of physical attractiveness found in advertising often have a negative impact on girls' and women's self-perceptions (Gulas & McKeage, 2000). Thus, it was expected that participants, particularly the women, would indicate more negative feelings toward the professional model target as a result of the negative feelings that she may prompt in them. These differences did not occur and can probably be attributed to the fact that in order to keep the scenarios as constant as possible, the described differences between the professional and non-professional model were not large enough to impact participants' ratings. For instance, in both conditions, the target was described as a college sophomore who only recently began experiencing public exposure through either appearing in popular magazine ads (professional model) or the latest university brochure (non-professional model).

It was also hypothesized that men would indicate higher ratings of the target than the women due to a potential jealousy effect operating in the women evaluators (Dijkstra & Buunk, 2001; Larose et al., 1993), but this did not occur. It is interesting, however, to consider the approaching significance interaction between gender of the participant and weight of the target for the likelihood of becoming friends with the target. For the underweight target, there were no significant differences between the men and women's ratings of the target's friendship likelihood; however, for the overweight target, the women's ratings of the friendship desirability were significantly greater than the men's ratings. There was not a significant difference in ratings of target friendship desirability between the underweight and the overweight target by the men, while there was by the women raters. This indicates that while men did not indicate a differing level of likelihood of becoming friends with an attractive woman based on her weight, the women did. Thus, it appears that women would be more likely to become friends with an

overweight attractive woman than an underweight attractive woman. The research on the physical attractiveness contrast effect (Thorton & Moore, 1993) may shed some light on these findings.

Research on the physical attractiveness “contrast effect” (Thorton & Moore, 1993) has revealed that individuals tend to feel less positively about themselves following comparison to very attractive counterparts. This process refers to a concept laid out by Festinger (1954) labeled “upward social comparison”, during which an individual socially compares oneself to another who possesses a more highly desirable social characteristic (e.g. greater physical attractiveness). Such comparisons are likely to result in an unpleasant experience. Thus, it is possible that if the women participants of the current study felt they did not adequately compare to the target’s heightened social characteristic of attractiveness, they may have indicated less likelihood of becoming associated with this woman (or in a sense become a contrast of physical attractiveness with her) that may result from becoming friends with her. Because women indicate the most thin silhouettes as most desirable (Cohn & Adler, 1992), it may be that the overweight target was less of a threat in terms of the physical attractiveness contrast effect and thus they were more likely to become friends with her. It would interesting to assess whether the same effects might occur in men were they to read about an attractive male target.

### *Negative Stereotypes Evidenced in Phase 2*

The only significant effect that manifested from the analyses of the change scores from the first to the second experiment was that of gender on the rating of a target’s willingness to help a friend in need. Women indicated a significantly greater decrease in ratings of target helpfulness than men. It is possible that because the target was a woman, she served as a more appropriate reference group for the women participants. A reference group is one in which a person views the members as similar to him or herself and thus refers to these individuals for means of social comparison (Festinger, 1954). If the women participants were more likely to identify with the target, it is likely that they may have experienced a greater degree of disagreement with her willingness to participate in a drastic and risky procedure such as

liposuction. Such disagreement may have led the women to view the target as more egocentric and less likely to help others.

Further analysis using a repeated measures design allowed the researchers to assess the degree of change that occurred from the first set of ratings (pre-liposuction) to the second (post-liposuction). The findings from this analysis are perhaps the most important from the current research. All dependent ratings dropped significantly from the first set of ratings to the second, thus indicating an apparent stereotype shift following disclosure of the target's participation in the liposuction procedure. This shift indicates that both men and women participants considered the target less physically attractive and less likely to help a friend in need as well as considering themselves less likely to engage in friendship with her following exposure to the second description of the target. These shifts occurred regardless of the gender of the participants, or the target's weight or model type. Because the target's contemplation and planned participation in the liposuction surgical procedure was the only information disclosed in the second scenario, this must be the underlying motive of the stereotype shift that was significantly displayed. Based on these results, it appears that the "halo" that is associated with physically attractive individuals is indeed vulnerable to information concerning the participants' willed behavior in drastically altering and unnatural appearance modification venues.

Review of the research on the religious "halo" and "boomerang" effects may elucidate the current findings. Bailey and Garrou (1983) established that a positive stereotype or "halo" may be associated with perceived religious involvement as college students reported religious persons as more intelligent, trustworthy, moral and likeable as a prospective interaction partner than other nonreligious or anti-religious counterparts. However, Bailey and Young (1986) reported that the initial ratings that evidenced a "religious halo effect" were impacted by disclosure of non-charitable behavior by the target. In particular, a target identified as religious was perceived as less attractive as a friend, work partner or campus office holder than either nonreligious or anti-religious targets who partook in the same non-charitable behavior. This decrease in the religious target's ratings provided evidence of the presence of a "religious boomerang effect" that is characterized by the heightened social expectations that accompany

religious involvement. Thus, it appears that although individuals are quick to assign positive attributes to an individual based on a single characteristic, such as physical attractiveness or religiosity, such attributes may be quickly placed in jeopardy when additional information is presented that is considered inconsistent with initial perceptions.

Dermer and Theil (1975) revealed that physically attractive individuals were sometimes perceived to have undesirable characteristics such as vanity, egotism, and likelihood of marital disaster in comparison to their less attractive counterparts. Such attributions may be intensified if one perceives the attractive target to invest too much in the upkeep of his or her physical appearance. For instance, White et al. (2002) showed that desirable attributions (i.e. greater romantic success, self-like and desirability as a fellow employee) were less likely to be associated with an attractive woman who had drastically altered her appearance through cosmetic surgery than an attractive woman that only used basic hygiene products, thus representing a more natural appearance. Also, the woman that partook in the drastic alteration procedures was considered to be more self-centered than the woman that only used modest alteration procedures.

The repeated measures analysis also revealed a significant interaction between the pre-post and gender variables on the willingness to help a friend in need variable. Prior to the liposuction condition, women rated the target slightly higher than the men in target helpfulness. Following the liposuction condition, men and women's ratings of target helpfulness dropped significantly; however, the women's ratings dropped significantly more than the men's. As previously mentioned, such effects are probably explainable by the fact that the target was a woman. The women participants likely identified with the target and thus rated her slightly higher in willingness to help others than the men. It appears though that the target's willingness to have liposuction despite her attractiveness may have aroused resentment by the women participants. Gillespie (1996) argued that a woman's involvement in cosmetic surgery might reinforce the societal models of femininity that place too great an emphasis on appearing physically attractive. Media images and advertisements often use highly attractive models, which results in a gender norm that emphasizes the physical attractiveness of women (Knight & Giulianu, 2001; Malkin, Wornian, & Chrisler, 1999). According to Gillespie, participation in

cosmetic surgery only strengthens these norms, which leads to the oppression of oneself and others and thus perpetuates the social inequalities regarding appearance expectations that exist between the sexes. In light of Gillespie's argument, a woman may resent another woman's involvement in cosmetic surgery. Women may perceive other women who have cosmetic surgery as selfish and unwilling to protect against the oppression that results from the undue emphasis placed on a woman's physical attractiveness. If this is true, the women participants of the current study would be likely to indicate a greater decrease in ratings of target helpfulness than the men.

### *Potential Applications of the Findings*

In summary, it appears that in the current study, participants thought less favorably about the attractive target when they realized that she was willing to participate in an expensive and highly risky procedure so that she could feel better about her physical presentation. If we live in a society where women care a great deal about their appearance and the consequential social perceptions from others, it may be beneficial for her to know the penalty that may accompany participation in such drastic appearance modification procedures such as liposuction. Such stereotypic penalty may influence her desirability as an employee, friend, or romantic partner.

Awareness of the personal cost accompanying drastic surgical procedures, could help one avoid placing too great an emphasis on such costly procedures. Using flawless models presented in the media as one's reference group makes it impossible for an average woman to feel adequate. For instance, from information from the follow-up questionnaire, the current study revealed that participants rated their own physical attractiveness in relation to models much lower than their attractiveness in relation to peers. It is likely that such ratings are closely linked to feelings about body weight, especially in women.

Correlated groups analysis revealed that women participants were more satisfied with their own physical attractiveness than they were with their body weight. Weight dissatisfaction may be a result of the unrealistic presentation of women in the media. Groesz, Levine, and Murnen (1999) conducted a meta-analytic review using data from 25 studies to examine the

effect of experimental presentation of thin media images on body satisfaction. They found that women's body image was significantly more negative after viewing thin media images than after viewing images of average size models, plus size models, or inanimate objects.

Independent groups *t*-test revealed that the women participants were also much more likely to consider themselves greater in weight in comparison to peers than men. They also indicated less satisfaction with their appearance and less satisfaction with their body weight. Cusumano and Thompson found that media exposure and college women's awareness of societal ideals were strong predictors of body image disturbance, eating disorders, and low self-esteem. Such effects seem to be especially common in adolescent girls (Botta, 1999; Martin & Gentry, 1997; Milkie, 1997). Jones (2001) revealed that weight comparison to peer and model targets were primarily correlates of body dissatisfaction in adolescents, while girls were more likely to make shape comparisons and boys were more likely to make facial comparisons. Such shape comparisons by pre-adolescent girls have been found to be predictive of developing weight concerns and becoming a constant dieter (Field et al., 2001). With this in mind, it is important to continue to study the role of one's body weight in relation to feelings of physical attractiveness.

Considering the findings of the current study, one's involvement in cosmetic surgery may lead to negative perceptions of them by others. Through an independent groups *t*-test, the current study revealed that women indicated a greater likelihood to have the liposuction surgery. Statistics from the American Society of Plastic and Reconstructive Surgeons (2002) showed that women made up 80% of cosmetic surgery patients, and 82% of the patients that had liposuction surgery. The national average fee for the liposuction procedure was \$2049, while the total expenditure for this procedure in 2002 was \$564,396,519. These statistics show that such procedures are sought despite the high monetary cost. In consideration of some of the risks associated with liposuction such as prolonged discomfort, gaining the weight back quickly, and scarring, it is evident that the investment in such procedures runs deeper than the monetary cost. Considering the findings from the current study, it may be beneficial for women to reconsider participation in such a drastic and risky procedure as it may actually lead to more negative perceptions from others rather than the opposite. It is interesting that when considering the mean

drop of ratings for the physical attractiveness, helpfulness, and friendship likelihood of the target, physical attractiveness dropped the most. If it is heightened physical attractiveness that cosmetic surgery patients are aiming for, perhaps they should be aware, that individuals assume that following cosmetic surgery, an attractive woman's attractiveness actually drops.

### *Limitations of the Current Study*

There were some limitations to the current study that should be noted. Conclusions are always limited to the participants' geographic location and method of recruitment of participants. The findings may be quite different had this study been conducted in a different geographic location as cosmetic surgery may be more common in certain areas. Also, there were many more women participants than men, both of a dominantly Caucasian background. Jackson and McGill (1996) revealed that there were significant differences in body type preferences among African American and Anglo American men and women respondents. For instance, African American men preferred larger body types for women than Anglo American men did and African American women associated fewer unfavorable characteristics with obese men than Anglo American women did. Therefore, there may be race-specific standards of attractiveness within various cultures. This difference might also affect the participants' assumptions of characteristics of the target. The target's race was not specified in the description of her; however, participants may have been led to believe that she was of a Caucasian background because the researcher who introduced the study was a Caucasian woman.

In regards to the research design, one could argue that the contiguity of the pre and post liposuction conditions may have impacted participants' ratings. Essentially participants read the two separate descriptions only minutes apart. This may have lead to a sequence effect meaning that the participants' pre-liposuction ratings may have influenced the nature of their post-liposuction ratings. Also, participants may have indicated responses that are not reflective of how they might truly feel in an actual situation. Scenario research is always somewhat limited as it relies solely on attributions made by participants after reading a written description of a hypothetical target.

Consideration of the coefficients of stability for the dependent measures calls the internal reliability of the current findings into question, particularly for the physical attractiveness dimension (pre-liposuction, .05; post-liposuction, -.08) (Refer to Table 2, p.30). Although physical attractiveness has in the past been a reliable dimension using Likert scales, the coefficients of stability for the current dependent measures scale do not indicate a respectable level of test-retest reliability. There are potential reasons for why this might have occurred. For instance, descriptions of the overweight non-professional model target were used to obtain these coefficients, which may have produced the least reliable results. In the future, coefficients for each version (underweight professional, overweight professional, underweight non-professional, overweight non-professional) of the descriptive vignettes should be obtained. Because not all participants were present on both testing occasions, only 15 participants were used to obtain the coefficients of stability, which may have been an inadequate number. These participants were also upper-level psychology students who may have been looking for an independent variable that was not there, and thus succumbed to demand characteristics. In particular, having not understood the purpose of completing the same survey just a few weeks apart, they may have assumed that the researcher was looking for a change in ratings over time. It should be noted that the coefficients of stability for the helpfulness (pre-liposuction, .43; post-liposuction, .50) and friendship ratings (pre-liposuction, .58; post-liposuction, .72) were more reliable. It is interesting that the majority of the significant findings existed for these two dimensions rather than for physical attractiveness. Perhaps such lack of findings for the attractiveness dimension is reflective of the unreliable testing measure. Regardless, the coefficients of stability should be considered when making conclusions from the current research.

Although the correlation matrix revealed many statistically significant  $r$ -values, one might question their meaningfulness. Due to the large number of variables included in the matrix, a percentage of these is likely significant as a result of type I errors. Also, in consideration of the large sample size, some of the  $r$ -values are quite small, yet still statistically significant. Consideration of the  $r^2$  values would reveal that the proportion of variance accounted for is small.



### *Suggestions for Future Research*

Future studies should examine similar topics without using a descriptive vignette. Perhaps photographs could serve as the stimulus material. Future research should also include descriptions or presentation of an unattractive person to see whether a stereotype shift still occurs. And if it does, which direction does it occur? It is possible that individuals may actually feel more positively toward a previously unattractive individual following his or her participation in cosmetic surgery or some other form of drastic appearance enhancement. Future studies could use an exercise condition as a comparison group and see if participants still feel negatively toward an attractive woman that aims for thinness through a healthy, more natural method. Finally, similar research using a male target would be interesting as many feel that the societal pressure to achieve heightened attractiveness is becoming less and less restricted to women (Gulas & McKeage, 2000; Sturrock & Pioch, 1998).

### *Conclusion*

The above findings hold implications for many people. Women may benefit from knowing that the social benefits that accompany cosmetic surgery may not outweigh the personal costs. If being slender is what women want, individuals in the fitness field may benefit from the current findings so they can promote consumers to strive for thinness in a more natural and cost efficient manner. Fitness and health should be promoted in place of achieving heightened physical attractiveness. Parents may benefit from knowing that they should be careful about what appearance standards they promote in their children. Field et al. (2001) revealed that children who perceived their mother as frequently trying to lose weight were more likely to become highly concerned with their own weight and to become constant dieters. Models or politicians may like to know that they may actually be hurting their public approval ratings by participating in cosmetic surgery procedures.

The findings of the current study are also quite valuable for clinicians, as many have linked cosmetic surgery to psychopathology (Hasan, 2000; Sarwer et al., 1998; Vargel & Ulu, 2001). Vargel and Ulu report that cosmetic surgery patients are often diagnosed with body

dysmorphic disorder, severe depressive disorder, or psychotic somatic preoccupations. Although such disorders are not the case in all patients, cosmetic surgery is often used as a psychological intervention to problems such as body image dissatisfaction and low-self esteem (Sarwer et al.). This being the case, it is important for individuals to realize the social perception consequences that may follow such surgeries. Likewise, clinicians should aim at uncovering a solution to these problems without having to turn to such drastic bodily alterations.

The applications of these findings extend to many groups of individuals. It should be noted, however, that the internal validity might be tainted by the unreliability of the data collection measures. However, considering the large amount of importance placed on the role of physical attractiveness in interpersonal encounters and consequently feelings about oneself, the role of cosmetic surgery in individuals' attempts for heightened attractiveness should continue to be studied. It is important for us to understand the role of stereotypes and stereotype penalties associated with physical appearance that often occur in social perception.

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## APPENDICES

### Appendix A: Cover Sheet of Research Booklet

#### Instructions

The following study is being conducted to attempt to evaluate college students' perceptions of characteristics of a hypothetical individual, who we will refer to as Christine.

1. You will be asked to read a description of Christine and answer some questions about her.
2. Once you have started, please read the material closely. Provide answers for all information requested. Once you finish a page, please do not turn back to a previous page of the research booklet.
3. Follow the instructions provided throughout the research booklet and if you have any questions, please raise your hand.

**Remember all responses are anonymous** (your name will not be associated with any of your responses). Please do not put your name on any of the pages provided. **Responses are also completely confidential.** Only the investigators will have access to the data that is collected.

## Appendix B: Pre-liposuction Descriptions of Christine

(1) Christine is a very attractive young woman with a slender figure. She is of average height and slightly less than average in weight. When she was a senior in high school, Christine was the winner of a statewide beauty pageant. Christine often receives compliments on her clear complexion and long, shiny hair. She is currently a sophomore in college and about six months ago was hired by a prestigious modeling agency. Christine now appears in advertisements in many popular women's magazines.

(2) Christine is a very attractive young woman with a fuller figure. She is of average height and slightly more than average in weight. When she was a senior in high school, Christine was the winner of a statewide beauty pageant. Christine often receives compliments on her clear complexion and long, shiny hair. She is currently a sophomore in college and about six months ago was hired by a prestigious modeling agency. Christine now appears in advertisements in many popular women's magazines.

(3) Christine is a very attractive young woman with a slender figure. She is of average height and slightly less than average in weight. When she was a senior in high school, Christine was the winner of a statewide beauty pageant. Christine often receives compliments on her clear complexion and long, shiny hair. She is currently a sophomore in college and about six months ago was chosen to pose for some university publicity photos. Christine now appears in advertisements in many popular women's magazines.

(4) Christine is a very attractive young woman with a fuller figure. She is of average height and slightly more than average in weight. When she was a senior in high school, Christine was the winner of a statewide beauty pageant. Christine often receives compliments on her clear complexion and long, shiny hair. She is currently a sophomore in college and about six months ago was chosen to pose for some university publicity photos. She now appears in the newest advertising brochure for the university.

Appendix C: Dependent Variables Measure

Please respond to the following by circling a single number.

How attractive do you think Christine is in relation to her same-aged counterparts?

1            2            3            4            5            6            7

Less attractive

More attractive

How likely do you think it would be for Christine to help a friend in need?

1            2            3            4            5            6            7

Not very likely

Very likely

If given the opportunity, how likely do you think it would be for you to become friends with Christine?

1            2            3            4            5            6            7

Not very likely

Very likely

#### Appendix D: Post-liposuction Description of Christine

Due to her recent exposure to the public eye, Christine has become concerned about her bodily appearance and has been considering having liposuction surgery. Liposuction is a surgical procedure that involves the removal of fat from deposits beneath the skin of targeted areas (e.g. abdomen, lower back, thighs). The fat deposits are removed using a hollow stainless steel tube and the assistance of a powerful vacuum. Christine has consulted a physician about the procedure and realizes that there are risks associated with liposuction, such as gaining the weight back in a relatively short period of time and prolonged discomfort following the procedure. However, Christine feels that the benefits will outweigh the potential risks. Christine has spent some time finding a well-respected physician and has taken out a loan for the procedure. She has an appointment scheduled for the near future.

Appendix E: Post-experimental Questionnaire

**Please respond to the following questions:**

What was the name of the woman that you read about in this study? \_\_\_\_\_

What was one of the risks of liposuction that was mentioned in this study? \_\_\_\_\_

Indicate one thing about the physical appearance of the woman that you read about. \_\_\_\_\_

\_\_\_\_\_

Age: \_\_\_\_\_

Class status: *Freshman*      *Sophomore*      *Junior*      *Senior*      *Graduate*

Gender: *Male*    *Female*

Race: \_\_\_\_\_

How would you rate your own physical attractiveness in relation to others your age that you encounter daily and may work or go to school with?

1                      2                      3                      4                      5                      6                      7

Less attractive

More attractive

How do you perceive your body weight in relation to others your age that you encounter daily and may work or go to school with?

1                      2                      3                      4                      5                      6                      7

Less than average

Greater than average

How would you rate your physical attractiveness in comparison to others your age that appear in advertisements and on television shows?

1                      2                      3                      4                      5                      6                      7

Less attractive

More attractive

How do you perceive your body weight in comparison to others your age that appear in advertisements and on television shows?

1                    2                    3                    4                    5                    6                    7

Less than average

Greater than average

How satisfied are you with your physical attractiveness?

1                    2                    3                    4                    5                    6                    7

Not very satisfied

Very satisfied

How satisfied are you with your body weight?

1                    2                    3                    4                    5                    6                    7

Not very satisfied

Very satisfied

How likely is it that you would have the surgical procedure of liposuction?

1                    2                    3                    4                    5                    6                    7

Not very likely

Very likely

How likely is it that you would have the surgical procedure of liposuction if you could do so free of charge?

1                    2                    3                    4                    5                    6                    7

Not very likely

Very likely

## VITA

### DEBORAH S. WHITE

- Personal Data: Date of Birth: June 30, 1979  
Place of Birth: Salisbury, Maryland  
Marital Status: Single
- Education: Public Schools, York County, Virginia  
Ferrum College, Ferrum, VA;  
Psychology and Religion, B.A., 2001  
East Tennessee State University, Johnson City, Tennessee;  
General Psychology, M.A., 2003
- Professional Experience: Academic Resource Center Tutor and Desk Assistant, Ferrum College, 1998-2001  
Graduate Assistant, East Tennessee State University, Department of Psychology, 2001-2003
- Poster presentations: White, D. S., Bailey, R. C., & Roberts, D. P. (2001). Perceived characteristics of an attractive woman based on appearance modification. Poster session presented at the annual meeting of the Southeastern Psychological Association, New Orleans, LA.  
White, D. S. & Stein, S. E. (2000). Do churchgoers get better grades? The relation between religiosity and academic achievement. Poster session presented at the annual meeting of the Eastern Psychological Association, Washington, DC.  
Bailey, R. C., Eibl, L. & White, D. S. (2002). The impact of misrepresenting financial status on a romantic relationship. Poster session presented at the annual meeting of the Southeastern Psychological Association, New Orleans, LA.  
Norris, R. L., Thacker, S. K., Click, I., White, D. S., Hite, T., & Brown, R. W. (2001). Nicotine improves cognitive performance in rats given frontal cortex lesions. Poster session presented at the annual meeting of the Southeastern Psychological Assoc., Orlando, FL.  
Thacker, S. K., Brown, R. W., Thompson, K. D. & White, D. S. (2001). Ontogenetic quinpirole treatments produce behavioral deficits that are alleviated by nicotine. Poster session presented at the annual meeting of the Southeastern Psychological Assoc., Orlando, FL.
- Honors: 1999 American Bible Society Scholarly Achievement Award  
1998-2001 Dixie Intercollegiate Athletic Conference Academic All-Conference  
2001 Ferrum College President's Cup recipient (athletics)  
2001 Ferrum College Academic Excellence award recipient  
2001 C.P. Minnick Award (Excellence in Religious/Philosophical Studies)