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Body Depilation among Women and Men: The Association of Body Hair Reduction or Removal with Body Satisfaction, Appearance Comparison, Body Image Disturbance, and Body Dysmorphic Disorder Symptomatology

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Body Depilation among Women and Men: The Association of Body Hair Reduction or Removal with Body Satisfaction, Appearance Comparison, Body Image Disturbance, and Body Dysmorphic Disorder Symptomatology

by

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Dedication

I dedicate this dissertation and the completion of my doctoral degree to the memory of several family members, and a dear friend, that passed during the course of my training including Uncle Bill, Aunt Mickey, Bryan, Mom and Dad Kellenberger, and Stephanie Gaskins. Their support and love made all of this possible and worthwhile.

In addition, I would like to acknowledge and dedicate this manuscript to the most essential, unique, supportive, and moving contributors to my adult life; those that enabled my professional growth through their unwavering personal support and friendship. In my eyes, they require recognition in this space, though their mere mention through these words alone, cannot encapsulate the magnitude of their importance to me. Without them, this entire academic endeavor would be meaningless. So I would like to further dedicate the completion of my studies to my best friends: W. Everett Wilson & Detlef Weller-Wilson, Kevin B. Kellenberger, Blanca M. Theista, and Mary Elizabeth "Beth" Pollio; I love you all so much and appreciate all that you do, and have done, through supporting, nurturing, and loving me all of these years.

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Abstract

Body depilation, or the reduction or removal of body hair, is a relatively new area of research inquiry. Although women in many industrialized cultures have engaged in depilation for several decades, this behavior has been documented only recently among men. Though originally thought to be widely practiced by women and only a small proportion of men, including athletes or bodybuilders, recent studies suggest that more men engage in body depilation than previously hypothesized. In fact, one recent study estimated the prevalence of men's body depilation at 83.7% which suggests that men are depilating at rates similar to women. Nevertheless sparse literature exists on the topic of depilation and its relationship to the overall body image of women and men, factors that predict depilation, and how the appearance of body hair may be related to body satisfaction, body image disturbance, and symptoms consistent with the clinical disorder known as Body Dysmorphic Disorder (BDD).

Clinical issues thought to be associated with body depilation include physical injuries that put men and women at risk for infection as well as psychological risks including BDD. The goals of this research project were to: (a) further explore the depilation practices of both genders, (b) develop and evaluate three scales directly related to body depilation research, (c) identify predictors of depilation among both genders; (d) examine the correlates of depilation, (e) apply and further test theoretical models to

explain depilation among both genders, and (e) examine demographic differences in body image disturbance and BDD while controlling for natural body hair growth.

In support of the hypotheses, results indicated that men have greater levels of body hair growth at 12 discretely measured body sites compared to women, and that overall, body depilation prevalence is high (90.8%) among the individuals sampled. Depilation prevalence for women was 98.5% while 80.9% for men. Men were more likely to report depilation in the past, having ceased the behavior to allow natural hair growth to resume. Men were also significantly more likely to engage in hair reduction behaviors, e.g., trimming, rather than removing hair all together compared to women. Women reported a significantly greater frequency of injuries as a result of depilation, while men reported greater dissatisfaction with higher levels of chest or back hair growth.

Instruments were developed and evaluated to measure depilation appearance comparison, depilation social norms, and body hair growth. In terms of predictors of depilation, appearance comparison was a predictor for both genders, while the drive for muscularity was a unique predictor for men. Theoretical paradigms associated with depilation included Social Comparison Theory, and in part, a belief that depilation is socially normative. Results also provided partial support for hypotheses related to gender, racial/ethnic, and sexual orientation differences in body image disturbance and BDD symptomatology. Overall, the results of this study provide support for the notion that body depilation is a key appearance and body image concern for both genders, though more so for men, but also suggest that more research is needed in order to better understand the role of the appearance of hair on the human body.

Introduction

Body Hair and Body Depilation Overview

Although documentation of the practice of body depilation is relatively new among those living in contemporary societies, the idea of body depilation is not. During ancient times, Egyptian and Greek cultures placed a premium on the appearance of a hairless body, and ancient Egyptian women and men often shaved their body hair with pumice and razors (Hope, 1982; Luciano, 2001). Much of the art that has survived the times support this notion with Greco-Roman statuary illustrative of hairless men even in the post pubescent ephebotypical archetypes. While a hairless norm has endured for women in many western cultures, this fell out of favor for men. Over the last century, the removal of body hair has been prescribed for women in many of the cultures with foundations in the western tradition, but proscribed for men (Basow, 1991; Hope, 1982; Tiggemann & Kenyon, 1998). *Body depilation* (i.e., body hair reduction or removal from the neck down) has typically been culturally sanctioned only for women (Tiggemann & Kenyon, 1998) and in fact taught to young girls as they move through puberty. Until recently, achieving a hairless look has been strongly normative within contemporary Western culture for women only (Toerien & Wilkinson, 2003, 2004). Men likely have not engaged in depilation practices perhaps because the presence of body hair has been indelibly associated with masculinity (Basow, 1991; Basow & Braman, 1998; Hildebrant, 2003; Lewis, 1987; Tiggemann & Kenyon, 1998). With relatively few exceptions, such as athletes and bodybuilders, men have not engaged in body depilation not only because

the presence of body hair has traditionally been symbolic of masculinity, but also because masculinity is associated with men's attractiveness and virility (Basow, 1991; Hildebrant, 2003; Lewis, 1987; Tiggemann & Kenyon, 1998).

It appears, however, that the hairless male body ideal has come back into vogue (Luciano, 2001). Initial documentation of these changes to a hairless ideal for both genders did not come from the sciences, but rather from media. According to popular press accounts, this shifting ideal has influenced many men to depilate (see Gomes, 2001; Smith, 2000; Stuever, 2000; Stein, 1999; and Schuler, 2000). In fact several recent empirical accounts suggest that a wide variety of men, beyond athletes and bodybuilders, are engaging in body depilation (Boroughs & Thompson, 2002; Boroughs, Cafri, & Thompson, 2005; Boroughs, under review; Martins, Tiggemann, & Churchett, 2008a; Martins, Tiggemann, & Churchett, 2008b; Tiggemann, Martins, & Churchett, 2008).

Indeed, body hair norms and depilation practices have considerable implications that contribute to our understanding of gender and sexuality (Hildebrant, 2003). Though both genders are affected by the development of body hair post-puberty, the depilation norm for women is thought to exaggerate these sex differences, thus prior to evidence that men also engage in the behavior, body depilation was thought to signify femininity (Hildebrant, 2003). New research has been undertaken that suggests that a hairless body is no longer firmly feminine or masculine but rather a goal or ideal shared across genders. A review of literature into empirical investigations of body depilation by men and women will be followed by a summary of the clinical health implications of body depilation, the emergence of theoretical models to explain this phenomenon, limitations found in the current literature and goals for the current study.

Men's Body Depilation

In one of the few studies to explore attitudes about men's body hair, Lewis (1987) found that the presence or absence of body hair generally does not affect men's masculine identity. This study was conducted prior to either scientific or media documentation of body depilation by men, and instead was referring to the natural variation of hirsuteness in men. In a more recent study, Basow and Braman (1998) examined the attitudes of college students, both men and women, in order to help to identify the cultural reactions elicited by women who did not remove their body hair. Both men and women made negative attributions towards women who did not remove their body hair in this experimental study, though unfortunately, men's body hair removal was not evaluated. Naturally, society is central in determining "culturally appropriate" behaviors such as the acceptability of body hair reduction or removal for one or both genders. Therefore, while body depilation might be simply the acceptance of socialized norms for women, it is a rejection of those norms for men. An evaluation of the factors underlying men's body depilation might contribute uniquely to further understanding men's appearance-related concerns and body dissatisfaction.

The recent surge in interest in men's body image and level of body satisfaction have been a conduit through which many new investigations are undertaken into body image concerns that are unique to men such as the drive for muscularity or even a new potential problem: achieving a hairless appearance. Those examinations that assess men's behaviors related to the reduction or removal of their body hair are of particular interest. Anecdotal reports from a variety of sources have indicated the emergence of a potentially new form of body image concern that might warrant investigation, namely men engaging

in depilation at atypical body sites. Popular press accounts preceded empirical examinations of this phenomenon and these accounts and anecdotal cases suggested that body depilation occurred not only with athletes such as bodybuilders or swimmers, or gay men, but also among a broad cross-section of men in American society. Body depilation has also been characterized as "manscaping" by a popular American cable television show (Collins, Metzler, & Williams, 2003) and is a typical characteristic found in the "metrosexual" man as noted by journalist and social commentator Mark Simpson (1994, 2002).

These documented media accounts coupled with other factors such as systematic field observations resulted in an initial exploratory investigation that was undertaken to examine some qualitative and quantitative facets of this new body image phenomenon for men (Boroughs & Thompson, 2002). Specifically, the goals of the initial study included seeking information from men on: (1) their frequency of depilation, (2) the reasons behind engaging in this behavior, (3) the methods used to reduce or remove body hair, (4) the sites of the body where depilation occurred, and (5) social and affective correlates of depilation to determine whether there might be conceptual similarities to other more general body dissatisfaction and body image disturbance concerns.

The results indicated that men depilated their body hair weekly or bi-weekly, and reported reasons for depilation that included "to look better," "make muscles look larger," "to look younger," or "to feel cleaner." The reported methods for reducing or removing body hair varied to include a regular straight razor (100%), and electric clippers (65%) which were cited as being used with the highest frequencies (Boroughs & Thompson, 2002). The areas of the body that were most frequently depilated included

the abdomen (90%), the chest and groin (85%), and the upper legs (70%). Participants reported feeling dirty (25%), less muscular, or less presentable just before depilating, and reported some level of either moderate or situational anxiety if they were unable to depilate (55%). Generally, the findings from this study did not preclude the possibility that men were removing or reducing body hair to approximate a hairless ideal of attractiveness. This study, then, was the first step toward gathering information from men to better understand the role of body hair, and its depilation, in their overall appearance.

Together the anecdotal reports that supported an emerging hairless ideal, the burgeoning scholarship in this area (e.g., Luciano, 2001), increased media attention to the topic (i.e., Gomes, 2001; Smith, 2000; Stuever, 2000; Stein, 1999; Schuler, 2000; and Simpson, 1994, 2002), and the data that indicated that men are depilating in order to increase their attractiveness (see Boroughs & Thompson, 2002), provided a sufficient foundation to hypothesize that body image concerns are the critical underlying factor that influences depilation by men. With the absence of social norms to guide this behavior, it was expected that some other mechanism must be present in order to influence men to engage in a behavior that was hitherto not masculine.

Clearly, there was a need to confirm the numerous anecdotal accounts and preliminary data that suggested that body depilation indeed is a new and potentially important component of body image for men. Therefore, in their study into the prevalence and correlates of men's body depilation, Boroughs, Cafri, and Thompson (2005) had several objectives: (1) to estimate the prevalence of body depilation in a sample of college men, (2) to assess the characteristics of body depilation by examining the various body sites where body hair reduction and removal took place, (3) to

determine the reasons for body depilation and the methods used to reduce and remove body hair, and (4) to assess social and affective variables related to body depilation. The data collected from a sample of 118 men at a large southeastern American university resulted in an estimated prevalence of 63.6% for body depilation at one or more body sites (Boroughs et al., 2005). The most common body sites where depilation occurred included the groin (74%), chest (56%), abdomen (47%), back of the neck (37%), arm pits (33%), and upper legs (27%). The method most frequently used by men to depilate was indicated by whether the goal was to remove body hair completely or to reduce body hair (i.e., to trim the hair to leave a stubbly appearance). A regular straight razor garnered the highest frequency (71%) for the purpose of complete depilation, followed by the use of an electric razor (32%), or electric clippers (29%) which were used for trimming or body hair reduction.

These findings were buttressed by two more recent studies conducted with Australian men that aimed to investigate several dimensions of body image. Gay (Martins et al., 2008b), and heterosexual (Tiggemann et al., 2008) men were found to be dissatisfied with their body hair (preferring less), and muscularity (preferring more). For example, for the heterosexual sample, body hair was a common appearance concern for 51.6% of the men surveyed, preceded only by head hair (64.5%), and penis size (61.3%), and followed by height (48.4%; Tiggemann et al., 2008). Though differences were observed between the groups, body hair was of greater concern for gay men when compared to heterosexual men, but overall, body hair was a central concern for men's body image regardless of sexual orientation (Martins et al., 2008). Given the mounting cross-cultural evidence of an increase in the number of men who engage in this behavior,

and the physical and psychological health ramifications of it, it is important for researchers to gain a better understanding of how body depilation relates to men's pursuit of a muscular and emerging hairless body ideal (Martins et al., 2008a).

In the most recent study of men's body depilation, Boroughs (under review) examined men's self-reported body hair growth by body site using a scale developed for that study. Participants, $N = 358$, were asked to rate their level of natural body hair growth using a scale of 1 = no hair (or very little hair) to 5 = very hairy. The results indicated that the body sites with the greatest amount of self-reported hair growth included the pubic area ($M = 3.40$, $SD = 1.02$), legs ($M = 3.31$, $SD = .99$), and armpits ($M = 3.20$, $SD = .95$). With regard to the hair growth at two unique body sites for men, i.e., the back and the chest, approximately 1/3 of the participants reported having hair on their back, while 2/3 of men reported having a hairy chest. Men's body hair growth was measured so that additional analyses could be conducted to predict the likelihood of body depilation using regression models.

A logistic regression was calculated to measure the relationship between the level of body hair growth by body site and the likelihood of engaging in body depilation. Twelve body sites were entered into the equation and, of these, body hair growth at three sites were found to be significant predictors. Results revealed that men who reported greater amounts of body hair at the groin/pubic area were 70% more likely to engage in body depilation ($OR = 1.70$; 95% $CI = 1.16 - 2.49$), at the back of the neck 48% more likely to depilate ($OR = 1.50$; 95% $CI = 1.02 - 2.14$), and at the buttocks, 39% less likely to depilate ($OR = .61$; 95% $CI = .41 - .93$). These findings suggest a relationship between the natural hair growth at certain body sites, and the likelihood that men will engage in

body depilation. Other analyses were conducted in this study to better understand the relationship between body depilation and psychological health consequences such as Body Dysmorphic Disorder (BDD).

For example, the results of a Pearson correlation revealed an association between the total amount of body hair men reported and BDD symptomatology where a positive correlation, $r(358) = .26$, $p < .001$, was observed. Another analysis undertaken to gauge satisfaction with body hair assessed through an additional item included with the Body Areas Satisfaction sub-scale of the Multidimensional Body Self-Relations Questionnaire (Brown, Cash, & Mikula, 1990), revealed a negative but relatively weak statistically significant correlation (- .19) between the number of body sites that were depilated and body hair satisfaction indicating that men who were more satisfied with their body hair were less likely to engage in body depilation (Boroughs, under review).

Another goal of the study was to measure the locations and methods used by men to depilate. Of those men who engaged in body depilation at any of the body sites, the primary sites reported for depilation were the groin (92.7%), abdomen (61%), back of the neck (57.6%), and chest (56.9%). The most frequently reported methods used for reducing or removing body hair were site dependent, though a regular razor (range = 5% - 35.3%) and either an electric razor (range = 3.6% - 21.7%) or electric clippers (range = 1.4% - 20.6%) were the most common methods reported by participants. The back of the neck (34.2%), chest (27%), abdomen (27%) and groin (35.3%) were the body sites where men reported the use of a regular razor, and therefore removed hair completely (e.g., via shaving), while use of an electric razor (21.7%) or electric clippers (20.6%) was common as a hair reduction method at the groin/pubic area. Other than shaving with a razor, or

clipping with an electric clipper or electric razor, the only other methods reported by more than 1% of the sample were scissors and depilatory creams. For example, participants reported using scissors for body hair reduction at the groin/pubic area (13.6%), armpits (9.5%), or abdomen (2.5%), or depilatory creams for the chest (1.3%), buttocks (1.4%), and abdomen (1.2%) for complete body hair removal.

Study participants reported an average of approximately four years of engaging in depilation behaviors (M = 3.70, SD = 3.10), ranging from less than one year to 20 years, and body image issues were central in men's explanations for their body depilation behaviors. For example, the main reasons noted for depilation included: cleanliness (61.9%), sex appeal (57.2%), better sexual experience (29.7%), and body definition/muscularity (20.8%). A variety of injuries were reported as a result of body depilation including razor burn (35.6%), nicks to the skin (31.9%), in-grown hairs (28.9%), and cuts to the skin (24.7%). These physical injuries were consistent with previous reports (see Boroughs & Thompson, 2002; Boroughs et al., 2005).

Participants were asked if their body depilation behaviors were curtailed for certain reasons such as: (a) their relationship status, (b) during the off-season of a sport, or (c) during seasonal differences (i.e., colder weather). One hundred-fifty eight (44%) participants reported no changes in depilation behaviors over time, whereas 67 out of 360 (18.6%) said that body depilation became less important when they were *not* in a romantic relationship. Forty-seven men (13.1%) said that the climatic 'off-season' made the behavior less important and another 27 participants (7.5%) reported that the off-season of a sport made body depilation less important to them (Boroughs, under review).

This study was also the first to test a theoretical paradigm to explain body depilation amongst men. Social Comparison Theory (Festinger, 1954) was selected as a promising theoretical model to test because of empirical evidence which suggested that men look to other men for guidance on their level of body hair and because sociocultural theories in general, and SCT in particular, have shown promise in body image research (Calogero, Boroughs, & Thompson, 2007; Heinberg, 1996; Thompson & Stice, 2001). Most participants (39.2%) reported no influence by others in explaining why they began body depilation followed by, overhearing someone talking about it (22.8%), talked to someone about it (21.4%), influenced by media (18.9%), saw that others engaged in the practice (13.9%), and observed a known person doing it (11.4%). It is perhaps because over 1/3 of participants stated that they were not influenced by others to initially engage in body depilation, which is consistent with previous reports (see Boroughs et al., 2005), that it was decided to test the role of SCT in the study. The study only indirectly tested SCT as a theoretical paradigm for the genesis and maintenance of body depilation in men, but the results were promising.

An independent samples t-test performed to determine whether social comparison had occurred at a greater rate for the body depilation group when compared with the non-depilation group revealed that men who engaged in body depilation (M = 11.70, SD = 3.40) had significantly higher scores on a measure of physical appearance comparison (PACS; Thompson et al., 1991) when compared with the non-depilation group (M = 10.70, SD = 3.0), $t(353) = 2.15$, $p = .03$. Analysis of a four item scale developed for the study to assess body depilation comparison by asking men to what degree they observed that other men had depilated their body hair revealed that more than 70% of the

participants responded affirmatively to each of the four body depilation social comparison items. Mean scores indicated that men "sometimes to frequently" observe that other men depilated their body hair at the four social contexts measured, i.e., the gym, amongst friends, at school, and out in public. Data were not collected on the question of depilation social comparison from those who do not depilate, so this should be addressed in future investigations.

Further analysis of the data on sexual orientation differences found that sexual minority men reported greater levels of social comparison on each of these items with two of the comparison contexts being statistically significant. Sexual minority men reported greater levels of body depilation social comparison at school (M = 2.58, SD = 1.28), compared to heterosexual men (M = 2.19, SD = 1.10), $F(1, 298) = 4.10$, $p = .05$, and out in the general public, sexual minority men (M = 2.65, SD = 1.19), compared to heterosexual men (M = 2.25, SD = 1.10), $F(1, 298) = 4.43$, $p = .04$. Although more sexual minority men (88.6%) were included among the body depilation group when compared to heterosexual men (83%), chi-square tests indicated this was a non-significant relationship. Together these results suggest that SCT shows promise as a viable theoretical explanation for men's body depilation, but further work is clearly needed in order to provide firm support for this assertion.

Affective dimensions of body depilation were also assessed in order to better understand how they may relate to body image disturbance. Participants were asked to rate the importance of engaging in body depilation prior to social contact with others and the ratings were variable, though steady, across the three reference groups in question. Participants reported depilation prior to social contact as moderately important before

having interactions with significant others (*M* = 3.11, *SD* = 1.34), but slightly to somewhat important before being seen by the general public (*M* = 2.67, *SD* = 1.39), or friends (*M* = 2.65, *SD* = 1.26). When men were presented with a hypothetical scenario where they could not depilate, and then asked to rate their *feelings* related to the inability to depilate either in general, or after a few days, participants' average score for the item related to the general inability to depilate was (*M* = 2.58, *SD* = .84) indicating feelings of ambivalence, however, 10% of the sample rated this item as a "4" or "5" indicating "moderately to extremely bad feelings" (Boroughs, under review). The average rating was also in the midrange for the item that assessed feelings after several days of proscribed depilation (*M* = 2.64, *SD* = .80); with 1% of the sample rating this item as a "5," and 7.8% rating it as a "4." Participants were also asked to hypothetically estimate their level of anxiety if they could not depilate for a few weeks. On an average, the anxiety rating was "slightly anxious" (*M* = 1.85, *SD* = 1.09), though 9.9% of the sample rated their anxiety as moderate to extreme if they could not depilate for a few weeks. These findings together suggest that future work is needed in order to better understand how body depilation may be related to body image disturbance.

The study also examined the role of feedback from others on depilation. Although clothing usually covers many of the oft-reported body sites where depilation occurs, several participants in this study reported depilating parts of their bodies that are regularly exposed to the public (e.g., forearms or legs). Almost one-half of the participants (45.3%) reported that friends or acquaintances had noticed that they depilated and had given them direct feedback about it. Average scores indicated that the feedback was moderately positive (*M* = 3.4, *SD* = .88; ranging from 1 to 5, on a scale of 1 =

extremely negative to 5 = extremely positive). Most reported either neutral or positive feedback about their body depilation, though 11.7% reported moderate to extremely negative commentary from others. These findings suggest that further theoretical work might extend beyond SCT and also include the degree to which social norms may affect and impact body depilation by men.

A series of inferential statistical procedures were undertaken in accordance with the goals of the study. For example, Pearson correlations were computed for all of the study measures revealing that the four scaled depilation social comparison items were statistically significantly correlated with a measure of physical appearance comparison, $r(298) = .28$, $p < .001$, BDD symptomatology, $r(298) = .21$, $p < .001$, the drive for muscularity, $r(298) = .28$, $p < .001$, and gender role conflict, $r(298) = .19$, $p < .001$ (Boroughs, under review). These significant correlations, though relatively weak, suggest that men who depilate, and observe other men that do so, engaged in physical appearance social comparison at greater levels, reported greater BDD symptomatology, had an increased drive for muscularity, and experienced greater gender role conflict. Other findings reported by the author related to the study measures and body image in general revealed that symptoms of body dysmorphia in general and Body Dysmorphic Disorder more specifically, were positively associated with greater appearance comparison and negatively associated with higher evaluations individuals have of their own appearance. Further, greater levels of appearance comparison were related to a greater drive for muscularity and greater gender role conflict (Boroughs, under review). Men who depilate had a greater drive for muscularity ($M = 2.94$, $SD = .94$) than non-depilators ($M = 2.62$, $SD = .88$), $t(353) = 2.33$, $p = .02$.

Finally, a Pearson correlation was computed to measure the influence of gender-role conflict and its association with men's body depilation behaviors. This was tested by measuring the correlation between the total gender role conflict score, and number of body sites depilated. A statistically significant, though weak, positive correlation was observed, $r(207) = .16$, $p = .02$, indicating that men who engage in the depilation of a greater number of body sites had higher levels of gender role conflict, though no significant differences were observed when comparing depilators with non-depilators on gender role conflict. All told, these results are consistent with previous findings in the literature on men's (i.e., Boroughs & Thompson, 2002; Boroughs et al., 2005; Martins et al., 2008), and women's (i.e., Basow, 1991; Tiggemann & Hodgson, 2008; Tiggemann & Kenyon, 1998; Toerien, Wilkinson, & Choi, 2005) body depilation.

The results of the study also suggest some import future directions for research in this area. First, two theoretical paradigms emerged as possible models to test and explain body depilation. Social comparison theory was indirectly tested among men with promising results, and social norms theory was indicated via the empirical evidence found in the results. Body depilation comparison was correlated with a widely used measure of social comparison, and also with BDD symptomatology. Second, because BDD symptomatology has been indicated in this study as it relates to depilation and appearance comparison, new research might investigate the role of body satisfaction and body image disturbance as they relate to body depilation. Third, the drive for muscularity appears to be influential with regard to men's depilation. It is not clear if this construct would be appropriate for women, though this study revealed a weak correlation with this construct and men's depilation, and therefore further assessment is warranted with this

and other body image constructs such as the drives for leanness and thinness, the latter of which may adapt better to studies focusing on both genders. This last point is an important one. To date, none of the research in this area has sampled both genders simultaneously. So, finally, future research should endeavor to study depilation among women and men together so that comparisons can be made with regard to depilation practices including methods for hair reduction or removal, frequency, prevalence, correlates of depilation, and predictors of the behavior. Next I will review the literature on women's depilation.

Women's Body Depilation

For women, body depilation is a practice considered so normative in the United States (Basow, 1991), the United Kingdom (Toerien et al., 2005), and Australia (Tiggemann & Hodgson, 2008; Tiggemann & Kenyon, 1998), that it almost goes unremarked in casual discourse or in the research or scholarly literature. Yet several studies have examined this behavior not only to document the prevalence and associated features of women's body depilation, but also to better understand the cultural and individual level factors that support the genesis of women's depilation, and what maintains this behavior for the majority of women in western cultures.

Hope (1982) characterized the two decades that preceded World War II as being transitional years, in that it was during this time period that media, particularly advertisers, began to promote a new feminine ideal for adult women: a hairless body. Indeed, researchers have documented the emerging hairless female body in the mid-20th century as an in-kind adaptation to the evolution of women's wardrobes (Chapkis, 1986; Greer, 1970; Hope, 1982). As skirt and dress lengths retreated, and women's shoulders

gradually became exposed revealing arm pits, the modeled ideal became one of women without body hair – even though women typically had body hair at some of these hitherto covered body sites. Almost simultaneous to female models portrayals of the new "ideal" that was relatively scantily clad for the post-war era, other advertisements promoted products to help women remove hair, particularly from the "lower limbs" or legs (Hope, 1982). These changes in dress and depilation behaviors were perhaps expanded by the difficulties during the war years in obtaining silk stockings, whereby their marketed replacement (sheer nylons) would be problematic with women's naturally hairy legs (Hildebrant, 2003).

Though it is unclear as to whether women in other English speaking countries adopted this emerging new "American hairless ideal" as a result of cultural diffusion, or if there was some independent changes that occurred, what is clear is that several studies over the past 20 years have documented a cultural norm in these societies for women to remove their body hair.

For instance, Basow (1991) studied this phenomenon among women empirically and found that the majority of her American participants (80%) depilated at least occasionally, and that the behavior was attributed to either "attractiveness/femininity" or for "social/normative" reasons. In fact, the participants were purposely recruited from two professional organizations rather than from a pool of college students to nationalize the sample. The findings indicated women began depilation to conform to social norms, but maintained body depilation for attractiveness reasons (Basow, 1991). This is an important dimension of body depilation to consider in that it suggests that factors which contribute to the genesis of the behavior are different from those that maintain the

behavior. It also provides for another opportunity with which to test a theoretical model, namely that Social Norms Theory may be indicated in body depilation. Other studies have examined body depilation amongst women both quantitatively and qualitatively.

In their exploration of the depilation norm for women, Toerien and Wilkinson (2004) found that women paid a "social price" for failing to depilate their body hair. Indeed, living in a western culture such as the U.S., U.K., or Australia, means emersion in a set of social norms that provide an expectation that women will depilate their body hair. These social norms are prescribed not only by women in these cultures (Toerien & Wilkinson, 2003), but also by men (Basow & Braman, 1998; Tiggemann & Lewis, 2004); an idea that potentially foreshadows a similar mechanism for changes in the social norms for men's depilation. The normative requirement for women's bodies to be hairless is implicit in the almost ubiquitous mass media images of the depilated feminine body (Tiggemann & Kenyon, 1998; Whelehan, 2000), and is further supported by explicit admonitions following contraventions of this norm (Toerien &Wilkinson, 2003). For example, Tom Loxley, a features editor for the men's magazine *Maxim*, was quoted as criticizing a Hollywood star after she appeared at a film premiere with unshaved underarms saying, ''the only place men want to see hair is on a woman's head. Under the arms is unacceptable. From hairy armpits it is only a small step to *The Planet of the Apes*'' (Simpson, 1999; Toerien &Wilkinson, 2003).

Not surprisingly then, women attribute their body depilation behaviors in a binary way whereby they describe the hairless woman as representing the ideal of attractive, smooth, clean, and feminine while conversely the hairy woman is constructed as unattractive, stubbly, unclean, and masculine (Toerien & Wilkinson, 2004). The

extraction of the descriptor word “clean” from the qualitative work in this area, draws an interesting parallel between the work into women’s reasons for depilation (Toerien & Wilkinson, 2004), and the reasons stated for engaging in body depilation by men in several studies (Boroughs & Thompson, 2002; Boroughs et al., 2005). Perhaps as the depilation norm is extended both within and between the genders, the idea that body hair itself is “unclean” becomes an interesting notion worthy of further research attention.

Like the research conducted with men, studies have also documented the frequency, reasons for beginning and continuing, and predictors of women’s body depilation. For example, in a study that investigated body depilation among both high school girls and university women, Tiggemann and Kenyon (1998) reported that more than 90% of the women in both groups removed leg and underarm hair, most often at least weekly, and gave reasons for engaging in body depilation consistent with a previous report (see Basow, 1991). More specifically, both high school and university women cited “femininity/attractiveness” as the primary reason they maintained body depilation behaviors, but differed on their reasons for beginning depilation with femininity and attractiveness cited (in addition) as the most important reason to begin depilation in contrast to the previous findings where women attributed the genesis of their depilation to socially normative reasons (Basow, 1991; Tiggemann & Kenyon, 1998). A notable caveat to these findings is that while differences for beginning and continuing body depilation were relatively indistinguishable for high school girls, for university women by contrast, this was not the case. They had considerable differences in their reported reasons for starting and continuing body depilation with socially normative reasons being cited for the genesis of the behavior, and femininity/attractiveness more important for the

continuation of depilation (Tiggemann & Kenyon, 1998). Perhaps some developmental changes occur that have not yet been elucidated in the research whereby the maintenance of depilation behaviors change with age. The sample used by Basow (1991) was adult women assumed to have completed their tertiary education, whereas Tiggemann and Kenyon (1998) used samples from a secondary school and a university. Cultural differences between the U.S. and Australia may explain these differences. Another hypothesis that might explain the different findings is that the accuracy of women's retrospective recall of why they began the behavior may have deteriorated with time. Studies using longitudinal designs are necessary to better understand the relationship between the genesis and maintenance of body depilation in both women and men.

To address the question of age and its effect on women's body depilation, a study conducted in the U.K. found that over 99% of participants, whose ages ranged from 16 to over 70 years, reported removing some hair, most commonly from the underarms, legs, and pubic area (Toerien, Wilkinson, & Choi, 2005). That study found that significantly fewer women ages 51 years and older said that they had ever removed their leg hair (79.2%) or pubic hair (67.5%) when compared with those aged 50 and younger for their leg hair (93% - 96.9%), or public hair (83.2% - 91.3%; Toerien et al., 2005). Too few women said they had never removed underarm hair, or any body hair at all for tests of statistical significant to be conducted on the relationship between age and hair removal in general or at the underarms (Toerien et al., 2005). These initial findings, supported by decreasing frequencies by age suggest that, at least in women, that the depilation norm may be developmentally influenced.

In the latest study to examine body depilation in women, Tiggemann and Hodgson (2008) set out to investigate reasons and predictors for body hair removal at different body sites. They examined the reasons women depilated body hair at their underarms, legs, or pubic area. The results of a factor analysis revealed that the reasons stated by participants replicated previous work (e.g., Basow, 1991; Tiggemann & Kenyon, 1998) in that socially normative reasons accounted for 33.2% of the variance, followed by sexual attractiveness (10.4%), followed by a third factor labeled "femininity" which accounted for 8.1% of variance. A fourth, but less clear factor was extracted accounting for 7.1% of variance and it contained items related to self-expression, glamour, and having a soft silky feeling (on the skin). This study further supported the notion that participants have differing reasons for their body depilation dependent upon the body site in question. Thus future research should also endeavor to examine depilation by body site because of differing reason, methods, and frequencies reported in the extant literature.

For example, when referring to either underarm or pubic hair, women endorsed "feeling cleaner" most frequently as their reason for depilation, whereas for leg hair, the reasons were "soft silky feeling: followed by femininity/attractiveness. Though the prevalence of body depilation was higher for both the legs and underarms (96%), the pubic area was still a focus of depilation practices for the majority of the sample (75%).

The study also investigated predictors of body depilation including media influences. Though no predictors were identified for depilation of the underarms or legs, it was found that the frequency of pubic hair removal (and to what degree) was associated with having a partner and the reading of fashion magazines or the viewing of several

popular television programs. Comparing the outcome of this Australian study with a previous study conducted in the U.K. suggests that the prevalence of pubic hair removal may be on the rise amongst western women (see Tiggemann & Hodgson, 2008; Toerien et al., 2005). This is of great concern given that this increase in pubic hair removal, coupled with the decreasing age of young women that engage in the behavior, are together related to increased negative health consequences. Indeed for women, pubic hair has a biological purpose as a safety-net to protect the vulva from bacterial infections and thus the practice of depilation in the pubic area may carry greater health risks than are generally recognized (Tiggemann & Hodgson, 2008).

A summary of the review of the literature for depilation among men and women thus far reveals some interesting challenges as researchers move forward. First, only one study, thus far, has even attempted to test a theoretical model. That study suggested indirect support for Social Comparison Theory to explain depilation among men (Boroughs, under review). This finding, along with those found in the women's depilation literature, suggest that both Social Comparison Theory and Social Norms Theory are viable paradigms to explain depilation among both genders. Second, men and women have never been studied together so that depilation practices can be compared between the genders. Future research should study both genders together. Third, some of the findings from the men's depilation studies indicate that body image disturbance may be an important factor to measure because of the association of symptoms consistent with BDD and depilation, so this construct should be included in future investigations. Fourth, although work has been done with women on reasons for depilation (e.g., Tiggemann & Hodgson, 2008) no studies have thus far attempted to predict depilation from other

constructs associated with body image. Fifth, because findings from the women's literature suggest that differences are observed across body sites on for example, the reasons for depilation, future research should examine body sites separately. Finally, the level of natural body hair growth has not been measured in any of the previous studies despite its obvious relationship to the construct of interest (i.e., depilation), so clearly, this is a factor that warrants investigation. Next, given the outlined health risks associated with women's pubic hair removal along with the findings in the literature that implicate dysmorphia and possibly a risk for BDD among those who depilate, I will review some of the clinical implications of depilation which include both physical and psychological concerns.

Clinical Implications of Body Depilation

The potential for physical and psychological problems have been reported with relation to body depilation for both genders. As already noted, men have reported using razors as the primary instrument with which to remove their body hair (Boroughs & Thompson, 2002; Boroughs et al., 2005; Martins et al., 2008a). Shaving has also been the most frequent modus operandi for women's body depilation (Basow, 1991; Tiggemann & Kenyon, 1998; Tiggemann & Hodgson, 2008; Toerien et al., 2005). A variety of injuries have been reported as a result of body depilation including razor burn, nicks and cuts to the skin, and in-grown hairs. Related to the latter of these injuries are the epidemiological studies that have identified clustered outbreaks of treatment resistant Staphylococcus Infections in athletes both in college (Begier et al., 2004), and professional sports (Miller et al., 2007). These infections are directly associated with body depilation and subsequent "turf burns" or the use of towels or whirlpools that athletes share in the course

of their practice and/or games (Begier et al., 2004; Miller et al., 2007). Body depilation also enhances the risk of contracting or transmitting the herpes simplex or human papilloma viruses in both men and women (Porche, 2007; Trager, 2006). Studies have suggested that shaving body hair leaves the skin more susceptible to these diseases because of skin irritation, nicks or cuts, abrasions, and folliculitis. They also suggest that healthcare providers should assess men for body depilation and provide education about the risks of infection (Porche, 2007). Since the prevalence of men's depilation appears to be on the rise, further efforts to increase the awareness of not only the physical health risks, but also psychological concerns may be indicated.

In addition to these physical injuries, symptoms associated with BDD may be of concern for some men who engage in body depilation. It is unclear at this time as to whether these concerns also extend to women. Currently, none of the studies that have examined women's body depilation have measured either physical injuries or psychological concerns that are thought to be associated with the behavior. In their study of college men, Boroughs et al. (2005) reported that 16% of their participants said that it would disturb them if they were hypothetically unable to depilate their body, and an additional 18% rated their anxiety to be in the moderate to extreme range when asked how they would feel if they could not depilate for a few weeks. These findings indicate that, for at least a subset of men, body depilation is critical in maintaining positive feelings and lowering anxiety about their body image and overall appearance (Boroughs et al., 2005; McCreary, Hildebrandt, Heinberg, Boroughs, & Thompson, 2007). These concerns were buttressed by studies that investigated multiple dimensions of men's body image, where men were found to be dissatisfied with their body hair (preferring less), and

muscularity (preferring more). Body hair was found to be a central concern for men's body image regardless of sexual orientation (Martins et al., 2008b; Tiggemann et al., 2008).

A recent study by Boroughs (under review) found that body depilation by men was not directly associated with BDD per se, however, psychological health implications were measured along with physical injuries that men sustained as a result of their depilation. Participants that engage in greater levels of depilation social comparison were found to have greater levels of BDD symptomatology and a positive correlation was observed between the amount of body hair growth and BDD symptomatology. Further, men who were satisfied with their body hair were statistically less likely to depilate.

Together these findings suggest that for men, perhaps body depilation is not a fad related to media ideals, but instead a method that they are able to readily and easily utilize to address some dissatisfaction with their body image. These findings also suggest that while depilation might not be directly associated with a psychiatric diagnosis such as BDD, that it is clearly implicated with some degree of body image disturbance for some men who depilate. Further studies will be needed to examine whether men's continuation of the behavior is associated with maintaining an attractive appearance, in light of the literature into women's body depilation where studies have shown that women continue with depilation in order to maintain a feminine and attractive appearance (Basow, 1991; Tiggemann & Kenyon, 1998; Tiggemann & Hodgson, 2008; Toerien et al., 2005).

Despite the potential risks for physical injury or psychological concerns associated with body depilation, the behavior is highly prevalent in western cultures among women (Basow, 1991; Tiggemann & Hodgson, 2008; Tiggemann & Kenyon,

1998; Toerien et al., 2004) and men (Boroughs & Thompson, 2002; Boroughs et al., 2005; Martins et al., 2008a). There are clearly some benefits which must outweigh the risks with regard to hair reduction or removal. In addition to further theoretical work, which is sorely needed in this area, there is a body of scholarship that has examined preferences for the appearance of hair on the human body found in the psychological and biological literature. Next I will review that literature followed by an introduction of the theoretical models thought to be most promising to advance our understanding of body depilation among both genders.

Body Hair Preferences and the Hairless Norm

Over a decade ago, Basow and Braman (1998) examined the attitudes of college students of both genders in order to identify their cultural reactions to women who did not remove their body hair. Both men and women made negative attributions toward women who did not depilate. Although men's body depilation was not evaluated in the study, nevertheless, this study was seminal in gauging negative reactions to women's violation of the western cultural and social norm that they engage in depilation and maintain a hairless appearance. In another study measuring disgust sensitivity, Tiggemann and Lewis (2004) found that for women, but not men, that body hair elicited disgust responses from participants of both genders. Women reported that their own body depilation was attributed to femininity and attractiveness reasons while they attributed the depilation behaviors of other women as conformity to social norms. These results suggest that those that engage in depilation may ascribe different reasons for their behavior from those they ascribe to like others that engage in the very same behavior. The men who participated in the study also attributed women's body depilation to

conformity with social norms. Elements of both social comparison and social norms theories are supported by the results of these studies.

Several researchers have characterized body depilation as "normative" for women in western and industrialized cultures (see Basow, 1991; Tiggemann & Kenyon, 1998; Tiggemann & Hodgson, 2008; Toerien & Wilkinson, 2003, 2004; Toerien et al., 2005). Perhaps the assumption of normative engagement in depilation for women, suggestive that the hairless norm is feminine, explains why so few studies have focused on this topic, and even fewer have examined the phenomenon among men. Few studies have investigated the attitudes of men, or other women, on women's body hair removal practices though the extant evidence suggests that both women and men believe that women should engage in body depilation (Basow & Braman, 1998; Tiggemann & Lewis, 2004). Attitudes about the appearance of hair on men's bodies are also understudied though the extant evidence is rather contradictory with regard to the topic of women's preferences for hair on men's bodies as demonstrated through several cross-cultural works. It should be noted that all of these investigations have focused only on cross-sex expectations for a hairless appearance excluding sexual minorities.

For example, in her exposé on *Male beauty work in Japan*, Miller (2003) reported that the cultural paradigm for men in that country is to have smooth, civilized bodies, and that the removal of their body hair is not only culturally acceptable, but "mandated by women." For many centuries, the Japanese have held hairy bodies in some disfavor (Dikötter, 1998; Miller, 2003). In earlier times, hairiness was exemplary of the uncivilized barbarian, as illustrated by the pejorative label in the Japanese language for a white person, "keto", literally "hairy Chinese." In both China (Dikötter, 1998), and

Japan, excessive body hair on men came to symbolically represent ethnic or racial boundaries between the in-group and the out-group. For the Japanese, a hirsute man's body might represent an outsider, foreigner, or else the domestic 'other', such as the Ainu or Okinawan (Miller, 2003).

Indeed, critics note that attitudes towards body hair on men have undergone dramatic changes since the postwar period in Japan and some of these attitudes have been empirically demonstrated in other Asian countries (Across, 1989). In biological studies undertaken to investigate women's preferences for body hair on men, researchers found that Chinese women preferred male torsos without body hair (Dixson, Dixson, Baoguo, & Anderson, 2007). Using frontal mesomorphic silhouette figures (e.g., Sheldon, 1954), this study presented five frontal men's figures varying only in the amount of trunk (chest and abdominal) hair, and found that Chinese women rated the figure lacking any trunk hair as the most attractive, and that there was a progressive decline in the attractiveness ratings as the level of hair increased among the silhouette figures while controlling for all other body shape variables. The findings reported from the Chinese sample are contrasted by research into the same topic conducted with a sample of women in the United Kingdom.

British women rated both endomorphic and mesomorphic male body silhouette figures as more attractive when they contained visible body hair on the chest and abdomen (Dixson, Halliwell, East, Wignarajah, & Anderson, 2003), while in another study conducted with women in central Africa, Bakossi women showed only a small preference for one of the five front-posed mesomorphic figures incorporating varying degrees of trunk hair further obfuscating the conceptualization of women's preferences

for body hair on men. The summative results of these studies suggest that culture and socialization may play a great role in influencing women's preferences on this appearance-related issue. They also suggest that social norms may play a greater role in depilation practices than has thus far been acknowledged. The figure lacking body hair was rated least attractive by Bakossi women on average, but only marginally so, and the figure rated most attractive was the second from the most hirsute leaving the only reported statistically significant finding being the average difference between the hairless figure and second from the most hirsute male silhouette (Dixson, Dixson, Morgan, & Anderson, 2007). Apparently somewhat frustrated by these inconsistent findings cross-culturally, the investigators who conducted these studies stated that:

> At present, we do not know how typical the occurrence of masculine chest and abdominal hair is as a secondary sexual characteristic in the Bakossi population (or other populations, e.g., the Chinese), although our impression is that many men lack trunk hair suggesting that studies are indicated to measure differential body hair growth on men cross-ethnically. (p. 373)

Clearly an essential improvement to body depilation research should include measurement of natural body hair growth as this area of scholarly inquiry moves forward.

Another recent study examined the preference for men's body hair changes across women's menstrual cycle, and menopause. This study also measured the association of paternal level of hirsuteness with women's adult mate selection hirsuteness levels. Using a Finnish sample, the authors found that women's preferences correlated strongly with the hairiness of their current partner, that they preferred men with less body hair when fertility was highest, and that menopause was a factor affecting women's preferences for

men's body hair, with postmenopausal women having stronger preferences than premenopausal women (Rantala, Pölkki, & Rantala, 2010). The hairiness of the participants fathers was correlated moderately (r = .37) with that of their current mates. These findings suggest that cultural ideals of male beauty may trump what has traditionally been seen as a symbol of masculinity, namely, hirsuteness (Rantala et al., 2010). They also demonstrate a rather complex set of interactions consistent with a need for biopsychosocial approaches in future investigations in this area of research.

The empirical evidence, thus far, has been inconclusive on whether body hair on men is considered unattractive (Dixson et al., 2007), preferable (Dixson et al., 2003), or not related to men's masculine selves (Lewis, 1987). Some men are more naturally smooth, while others accomplish the burgeoning "hairless norm" by engaging in body depilation. One shortcoming of these biological studies is that they only investigated women's attitudes toward the presence of body hair on men, but they failed to examine men's preferences for hair on their own bodies (Dixson et al., 2003). Conversely the study by Lewis (1987) examined men's feelings about the natural presence or absence of body hair and its relationship to their masculinity, but did not measure this in others, nor was body depilation a consideration in that investigation. This suggests that along with satisfaction with overall body image and body areas satisfaction, that items or scales should be developed to measure satisfaction with one's own body hair.

Another challenge with the Dixson et al. (2003, 2007, 2007) series of studies was that all body sites, capable of hair growth, were not examined independently so that excessive body hair, and/or hair at certain body sites where it may be considered unappealing, were not evaluated. These body hair preference studies have been

conducted with British, African-Bakossi, Chinese, and Japanese cultures, though it remains unclear if there are cultural influences, biological differences, or a combination of both that affect the outcomes reported in these studies. Finally, the studies have with few exceptions, lacked psychological components known to play a role in, or at least are likely to influence, these preferences such as appearance comparison, appearance evaluation and body areas satisfaction, the drives for thinness, leanness, and muscularity, as well as social norms, and social comparison behaviors.

These inconclusive findings suggest a need for a better understanding of this area of body image research, with women and men included together in a simultaneous assessment, and with the inclusion of data collected from racial/ethnic and sexual minorities. Despite divergent socio-historical and cultural traditions that span societies across the globe, men's body hair issues are firmly rooted in the cultural landscape in both the East (Across, 1989; Dikötter, 1998; Miller, 2003) and West (Lewis, 1987; Luciano, 2001), and women's preferences regarding not just their own body hair, but the appearance of hair on men's bodies, though perhaps muted in the patriarchal past, are beginning to come to light as researchers have begun to give them a voice (e.g., Dixson et al., 2003; Dixson et al., 2007; Dixson et al., 2007).

The confluence of findings from studies into men's body depilation, women's body depilation, and preferences for body hair on women or men suggest that two theoretical paradigms stand out as likely foundations to explain body depilation. In a study into men's body depilation, Boroughs (under review) found that depilation comparison was associated with overall appearance comparison. In several studies of women's body depilation, socially normative reasons have emerged as central to the

continuation and maintenance of the behavior among women (see Basow, 1991; Tiggemann & Kenyon, 1998; Tiggemann & Hodgson, 2008).

Regardless of the implicit or explicit preferences for the hairless norm by others including media, friends, family, and other social contacts that are likely to influence body depilation behaviors, research with men suggests that many report no influence by others in explaining why they began body depilation. Some 88.4% report some influence by others through some type of direct observation or an explicit conversation (Boroughs, under review). Together these results suggest that both Social Comparison Theory and Social Norms Theory are both promising and appropriate theoretical paradigms that ought to be tested in conjunction with body depilation by both genders.

Theoretical Models

Two theoretical paradigms are proposed for examination to predict and explain body depilation: *Social Comparison Theory* (SCT; Festinger, 1954) captures the idea that people tend to compare themselves to others in an effort to assess how they are doing at some task such as academic achievement, occupational success, or achieving an ideal body shape (Fiske, 2004). *Social Norms Theory* (SNT; Coleman, 1990; Elster, 1989a) suggests that people engage in a variety of behaviors based on their perception of culturally relative social norms. In the context of body image research, the use of social comparison may serve as a framework to explain why people look to "like" others (i.e., others similar to themselves) to gauge how they look. This theoretical paradigm may aid in a better understanding of the motives for the initiation and maintenance of body depilation in men. Conversely, social norms may prove to be a useful model to explain why women begin and continue with depilation now after over 50 years since advertisers

began pressing for a hairless norm among women (Hope, 1982). Young women need not look any further than their families of origin, most times, in order to see depilated adult female bodies.

In general, SCT serves two functions, (1) to understand those individuals directly observable in the immediate environment, and (2) to motivate behavior through some change mechanism, e.g., such as engaging in body change behaviors via working out or depilating. A key tenet of the theory is that people compare themselves with 'similar' others. For example, men who depilate would be expected to socially compare themselves to "like" other men. Similar others in the context of body depilation could be operationally defined as: (a) other college students that participants observe in their classes, (b) other students observed around a college campus, or (c) similar others such as others observed at a gym or another exercise venue.

Adaptation of SCT as a theoretical paradigm with which to research body depilation has been tested with some success and the model has been widely cited in the general body image literature to explain a myriad of observable constructs of interest (Boroughs, revise & resubmit). While considered to be a more stable theoretical model for women, the results of the application of SCT with more general body image outcomes for men has thus far been mixed (see Halliwell, Dittmar, & Orsborn, 2007; van den Berg, Paxton, Keery, Wall, Guo, & Neumark-Sztainer, 2007; Dittmar, 2005; Hospers & Jansen, 2005; Miller & Halberstadt, 2005; Franzoi & Klaiber, 2007; and Heinberg & Thompson, 1992). For example, in their study of adolescent boys, Morrison, Kalin and Morrison (2004) found fairly strong support for SCT in explaining young men's engagement in universalistic social comparison to predict appearance self-esteem, number of diets to

gain weight, use of pathogenic weight control practices, and use of steroids to increase muscle mass. Because the study measured "universalistic social comparison", that is young men comparing themselves to celebrities, sports stars, or other media figures, it failed to take into account the hallmark of Festinger's original SCT, namely comparison of the self to "like" others. What may greatly influence body depilation is a comparison of the self to "like" others such as friends, classmates, or gym mates, though universalistic social comparison might also be a fruitful avenue of investigation and likely occurs concurrently. The analyses conducted by Morrison et al. (2004) indicated that universalistic social comparison was a significant predictor on several criterion measures for young men and the authors found that this type of social comparison had a fairly powerful effect on appearance self-esteem among those studied.

This brings about an important consideration for the use of social comparison as a theoretical framework for men, specifically as it is applied to the context of body image research. Some men may believe that the acknowledgment of comparisons of their physical appearance to actors/models, sports figures, or even "like others" contravenes the traditional sex-role cultural expectation that men should be relatively unconcerned about their physical appearance (Gettelman & Thompson, 1993; Morrison, Kalin, & Morrison, 2004). Indeed men in American culture may refrain from more open assessments of the attractiveness of other men because of the fear of being labeled as gay. Men may therefore be resistant to admitting to social comparison of their appearance with other men explicitly, though the use of SCT as a framework might explain why men choose to engage in body depilation regardless of the reasons they cite for engaging in the behavior. Evidence that supports this concern comes from a previous study of body

depilation where researchers found that 40% of men studied said they were not influenced whatsoever by others or that they began body depilation on their own accord (Boroughs et al., 2005). Therefore, caution must be used when selecting appropriate items or instruments to collect these data from men, and thus the development of items to tap into depilation social comparison should be carefully piloted to examine men's response patterns to the items.

Though the trend of body hair reduction and removal is relatively recent for men, it is quite possible that men are comparing their bodies to those they perceive as better than themselves, e.g., school athletes, gym-mates, classmates, or similar others as viewed in pornography, and that this upward comparison to "real" others (classmates or gym-mates) along with ideal others (professional athletes, actors, porn stars, other celebrities) may serve to not only facilitate initiation of body depilation, but may also serve to reinforce and maintain the behavior over time (Hobza, Walker, Yakushko, & Peugh, 2007). Although comparison with other men on the level of visible body hair or hairless appearance may be new, clearly much research has been conducted over the past two decades into understanding the body image concerns of men. Indeed, the burgeoning level of research into men's overall body image concerns provides a foundation for more specific concerns such as a drive for a hairless norm achieved through depilation.

Considering the previous work which suggested that women begin body depilation as a result of social norms (Basow, 1991; Tiggemann & Kenyon, 1998; Tiggemann & Hodgson, 2008), and that men also acknowledge the genesis of their body depilation occurred with an awareness that other "like" men also engage in the behavior, i.e., implicitly suggestive of indirect social comparison (Boroughs, under review),

theoretical explanations for this phenomenon among both genders is sorely needed. Though initial support has been reported for SCT as a viable theoretical explanation for body depilation in men, no research to date has looked at the role of direct social comparison in the vast majority of women in western cultures who engage in body depilation. Likewise, while much of the previous work into women's attributions for their depilation has extracted "social norms", none of these studies have measured or tested SNT.

Adaptation of SNT has not been done in the context of body depilation research, but the model has been used more broadly in the body image literature. For example, researchers have looked at the role of social norms among racial/ethnic subcultures within the United States in order to predict risk for obesity (Kemper, Sargent, Drane, Valois, & Hussey, 1994). The model has also been tested with regard to body shape ideals derived from magazines (Cusumano & Thomspon, 1997), among heterosexual and sexual minority women (Bergeron & Senn, 2006), and with regard to dieting (Eisenberg, Neumark-Sztainer, Story & Perry, 2005). The consensus from these studies in the area of body image is that social norms, particularly from the immediate peer group, but also from more macro-level agents of socialization, are influential in the body change behaviors that were measured.

More broadly, SNT involves standards of behavior that are based on widely shared beliefs on how individual members of a group should behave, or appear, in a given situation (Ellickson, 2001; Elster, 1989a; Fehr & Fischbacher, 2004; Horne, 2001; Voss, 2001). Social norms prevail through a variety of norm reference groups ranging from the more macro to more micro social levels. This may include a whole society, an

organization, a peer group, or family. While social norms are often followed voluntarily, sometimes violation of these norms are punished (Elster, 1989b; Fehr & Fischbacher, 2004). Punishment is not necessarily direct and may be in the form of shunning or rumors, as may be the case with a violation of the depilation norm. SNT has been used across a wide variety of disciplines including the psychological sciences, sociology, economics and public health, and intervention and prevention strategies have been developed based on the theory to combat drug and alcohol abuse, smoking, risky sexual behaviors, bullying, and sexual assault (Berkowitz, 2004). For this study, items were created to assess to what extent social norms not only spur, but also guide individuals with regard to their depilation behaviors (Schultz, Nolan, Cialdini, Goldstein, & Griskevicius, 2007).

Limitations of the Current Literature

Numerous limitations were observed through a careful inspection and review of the literature. First, none of the past studies have examined depilation among both genders simultaneously which rendered comparisons impossible. Previous work has not examined and compared body hair reduction with body hair removal among both genders. Though the drive for muscularity was found to be influential with regard to men's depilation, this and other body image constructs such as the drives for leanness and thinness should be explored with women and men. Only one previous study (i.e., Tiggemann & Hodgson, 2008) has attempted to predict depilation, but that study did not measure constructs typically associated with body image to make the predictions. In addition, previous studies have generally demonstrated that there were differences found across body sites explaining the reasons for depilation, and yet though the frequency of

depilation has been examined by site among the women's studies, other features of depilation have not been examined by body site. Likewise, the extant research into the body hair preferences suggested that the level of natural body hair growth was an important construct of interest though studies have not measured the natural presence or absence of hair at various body sites.

Because BDD symptomatology was identified as an important construct in a past study of men's body depilation, a less non-pathological category, such as body image disturbance (BID), should be investigated because BID is likely a critical construct of interest, particularly considering the relationship between it, and body satisfaction. Appearance comparison has been implicated as a construct of interest in previous studies, but it is unclear as to whether overall appearance comparison or if more specific body site comparisons relate to depilation behaviors. Finally, though at least two theoretical paradigms have emerged as possible models with which to predict and explain body depilation, thus far, only SCT has been tested indirectly among men.

The Current Study

The goals of this study were to measure body hair growth and body depilation behaviors among a large non-clinical sample of women and men. The features of depilation were compared across gender as were the predictors of depilation. Women and men were assessed for natural body hair growth, and their self-reported hair growth and depilation were assessed across twelve individual body sites. Two theoretical paradigms, i.e., Social Comparison Theory and Social Norms Theory were examined to test how they were related to body depilation and how they related to other established measures of appearance comparison. Three scales were developed for this study, one to

measure natural body hair growth, and two others to test the previously outlined theoretical models, i.e., SCT, and SNT. Psychometric testing was conducted in order to evaluate the measures that were developed for this study.

Several key and important body image constructs were assessed including appearance evaluation, body areas satisfaction, and the drives for leanness, thinness, and muscularity so that the predictive relationship of these drives with body depilation could be examined. Finally, the sample was assessed on levels of BID and symptoms consistent with a diagnosis of BDD. The associated features of these disorders such as self-esteem and measures of overall body satisfaction and self-reported body hair growth were tested to examine how they affected BID and differed among demographic groups.

Hypotheses

The following hypotheses are offered. This list is followed by a list of research questions that were generated from the empirical findings published thus far, but where an outcome cannot be predicted given the extant literature.

Hypothesis 1: It is hypothesized that men will report a greater level of hair present at all measured body sites than women; these differences will be most evident among the three body sites that are shared by both genders for the development of body hair post-puberty, i.e., the armpits, pubic area, and legs.

Hypothesis 2: In consideration of the literature, which suggests that women strive for a hairless ideal, it is hypothesized that gender differences will be observed on the affective dimensions of depilation: women will report greater importance toward attending to depilation before social interaction with others, greater negative affect if they

are unable to depilate, and greater anxiety if they are unable to depilate for some period of time when compared to men.

Hypothesis 3: Given the extant literature, it is hypothesized that the prevalence of body depilation will be higher for women than men, and that when comparing the genders on the three shared body sites known to have natural hair growth (i.e., the armpits, pubic area, and legs) it is believed that men will reduce body hair rather than remove it at these areas at significantly higher rates than women.

Hypothesis 4: Considering the previous hypothesis which suggests that women are more likely to engage in depilation methods that involve complete hair removal rather than hair reduction, it is hypothesized that women will report a higher number of injuries when compared to men as a result of their complete removal of hair and the risks associated with complete hair removal outlined in the clinical implications of depilation section.

Hypothesis 5: It is hypothesized that men who report greater hirsuteness at their two unique sites (i.e., chest and back) will report less overall satisfaction with their body hair.

Hypothesis 6: It is hypothesized that the two scales developed for this study: the BDAC, which was designed to measure body depilation comparison, and the SN, which was developed to measure the degree to which participants agree with and endorse statements relating to a burgeoning hairless norm, will correlate significantly with the two extant scales being used in this study to measure appearance comparison, i.e., the Physical Appearance Comparison Scale (PACS; Thompson, Heinberg, & Tantleff, 1991), and the Body Comparison Scale (BCS; Fisher, Dunn, & Thompson, 2002).

Hypothesis 7: In consideration of the previous literature on differences found between women and men on measures of body satisfaction, BID and symptoms of BDD, it is hypothesized that women will have higher levels of BID/BDD symptomatology when compared to men while controlling for age, BMI, and body hair growth; this suggests a main effect for gender.

Hypothesis 8: Considering the previous literature on differences found between racial/ethnic groups on body satisfaction and symptoms of BID/BDD, it is hypothesized that African Americans will have the lowest levels of BID/BDD symptomatology compared to the other racial/ethnic groups measured while controlling for age, BMI, and body hair growth; this suggests a main effect for race/ethnicity.

Hypothesis 9: Based on the recent literature indicating body dissatisfaction among sexual minorities and a recently published article (Boroughs, Krawczyk, & Thompson, 2010) on differences found between gender and sexual orientation groups on BDD symptomatology, it is hypothesized that sexual minority women will report higher levels of BID/BDD symptomatology when compared to heterosexual women and sexual minority and heterosexual men.

These hypotheses are considered in addition to a set of exploratory research questions which are outlined as follows:

Exploratory Research Questions

A. What are the depilation practices across 12 body sites (inclusive of reasons for depilation, method, frequency and injuries that may have occurred) and how might gender affect these practices?

B. How might gender role, and other constructs thought to be associated with body hair reduction and removal, differentially impact the genders with regard to depilation frequency?

C. Is appearance comparison a predictive factor in body depilation? This relationship will be tested through regressing factors onto depilation frequency by gender.

D. How might other well validated and widely used dimensions of body image, such as appearance evaluation, body areas satisfaction, and drives for leanness, thinness, and muscularity be associated with body depilation and body image disturbance? This will be tested using separate models for women and men. Selected body sites will be paired with appropriate predictors.

E. How are all the study variables related to one another and are there important observable differences to be found between the genders?

F. Are the correlates of body depilation predictive of BID and BDD symptomatology?

G. If appearance comparison influences body depilation across gender, are these comparisons only with "like" others, or is universalistic social comparison also an issue?

Method

Participants

The study assessed a sample of 600 participants from a large southeastern American university. The age ranged from 18 to 54 (M = 21.60, SD = 4.61) with a modal age of 19 years, which accounted for 22.2% of the total sample. Approximately 89% of the sample was age 25 or below. It should be noted that this age range is fairly large given the source of the sample. There were a total of 32 participants over the age of 30. All analyses were conducted two times; first including all participants and then excluding all participants over the age of 30. No significant differences were found between these groups; therefore, all analyses included participants over and under the age of 30. More women, N = 343 (57.2%) participated than men, N = 257 (42.8%). The majority of the sample was single (73.7%) and identified themselves as exclusively heterosexual (83.2%). Caucasian Americans were the largest reported ethnicity (61.3%), followed by Latinos/as (16 %), African Americans (12.7%), Asian Americans (8%), Arab Americans (1.0%), and Native Americans (0.3%). A small percentage of the sample did not report any racial/ethnic identity (0.7%).

A total of 38 sexual minority men (6.3%) and 63 sexual minority women (10.5%) participated in the study. Sexual minorities compose a group whose sexual identity, orientation, attractions, or behaviors differ from the majority of the surrounding culture or society (Ullerstam, 1966). Participants were categorized into either the sexual minority or sexual majority (i.e., heterosexual) groups based on their responses to four continuously

scaled human sexuality questions where ratings were elicited having to do with Sexual Attraction, Sexual Behavior, Sexual Fantasy, and Sexual Orientation (Identity). See the "Measures" section for further details on these categorizations.

Procedure

Data were collected via a secure internet-based system that was developed to screen eligible participants (e.g., those falling within IRB-related restrictions such as participants ages 18-64) and remunerate them with extra credit points for their research participation. Participants voluntarily elect to enroll in the system at the beginning of each of the two semesters during which data were collected. The study was listed as "The Body Image Study II" so that the name of the study did not prime participants as to the nature of the questions that would be asked of them.

Once participants were "screened-in" as eligible to participate in the study, they were given informed consent and were then able to complete the measures from any computer where internet access is available. Participants were able to exit their browser without seeing any of the measures if they decided to do so after reading over the Informed Consent. Participants were also able to withdraw from the study, without penalty, at any time during the course of their participation by simply exiting their browser.

The system prohibited participation in the study more than one time and although participants were not paid for their participation, they were awarded extra credit to use toward an eligible course. Because students sometimes change their sign-on credentials from semester to semester, duplicate cases were identified using demographic information and unique anonymous identifiers assigned during their participation. These

cases were removed before analyses were conducted. The study was reviewed and approved by the USF Institutional Review Board. Responses were confidential, and a separate data file listed participants who were to receive extra credit points. Participants were provided with a debriefing at the end of the study.

Measures

Sexual Orientation.

Measurement of Sexual Orientation. Sexual minorities compose a group whose sexual identity, orientation, attractions, or behaviors differ from the majority of the surrounding culture or society (Ullerstam, 1966). For this study, the term sexual minority was operationalized as gay or bisexual men or women. A set of scaled items were used to categorize the participants. Four human sexuality questions were asked of all participants to elicit ratings on a 5-point scale having to do with sexual attraction, behavior, fantasy, and orientation (identity) with 1 = exclusive same-sex interest to 5 = exclusive cross-sex interest. Participants answering "5" for all items, or "4" for the items on sexual attraction and fantasy, and "5" on the items of assessing sexual behavior and orientation were categorized as "heterosexual" while all other response combinations were categorized as sexual minorities (see Epstein, 2007, 2009; Moradi, Mohr, Worthington, & Fassinger, 2009; Worthington & Reynolds, 2009) (see Appendix I-A).

Body Depilation.

Body Depilation Questionnaire (BoDeQ; Boroughs, Cafri, & Thompson, 2005). This 9-item measure was used to measure descriptive information about the body depilation habits of women and men including aspects of mood and anxiety associated with hypothetical limitations being put on their ability to depilate. There are two item

clusters with acceptable Cronbach's Alpha consistent with a previous report by the authors (Boroughs, under-review). The items assessing the importance of depilation before being seen by others, α= .82 (items 4 a, b, and c); and the items assessing feelings about the time when participants have not depilated, α= .85 (items 5 a, and b). This scale was modified from its previous iteration for use with this research project.

For example, the focus of the descriptive questions has been modified to examine reasons for depilation, method, frequency and injuries as a result depilation for each of 12 distinct body sites rather than the overall body. In addition, items were added to the original BoDeQ so that participants were asked to report their body hair growth at 12 sites, with 0 = no hair (or very little hair) to 5 = very hairy. Items were also added to assess to what degree participants thought that their natural hair growth was average, or below or above that of their peers, and also whether they currently depilation, used to in the past, or never have depilated. The revised Body Depilation Questionnaire is presented in Appendix I-B (see p. 52 for a more complete description of this measure).

Appearance Comparison.

Physical Appearance Comparison Scale (PACS; Thompson, Heinberg, & Tantleff, 1991). The five-item PACS was used to measure the tendency of people to make personal physical appearance-related comparisons with others in various social situations. Participants indicated on a scale from 1 to 5 (1 = never, 5 = always) the frequency with which they carried out specific physical comparisons with others (e.g., "In social situations, I sometimes compare my figure to the figure of other people"). With the author's permission, two of the items from the scale (items 2, and 5) were modified

for use with men whereby the word "figure" was replaced with the phrase "body shape" each time it appeared to adjust to a more comfortable linguistic syntax for men.

A total score was computed for this scale. The initial observed alpha for this sample was .68, though one of the items, which is the only reverse-coded item on the scale (item 4), had a negative correlation with the item total. This item was deleted from further analyses resulting in an observed Cronbach's alpha of .82. The validity of this scale has been widely evaluated and supported with many diverse samples including women, men, those with an eating disorder diagnosis, and those without any psychiatric diagnosis (see Myers & Crowther, 2009) (see Appendix I-C).

Body Comparison Scale (BCS; Fisher, Dunn, & Thompson, 2002). The 20-item BCS consists of a listing of 20 body sites (e.g., hair, waist, cheeks) and five items composed of more general ratings of somatic features (e.g., muscle tone of the lower body, overall shape of the upper body, etc.). Participants are asked to complete a scale based on the question, "how often do you compare these aspects of your body to those of other individuals of the same sex." A five-point rating scale (i.e., 1 = never to 5 = always) was used for all items. The observed Cronbach's alpha for this scale was .95 (see Appendix I-D).

Body Image.

Multidimensional Body Self-Relations Questionnaire (MBSRQ; Brown, Cash, & Mikula, 1990). The MBSRQ is widely used in body image research and has adequate psychometric properties with various samples (Brown et al., 1990). Two subscales were selected for use from this measure including the Appearance Evaluation Scale (AES), and the Body Areas Satisfaction Scale (BASS). These subscales were

selected because of their good psychometric properties and because of their brevity and usefulness in measuring the construct of body dissatisfaction. The AES is a 7- item subscale that rates feelings of physical attractiveness or unattractiveness and satisfaction with one's overall looks or appearance. Questions are answered using a 5-point Likert scale from 1 = definitely disagree to 5 = definitely agree (e.g., "I like my looks just the way they are"). The Body Areas Satisfaction Scale (BASS) is a 9-item subscale that asks participants for satisfaction ratings for specific body sites and parameters. Questions about satisfaction with a variety of body sites are answered using a 5-point scale from 1 = very dissatisfied to 5 = very satisfied (e.g., "the lower torso [buttocks, hips, thighs, legs]"). One item was added to this subscale with the author's permission; participants were asked to "rate their satisfaction with their body hair, including the amount, locations, and coarseness" because individuals with BID and greater BDD symptomatology have been found to be concerned with the appearance of their body hair (see Perugi et al., 1997; Phillips, Menard, & Fay, 2006; Tiggemann, Martins, & Churchett, 2008). Both subscales provide mean scores, and the observed Cronbach's alpha for the sample was .91 on the AES, and .86 on the BASS. (The alpha for the BASS was the same regardless of whether the original 9-items or the added 10th item is reported). A wide range of studies support the validity of the scales of the MBSRQ (Thompson & van den Berg, 2002) (see Appendix I-E).

Drive for Leanness Scale (DLS; Smolak & Murnen, 2008). The Drive for Leanness Scale consists of 6 items that focus on the preference for lean, well-toned bodies. The questions are scored on a 6-point scale, ranging from 6 = never to 1 = always. All items are reverse scored and higher scores indicate a greater investment in

leanness or a lean body appearance. An example of an item is, “People with well-toned muscles look good in clothes.” Though the DLS is a relatively new scale, the authors reported a Cronbach’s alpha of .82 for the scale overall which reflects α= .83 for women’s scores, and α= .79 for men’s scores. A psychometric validation of the scale supports its use with both genders (Smolak & Murnen, 2008). The DLS correlates moderately with other dimensions of body image, e.g., measured through the EDI-DT (drive for thinness) and the DMS (drive for muscularity). The Crobach’s alpha observed with this sample was .89 (see Appendix I-F).

Eating Disorders Inventory-Drive for Thinness (EDI-DT; Garner, 2004). This is a well-validated, frequently used sub-scale of the Eating Disorders Inventory. The scale has seven items that focus on the desire to be thin and lose weight, restricting tendencies, and the fear of even trivial weight gains. An example of an item is, “I feel extremely guilty after overeating.” The items are answered using a six-point response scale ranging from 1 = always to 6 = never with all items reverse scored. Higher scores indicate a greater drive for thinness. The observed Cronbach’s alpha with this sample was .82 (see Appendix I-G).

Drive for Muscularity Scale (DMS; McCreary & Sasse, 2000). This 15-item scale is designed to assess attitudes toward muscularity. The scale has been psychometrically validated for use with women and men. An example item is, “I feel guilty if I miss a weight training session.” The authors caution that one item, which is related to steroid use, may need to be dropped because sometimes the responses to this item are poorly distributed; that was not the case with this sample, and so all 15-items were retained. Items are rated on a 6-point scale ranging from 1 = always to 6 = never

and all items are reverse scored. Higher scores indicate a greater drive for muscularity. The observed Cronbach's alpha was .92 (see Appendix I-H).

Body Image Disturbance/Body Dysmorphic Disorder.

Body Image Disturbance Questionnaire (BIDQ; Cash, Phillips, Santos, & Hrabosky, 2004). This 7-item self-administered questionnaire was used to measure body image disturbance, up to and including a probable diagnosis of Body Dysmorphic Disorder. Derived from the BDD-Q (Phillips, 1996) which hitherto has been one of the mostly widely used instruments with which to assess for a probable Body Dysmorphic Disorder diagnosis, the BIDQ is considered a psychometrically sound instrument that allows for an accurate diagnosis of BDD and assesses for typical BDD symptomatology that can be targeted in treatment. The measure uses a dimensional format and thus those that may not meet criteria for BDD may still have sufficient dissatisfaction and symptomatology which suggests body image disturbance. An example of an item from this scale is, "Has your physical "defect" often cause you a lot of distress, torment, or pain? How much?" The observed Cronbach's alpha was .88 (see Appendix I-I).

Sex Roles.

Personal Attributes Questionnaire (PAQ; Spence & Helmreich, 1978). This 24-item measure is a shortened version of the original instrument (see Spence, Helmreich, & Stapp, 1975). It is categorized into three subscales: an "M" scale (masculinity), an "F" scale (femininity), and a unidimensional M-F scale (androgyny). Each scale contains 8 items; each item is answered on a scale ranging from 0 to 4; and total scores on each scale can range from 0 to 32. Higher values indicate greater endorsement of either M items, F items, or the masculine pole of the M-F items. An

example item is, “Indifferent to others approval – Highly needful of others’ approval.” The observed Cronbach’s alpha for the entire scale was .84. One item was added to this scale, which was developed and expected to fall onto the “F” scale. The item read, “Unconcerned with my physical appearance – Very concerned with my physical appearance.”

With the exception of one set of analyses proposed for this study which called for use of a masculinity scale, only one of the scales from this measure will be used for all other analyses in accordance with more recent research which tested the psychometric properties of the scale as well as tied the construct validity of the scale with the NEO-PI (Ward, Thorn, Clements, Dixon, & Sanford, 2006). The femininity scale, now known as “Communion,” was used and this scale had a Cronbach’s alpha of .85 (see Appendix I-J).

Self-Esteem.

Rosenberg Self-Esteem Scale (RSES; Rosenberg, 1965). This is a 10-item trait measure of global self-esteem involving ratings of attitudes regarding general self-worth. Questions are answered on a 7-point Likert scale from 1 = strongly disagree to 7 = strongly agree (e.g., “I feel that I am a person of worth, at least on an equal plane with others”). A total score is computed for the scale, and the observed Cronbach’s alpha for this sample was .91. This measure has been widely-used in research in the area of body image and eating disturbances (e.g., Shroff, Calogero, & Thompson, 2009). This measure was selected for use because problem self-esteem is implicated in body image disturbance and BDD (see Appendix I-K).

Measures developed for this study.

Body Depilation Appearance Comparison (BDAC; Boroughs, under review). The body depilation appearance comparison scale began as four item scale piloted in a previous study that measures body depilation social comparison by asking participants to rate the frequency of their observation that others have depilated their body hair in four different contexts: a) at a gym, b) among other male friends, c) among classmates, and d) among other men elsewhere in the general population. The scale approached a moderate correlation (i.e., r = .28) with the PACS (Thompson et al., 1991) and a factor analysis along with the items of the PACS strongly supported the idea that BDAC items fell onto their own factor, i.e., a distinct dimension of social comparison.

Experts suggested that items be added to the scale in order to more directly assess social comparison. With the original four items retained, participants were asked to refer to their observations of body depilation by others and answer the questions on a scale of 1 = always to 6 = never, with all items reverse scored. An example of an item is, "How often do you see (notice) other men at the gym that shave or trim their body hair?" Six items were added to this scale in accordance with the recommendations. An example of a new item is, "How often do you compare your level of body hair to others of the same sex?" The observed Cronbach's alpha for this sample was .91 (see Appendix I-L).

Depilation Social Norms Scale (SN; Boroughs, under development). This 7-item scale was developed for this research project in order to better understand the role of social norms as they relate to body depilation. Participants are asked to answer a series of questions that relate to how social normative body depilation is using a 6-point Likert scale from 1 = completely disagree to 6 = completely agree. An example item is, "I feel

pressure from those in movies, TV, magazines or other media to maintain a hairless appearance." The observed Cronbach's alpha for this measure was .77 (see Appendix I-M).

Body Hair Measurement Scale (BHM – BoDeQ-R; Boroughs 2005, 2009). The Body Depilation Questionnaire underwent several modifications for this study including the addition of a scale designed to measure self-reported body hair growth, before any depilation, at 12 individual body sites. Participants were asked to use a scale of 0 = no hair to 4 = very hairy, and estimate their hair growth at each of these sites prior to any hair reduction or removal. The body site names mirror those used on the body depilation questionnaire. The Cronbach's alpha observed for this sample was .91.

In addition, using the same 12 body sites, participants were asked to indicate whether they considered their natural body hair growth to be above average, average, or below the average natural body hair growth of friends and/or peers. This set of items was added at the suggestion of experts. Items were scaled as 1 = above average to 3 = below average with all items reverse scored. The Cronbach alpha observed for the subscale with this sample was .93 (see Appendix I-N).

Results

The results are organized as follows. First results of the analysis of natural body hair growth are presented; followed by the prevalence of body depilation along with descriptive features of depilation inclusive of both the genesis of the behavior and its affective dimensions. Second, depilation practices are presented across 12 body sites including reasons for depilation, method and frequency of depilation, and injuries that have occurred. Next, men's unique sites of depilation concern are presented with a focus on satisfaction with back and chest hair. Following these descriptive data concerning natural body hair growth and depilation is a section on the measures developed for this study with details about factor analyses and reliability tests that were conducted to evaluate each of these measures. Following these findings are the results from a series of inferential tests.

For example, the results of regression models that predict body depilation are presented. These results are followed by a correlational analysis of all study measures with attention paid toward gender differences in accordance with research questions that were posed, and then results from a regression analysis of constructs associated with depilation on body image disturbance follows. Finally, demographic differences of the sample are compared in order to present two analysis of covariance models that tested differences between these groups with BID/BDD as the outcome.

Body Hair and Body Depilation Prevalence

Natural body hair growth was measured through participant self-report. Using a five-point scale from 0 to 4 across 12 body sites, women and men reported their body hair growth at each body site prior to any depilation. The results are presented in Table 1. As predicted, men reported a significantly greater level of natural body hair growth at all of the 12 measured body sites, including those commonly shared between the genders (i.e., the armpits, pubic area, and legs); this finding supported **Hypothesis One**.

Participants rated whether they thought their natural body hair growth was below average, average, or above average at each of the 12 body sites. At three of the sites, women differed from men significantly with regard to their perception of their natural body hair growth compared to other same-sex peers. Women reported above average hair growth at the armpits (women $M = 2.06$, $SD = .44$, men $M = 1.98$, $SD = .44$), $F(1, 599) = 5.36$, $p < .05$; buttocks (women $M = 2.12$, $SD = .52$, men $M = 1.98$, $SD = .62$), $F(1, 599) = 8.93$, $p < .01$; and legs (women $M = 2.04$, $SD = .50$, men $M = 1.84$, $SD = .52$), $F(1, 599) = 22.31$, $p < .001$. No statistically significant differences were observed between the genders on the level of hair growth at each of the other 9 body sites evaluated. In an effort to report key and important results related to body depilation, five of the body sites were selected for the focus of the results that are presented. Three of these sites are shared between the sexes, i.e., the armpits, pubic area, and legs, and two of the sites are unique hair growth and depilation sites for men, i.e., the chest and back. The latter sites were selected not only because of previous inquiries into this area of research, but also because of the results from this study which suggest that approximately 73% of men report some chest hair while 42% report some hair on their backs.

The prevalence of body depilation was measured for the entire sample. Of the 600 participants evaluated in the study, 90.8% reported current body depilation at one or more body sites, 5.7% reported previous depilation, and 3.5% reported never depilating. These results were also analyzed separately for each gender to compare potential differences. A vast majority of women (98.5%) reported current depilation, with 0.9% reporting only past depilation and 0.6% reporting having never depilated. For men, a majority (80.9%) also reported current depilation, with 11.7% reporting only past depilation, and 7.4% reporting having never depilated. A chi-square test revealed that the prevalence of body depilation for women was significantly greater than that of men, χ^2 (4, 600) = 57.16, $p <$ .001. Table 2 presents the prevalence of depilation by body site and gender. The vast majority of women reported depilating at the armpits (97.3%), legs (94.6%), and pubic area (93.8%), while for men the pubic area (80.9%), abdomen (63.2%), chest (61.9%), and neck (60.2%) were the sites most depilated. An analysis to compare the genders on the length of time they have depilated, including only those that currently depilate, revealed that women (M = 8.62, SD = 4.41) engaged in the behavior for several years more than men (M = 5.0, SD =4.83), t(550) = 9.12, $p <$ .001.

Descriptive Features of Body Depilation

In order to better understand the genesis of body depilation, participants were asked about those influences that impacted their first time depilating. Table 3 summarizes these influences by gender. While 44.3% of women stated that they had observed that others depilated, only 22.2% of men agreed with that statement. For men, 36.2% said that they were not influenced by others to begin depilation while only 20.4% of women agreed with that statement.

In order to better understand the role of climatic season and relationship status on body depilation, participants were asked if depilation becomes less important during certain times. Table 4 summarizes the responses by gender. Over half of the women (58%) indicated climatic season was a factor in making depilation less important compared with just 16.7% of men. Many men (39.7%) and women (29.4%) indicated that their depilation habits did not change because of seasonal changes or relational status, while almost one-third of women (35.3%) and men (28.8%) said that depilation became less important when they were single or unattached romantically.

Table 1

Body Hair Growth by Gender and Body Site

		Women			Men			
	Body Site	*M*	(*SD*)	% hairless	*M*	(*SD*)	% hairless	*F*
1.	Neck	1.18	0.53	87.4	1.74	0.91	51.4	90.39, $p < .001$
2.	Shoulders	1.11	0.45	92.7	1.41	0.82	72.8	32.22, $p < .001$
3.	Armpits	2.40	0.91	14	3.08	1.00	6	74.97, $p < .001$
4.	Chest	1.21	0.57	85.4	2.37	1.15	27.3	265.67, $p < .001$
5.	Abdomen	1.51	0.85	66.1	2.32	1.10	26.2	107.37, $p < .001$
6.	Pubic Area	2.93	1.08	10.9	3.29	1.08	5.5	16.04, $p < .001$
7.	Back	1.27	0.68	81.6	1.66	0.96	57.9	33.21, $p < .001$
8.	Buttocks	1.32	0.73	79.8	2.28	1.14	29.6	157.70, $p < .001$
9.	Arms	2.17	1.02	27.8	2.46	1.01	17.8	11.93, $p \leq .001$
10.	Hands	1.28	0.67	79.8	1.79	0.94	47.4	59.74, $p < .001$
11.	Legs	2.53	1.06	17.6	3.12	1.14	8.3	42.77, $p < .001$
12.	Feet	1.31	0.62	75.4	1.96	0.97	37.8	101.63, $p < .001$

Table 2

Body Depilation Prevalence by Body Site and Gender

	Body Site	Women %	Men %
1.	Neck	5.5	60.2
2.	Shoulders	3.6	27.8
3.	Armpits	97.3	52.7
4.	Chest	11.1	61.9
5.	Abdomen	33.9	63.2
6.	Pubic Area	93.8	80.9
7.	Back	5.2	25.9
8.	Buttocks	12.7	35.9
9.	Arms	28.6	22.6
10.	Hands	9.4	17.6
11.	Legs	94.6	28.7
12.	Feet	25.1	22.2

Note: Women's overall prevalence 98.5% (one or more body sites); Men's overall prevalence 81% (one or more body sites).

Table 3

Influences into the Genesis of Body Depilation by Gender

		Women %	Men %
1.	Overheard someone talking about it	20.7	19.1
2.	Observed someone doing it	28.6	12.5
3.	Talked to someone about it	30.3	23.3
4.	Magazines or other media	21.3	19.1
5.	Observed that others did it	44.3	22.2
6.	Taught by a friend(s) to do it	22.2	9.7
7.	Not influenced by others	20.4	36.2

Note: totals are greater than 100% because participants could endorse more than one influence item.

Table 4

Changes in importance of Body Depilation by Gender

		Women %	Men %
1.	Less important when in a relationship	10.8	12.5
2.	Les important during off-season of a sport	6.7	7
3.	Less important when it is colder (climatic)	58	16.7
4.	Less important when **not** in a romantic relationship	35.3	28.8
5.	Depilation does not become less important	29.4	39.7
6.	Have not depilated long enough to know	1.2	7

Note: totals are greater than 100% because participants could endorse more than one influence item.

Affective Dimensions of Body Depilation

Participants were asked via six scaled items to assess the affective dimensions of body depilation. These items pertained to the importance of depilation prior to being seen by others (e.g., including significant others, friends, or out in the general public), a rating of how they felt when they were unable to depilate, and how anxious they felt in a hypothetical scenario where they were unable to depilate for a few weeks. The results of a one-way ANOVA revealed statistically significant differences between the genders on these affective dimensions of depilation. The results of this analysis were in support of **Hypothesis Two**, and they are presented in Table 5. Women's scores exceeded those of men on all of the scaled items indicating a greater emphasis on the importance of depilation before being seen by others, a poorer affect when they were unable to depilate, and greater anxiety if unable to depilate for a few weeks.

Table 5

Affective Dimensions of Body Depilation by Gender

Items	Women *M*	Women (*SD*)	Men *M*	Men (*SD*)	*F*
A. Depilation importance before seeing:					
1. Significant Others	4.12	1.03	3.33	1.25	69.55, $p < .001$
2. Friends	3.03	1.14	2.21	1.12	71.93, $p < .001$
3. General Public	3.26	1.10	2.36	1.14	90.10, $p < .001$
B. Feelings when unable to Depilate					
1. One day	3.19	0.94	2.62	0.96	51.10, $p < .001$
2. Several days	3.31	0.95	2.74	0.93	51.57, $p < .001$
C. Anxiety					
1. Anxiety if unable to Depilate	3.35	1.39	2.10	1.27	122.53, $p < .001$

Note: For Scale B, higher scores indicate more negative affect.

Depilation Practices across 12 Body Sites

Participants who currently depilate were assessed on their body depilation practices across 12 unique body sites in accordance with **Research Question A**. These results include the reasons for depilation which are followed by injuries that have occurred and then the method and frequency of depilation are presented. Table A1 presents the reasons for depilation by gender and body site. Women (33.9%) and men (17.6%) both attributed cleanliness as a reason for depilation of the armpits, but only for women did large percentages attribute depilation at this site due to either hygiene (20.4%) or femininity (27.9%). Both genders cited sex appeal as the main reason for depilation of the pubic area with both women (30.5%) and men (32.7%) almost equal in their

attribution for this body site. This reason was followed by cleanliness for both women (23%), and men (22.1%), though only men (13.4%) cited youthfulness and only women cited hygiene (11.2%), better sexual experience (10.9%) or femininity (10.9%) in great numbers. Women attributed depilation of their legs for reasons of femininity (48%), cleanliness (14.6%), sex appeal (12.8%), or better appearance (9.1%), whereas for men who depilated at this site, cleanliness (7.6%) received the greatest endorsement.

Examination of the reasons for depilation by men at their chest revealed that most attributed depilation due to sex appeal (19.9%), followed by cleanliness (14.1%), definition/muscularity (8.7%), and better appearance (7.8%). Men also reported cleanliness (10.7%) overwhelmingly as the reason for depilation of their back hair. Table A2 presents the data on the frequency of depilation by gender and body site. An examination of these data suggested that women are more likely to engage in depilation more frequently at all body sites including the three focus sites shared with men. Men also depilated less frequently at their unique sites which included the chest and back.

The method of depilation was assessed for both genders. Table A3 presents these data which revealed that men are more likely than women to depilate the back of their necks. When examining the three shared sites between the genders, it was found that men were more likely to use hair reduction methods rather than complete hair removal methods. For example, at the armpits, women overwhelming shaved at this site using a regular razor (92%), while only 16.7% of men utilized that method at this site. Conversely, men reported using an electric clipper (15.8%) or electric razor (12.8%) at this site to trim armpit hair; less than 2% of women used these methods. A chi-square test used to examine the differences of hair reduction or hair removal by gender at this site

revealed that men were indeed more likely to trim compared to women which supported **Hypothesis Three**, χ^2 (3, 433) = 247.32, $p < .001$.

Analysis of depilation of the pubic area also revealed that women overwhelmingly shaved at this site using a regular razor (77.8%), whereas only 34.5% of men utilized that method at this site. Men reported using methods to trim such as an electric razor (22.7%) or electric clipper (21.8%) in greater numbers than women, who used such methods only 7% of the time. A chi-square test used to evaluate the differences in hair reduction or removal by gender at this site revealed that men were indeed more likely to trim rather than remove hair when compared to women which provided additional support for **Hypothesis Three**, χ^2 (3, 513) = 163.06, $p < .001$.

In the final statistical comparison of the methods of depilation, the legs were compared for gender differences. Here again, women overwhelmingly shaved this site using a regular razor (88.4%), while only 10.1% of men utilized that method at this site. Men reported using an electric razor (9%) at this site to trim leg hair while less than 2% of women used any method for hair reduction at this site. A chi-square test used to test the differences of hair reduction or removal by gender at this site revealed that men were indeed more likely to trim compared to women in support of **Hypothesis Three**, χ^2 (3, 371) = 137.27, $p < .001$.

Table 6 summarizes the data on injuries that have occurred as result of body depilation. All 12 body sites were tested using a chi-square in order to examine gender differences in depilation-related injuries. The tests revealed that women were more likely to report injuries at the armpits, χ^2 (3, 433) = 45.91, $p < .001$; pubic area, χ^2 (3, 513) = 27.86, $p < .001$; and the legs, χ^2 (3, 371) = 43.16, $p < .001$. These findings lend support

for **Hypothesis Four** which predicted that women would report more injuries as a result of body depilation than men.

Men's Unique Depilation Sites

Additional analyses were conducted to further explore men's perception of their hair growth on their back and chest. These analyses were undertaken given previous research into men's body depilation which suggested that men's concerns go beyond the sites shared with women such as the armpits, public area, and legs to include the back and chest at the very minimum. Twenty-nine percent of men reported a perception of above average hair growth on the back, while 27.1% reported above average hair growth on the chest. These results indicated that for at least a quarter of the men assessed in this study, concern about the appearance of excessive hair at these two body sites may be an issue. They also lend support to the notion that hirsuteness, or perceived excessive hirsuteness, may be an important issue when examining body image disturbance.

In order to test the hypothesis that greater hirsuteness at the chest and back are associated with less satisfaction with body hair for men, a Pearson correlation was conducted to examine this relationship. Level of hair on the chest had a significant negative correlation with satisfaction with body hair, $r(257) = -.39$, $p < .001$. A significant negative correlation was also found between level of back hair and satisfaction with body hair, $r(257) = -.43$, $p < .001$. These results indicated that men with greater amounts of body hair at the chest or back have greater dissatisfaction with their body hair overall and these findings supported **Hypothesis Five**.

Table 6

Injuries as a result of Depilation by Body Site and Gender

	Body Site		Injury	Women %	Men %
1.	Neck				
		a.	Nicks	1.3	12.3
		b.	Cuts	0	3.2
		c.	Ingrown hair	0.3	4.8
		d.	Razor burn	0.3	5.9
2.	Shoulders				
		a.	Nicks	1.7	3.4
		b.	Cuts	0.7	1.1
		c.	Ingrown hair	0.3	2.8
		d.	Razor burn	0.3	1.7
3.	Armpits				
		a.	Nicks	18.7	5.9
		b.	Cuts	3.1	3.2
		c.	Ingrown hair	19.6	3.7
		d.	Razor burn	23.1	2.7
4.	Chest				
		a.	Nicks	1.3	7.7
		b.	Cuts	0	0.5
		c.	Ingrown hair	1.3	7.1
		d.	Razor burn	0.3	5.5
5.	Abdomen				
		a.	Nicks	3.0	5.6
		b.	Cuts	0	1.1
		c.	Ingrown hair	5.9	6.1
		d.	Razor burn	1.0	7.2
6.	Pubic Area				
		a.	Nicks	14.3	19.2
		b.	Cuts	3.4	6.6
		c.	Ingrown hair	26.2	14.1
		d.	Razor burn	28.7	12.6
7.	Back				
		a.	Nicks	0.7	1.2
		b.	Cuts	0.7	1.2
		c.	Ingrown hair	0.3	1.7
		d.	Razor burn		
8.	Buttocks				
		a.	Nicks	3.7	4.0
		b.	Cuts	0.3	1.7
		c.	Ingrown hair	0.7	4.5
		d.	Razor burn	0.3	0.6
9.	Arms				
		a.	Nicks	7.9	2.3
		b.	Cuts	5.6	0
		c.	Ingrown hair	1.3	3.5
		d.	Razor burn	0.3	1.2
10.	Hands				
		a.	Nicks	3.3	3.5
		b.	Cuts	0.3	0
		c.	Ingrown hair	0.3	1.7
		d.	Razor burn	6.4	1.7
11.	Legs				
		a.	Nicks	40.8	3.4
		b.	Cuts	29.6	3.4
		c.	Ingrown hair	2.5	4.0
		d.	Razor burn	9.0	2.3
12.	Feet				
		a.	Nicks	7.6	2.3
		b.	Cuts	1.7	0.6
		c.	Ingrown hair	0.3	0
		d.	Razor burn	0.3	1.2

Note: Totals will not equal 100% where no injuries are reported or the site is not depilated.

Analysis of Measures Developed for this Study

Each of the scales that were developed for this study underwent evaluation via factor analysis and reliability analysis before they were used for further analyses in accordance with the study hypotheses and exploratory research questions. The evaluations follow for the scale developed to measure body depilation comparison, then depilation social norms, and finally, body hair measurement.

Body Depilation Appearance Comparison. In order to determine whether differences exist between men and women on body depilation appearance comparison (BDAC), a one-way ANOVA was conducted to measure the mean differences on the 10-item BDAC scale. Eight of the 10 items yielded statistically significant mean differences between the genders. Average scores were higher for men only on items 6 and 7 which indicates that men reported a greater frequency of depilation comparison with models they saw in pornography, $F(1, 598) = 17.95$, $p = .002$, or among athletes, $F(1, 598) = 10.21$, $p = .009$. Women reported greater depilation comparison on all of the other items contained within the scale with no significant difference observed between the genders on comparison with celebrities or those seen in advertisements. These results indicate that body depilation involves the comparison of one's appearance with others for both genders, but that the context of comparison varies except in the case of celebrities or advertisements. These results are related to **Exploratory Research Question G**, and are presented with means and standard deviations for the scale in Table 7.

Despite the observed differences between men and women on several items contained within the scale, a series of exploratory factor analyses (EFA) were conducted with the entire sample as well as separately for both women and men. The factor structure

was not affected by the partition by gender, so it was decided to include all participants in the analyses regardless of gender in order to maintain sample variability. Therefore, all of the factor analysis results will be reported for the entire sample (N = 600).

Table 7

Mean differences by Gender on the Body Depilation Appearance Comparison Scale

		Women		Men		
		M	(*SD*)	*M*	(*SD*)	*F*
	Items					
1.	How often do you see (notice) men at the gym that trim or remove their body hair?	3.20	1.49	2.85	1.57	7.33, $p < .01$
2.	How often do you see (notice) male friends that trim or remove their body hair?	3.24	1.28	2.89	1.34	10.40, $p = .001$
3.	How often do you see (notice) male classmates that trim or remove their body hair?	3.09	1.30	2.64	1.30	18.20, $p < .001$
4.	How often do you see (notice) men anywhere else that trim or remove their body hair?	3.08	1.24	2.64	1.29	18.05, $p < .001$
5.	How often do you compare your level of body hair to others of the same sex?	2.67	1.34	2.45	1.31	7.52, $p < .05$
6.	How often do you compare yourself to those you see in pornography that trim or remove their body hair?	2.07	1.36	2.42	1.35	9.90, $p < .01$
7.	How often do you compare yourself to athletes that trim or remove their body hair?	1.97	1.21	2.23	1.24	6.84, $p < .01$
8.	How often do you compare yourself to celebrities that trim or remove their body hair?	2.32	1.40	2.22	1.29	.83, $p > .05$
9.	How often do you compare yourself to those seen in advertisements that trim or remove their body hair?	2.35	1.35	2.25	1.31	.86, $p > .05$
10.	How often do you compare yourself to other of the same sex that trim or remove their body hair?	2.73	1.41	2.39	1.30	9.11, $p < .01$

Factor Analysis. An exploratory factor analysis was conducted to examine the structure of the BDAC scale which was developed for this research project. The proposal called for a Principal Components Analysis (PCA) with Promax Rotation, though several alternative models were also evaluated including Principle Axis Factoring with both Varimax and Promax rotations. Upon a review of the factor loadings, multiple rotations, and various interpretations of the data, the 2-Factor oblique solution that was originally extracted was retained. This model fit the data well explaining 78% of the variance accounted for. This rotation allowed all of the items on the scale to surpass the minimum .40 factor loading and both the eigenvalue > 1 and Scree Plot methods of evaluation which suggested that this is a good fit for the data. The extraction of 2-Factors seemed best both theoretically and statistically.

The final factor loadings are presented in Table 8 in bold. Proposed factor names are as follows: Factor 1 (Body Depilation Comparison) inclusive of items 5, 6, 7, 8, 9 10, and Factor 2 (Body Depilation Observation) inclusive of items 1, 2, 3, 4. Each of the named Factors appears across the top of the table and factor loadings appear under each factor (F1, F2) representative of the original 2-Factor solution.

Table 8

Factor Pattern Coefficients of the BDAC scale from a Principal Components Analysis with Oblique Rotation

	Item	Factor 1	Factor 2
1.	How often do you see (notice) men at the gym that trim or remove their body hair?	.04	**.84**
2.	How often do you see (notice) male friends that trim or remove their body hair?	-.05	**.93**
3.	How often do you see (notice) male classmates that trim or remove their body hair?	-.01	**.95**
4.	How often do you see (notice) men anywhere else that trim or remove their body hair?	.03	**.92**
5.	How often do you compare your level of body hair to others of the same sex?	**.83**	.05
6.	How often do you compare yourself to those you see in pornography that trim or remove their body hair?	**.82**	-.07
7.	How often do you compare yourself to athletes that trim or remove their body hair?	**.79**	.06
8.	How often do you compare yourself to celebrities that trim or remove their body hair?	**.93**	-.03
9.	How often do you compare yourself to those seen in advertisements that trim or remove their body hair?	**.93**	-.03
10.	How often do you compare yourself to other of the same sex that trim or remove their body hair?	**.86**	.05

Note: F1 = Body Depilation Comparison; F2 = Body Depilation Observation

Reliability Estimates. Cronbach's alphas were computed for the entire scale with a total of 10-items, $\alpha = .91$, as well as for each of the two factors extracted through the PCA. Table 9 contains the item-to-total correlations for the full scale. No alterations were made as a result of this analysis because each of the items fit well with the total scale. An analysis of the reliability of the first factor (Body Depilation Comparison) revealed a Cronbach's alpha of .93; and since the reliability proved sufficient, all of the items were retained for this factor. Table 10 contains the item-to-total correlations for the 6-items of Factor 1.

The Cronbach's alpha for Factor 2 (Body Depilation Observation) of the BDAC scale was also .93. This reliability estimate was also sufficient and all items were retained for this factor. Table 11 contains the item-to-total correlations for the 4-items of Factor 2.

Table 12 presents the observed correlations between the two named factors of the BDAC scale as well as the correlation between each of the factors and the full scale. The items that were extracted for the Body Depilation Comparison Factor were very strongly positively associated $r(600) = .90$, $p < .001$ with the Body Depilation Observation Factor and the full-scale, $r(600) = .79$, $p < .001$. The Body Depilation Observation Factor was moderately associated with the full-scale, $r(600) = .43$, $p < .001$. The final scale included all 10 of the original items and two factors.

Table 9

Item to total statistics for the BDAC scale

	Item	Scale Mean if item deleted	Scale variance if item deleted	Corrected item-total correlation	Cronbach's Alpha if item deleted
1.	How often do you see (notice) men at the gym that trim or remove their body hair?	22.93	81.71	0.61	0.91
2.	How often do you see (notice) male friends that trim or remove their body hair?	22.89	84.41	0.61	0.91
3.	How often do you see (notice) male classmates that trim or remove their body hair?	23.08	83.14	0.66	0.90
4.	How often do you see (notice) men anywhere else that trim or remove their body hair?	23.09	83.35	0.68	0.90
5.	How often do you compare your level of body hair to others of the same sex?	23.40	81.97	0.71	0.90
6.	How often do you compare yourself to those you see in pornography that trim or remove their body hair?	23.76	84.00	0.60	0.91
7.	How often do you compare yourself to athletes that trim or remove their body hair?	23.90	83.93	0.69	0.90
8.	How often do you compare yourself to celebrities that trim or remove their body hair?	23.79	80.87	0.75	0.90
9.	How often do you compare yourself to those seen in advertisements that trim or remove their body hair?	23.67	81.07	0.75	0.90
10.	How often do you compare yourself to other of the same sex that trim or remove their body hair?	23.39	80.58	0.75	0.90

Table 10

Item to total statistics for Factor 1 of the BDAC scale

	Item	Scale mean if item deleted	Scale variance if item deleted	Corrected item-total correlation	Cronbach's Alpha if item deleted
5.	How often do you compare your level of body hair to others of the same sex?	11.47	33.34	0.78	0.92
6.	How often do you compare yourself to those you see in pornography that trim or remove their body hair?	11.83	34.08	0.70	0.93
7.	How often do you compare yourself to athletes that trim or remove their body hair?	11.97	34.88	0.74	0.92
8.	How often do you compare yourself to celebrities that trim or remove their body hair?	11.77	31.97	0.87	0.91
9.	How often do you compare yourself to those seen in advertisements that trim or remove their body hair?	11.74	32.16	0.87	0.91
10.	How often do you compare yourself to other of the same sex that trim or remove their body hair?	11.46	32.33	0.82	0.91

Table 11

Item to total statistics for Factor 2 of the BDAC scale

	Item	Scale mean if item deleted	Scale variance if item deleted	Corrected item-total correlation	Cronbach's Alpha if item deleted
1.	How often do you see (notice) men at the gym that trim or remove their body hair?	8.88	13.61	0.76	0.94
2.	How often do you see (notice) male friends that trim or remove their body hair?	8.84	14.46	0.83	0.91
3.	How often do you see (notice) male classmates that trim or remove their body hair?	9.03	14.01	0.89	0.89
4.	How often do you see (notice) men anywhere else that trim or remove their body hair?	9.04	14.40	0.87	0.89

Table 12

Factor correlations of the BDAC Scale

	Factor Name	1.	2.	3.
1.	Body Depilation Comparison	-	.90 *	.79 *
2.	Body Depilation Observation		-	.43 *
3.	Full Scale BDAC			-

Note: * $p < .001$

Depilation Social Norms. In order to determine whether differences exist between men and women on the depilation social norms (SN) scale, a one-way ANOVA was conducted to measure mean observed differences on the 7-item SN scale. Only one of the seven items yielded no significant gender differences which indicates that both women and men agreed that body depilation is as normative for men as it is for women. Average scores were higher for women on all of the other scale items measuring the hairless norm which indicated that women support these items more strongly than men. The results from a one-way ANOVA that tested gender differences on the SN are presented with means and standard deviations in Table 13.

Despite the observed differences between men and women on several items contained within the scale, a series of exploratory factor analyses (EFA) were conducted with the entire sample as well as separately for women and men. Because the factor

structure was not affected by the partitioning of genders, it was decided to retain all participants in the analyses regardless of gender to maintain sample variability. Therefore all of the factor analysis results will be reported for the entire sample (N = 600).

Table 13

Mean differences by Gender on the Depilation Social Norms Scale

		Women		Men		
	Items	*M*	(*SD*)	*M*	(*SD*)	*F*
1.	I feel pressure from friends to have a hairless body.	2.28	1.19	1.96	1.22	8.33, $p < .01$
2.	I wish my body was naturally less hairy.	3.82	1.79	3.11	1.69	24.86, $p < .001$
3.	Trimming or removing body hair is a normal for men as it is for women.	3.85	1.34	3.64	1.39	3.52, $p > .05$
4.	Those (of my same sex) with less body hair look more attractive.	4.02	1.43	3.21	1.35	49.69, $p < .001$
5.	Those (of the opposite sex) prefer me to be smooth [gay or lesbian participants should answer about the same sex].	4.68	1.36	3.57	1.40	96.37, $p < .001$
6.	I feel pressure from those in movies, TV, magazines and other media to maintain a hairless appearance.	3.11	1.67	2.51	1.31	22.27, $p < .001$
7.	It is common for men that I know to remove their body hair by trimming, shaving, or another method.	3.82	1.39	3.50	1.37	8.27, $p < .01$

Factor Analysis. A Principle Components Analysis (PCA) with Promax Rotation was conducted to examine the structure of the SN scale that was developed for this research project. Though the proposal called for a PCA with a Promax Rotation, several

alternative models were also examined including Principal Axis Factoring with both Varimax and Promax rotations in order to evaluate the best fit for the data. Upon a review of the factor loadings, multiple rotations, and various interpretations of the data, a 2-Factor oblique solution that was originally extracted via the proposed analyses was retained. This model fit the data well explaining 61% of the variance accounted for. The extracted rotation allowed all of the items on the scale to surpass the minimum .40 factor loading and both the eigenvalue > 1 and Scree Plot methods of evaluation which suggested this is a good fit for the data. The extraction of 2-Factors seemed best both theoretically and statistically.

The final factor loadings are presented in Table 14 in bold. The proposed factor names are as follows: Factor 1 (Hairless Norms) including items 1, 2, 4, and 6; and Factor 2 (Depilation Norms) including items 3, 5, and 7. Each of the named Factors appears across the top of the table while the factor loadings appear under each factor (F1, F2) which represents the original 2-Factor solution.

Reliability Estimates. Cronbach's alphas were computed for the entire scale which included a total of 7-items, $\alpha = .77$, as well as for each of the two factors extracted through the PCA. Table 15 contains the item-to-total correlations for the full scale. No alterations were made as a result of this analysis because the items collectively fit well with the total scale and the removal of any single item would not have produced greater reliability. An analysis of the reliability of the first factor (Hairless Norms) revealed a Cronbach's alpha of .75; and since the observed reliability was adequate, all of the items were retained for this factor. Table 16 contains the item-to-total correlations for the 4-items of Factor 1.

The Cronbach's alpha for Factor 2 (Depilation Norms) of the SN scale was .64. This reliability estimate was of concern because it fell below the minimum .70 standard. Table 17 contains the item-to-total correlations for the 3-items of Factor 2. A review of these results suggested that the removal of any of the items would not improve the reliability of this factor. To aid in the decision about whether the entire factor should be dropped from the scale, a Pearson correlation was conducted to measure the association of each of the factors with the total scale. Table 18 contains the observed correlations between the two named factors of the SN scale as well as the correlation between each of the factors and the full scale. The items that were extracted for the Hairless Norm Factor were moderately correlated with the Depilation Norms Factor, $r(600) = .46$, $p < .001$, but very strongly positively associated $r(600) = .91$, $p < .001$ with the full-scale. The Depilation Norms Factor was also strongly correlated, $r(600) = .79$, $p < .001$ with the full scale. These results suggest, at least for the time being, that the second factor contributes uniquely to the overall scale and should be retained until future work might evaluate the scale further through the addition of items and/or a confirmatory factor analysis to be conducted with another sample. The final scale included the original 7-items and two factors.

Table 14

Factor Pattern Coefficients of the SN scale from a Principal Components Analysis with Oblique Rotation

	Item	Factor 1	Factor 2
1.	I feel pressure from friends to have a hairless body.	**.86**	-.28
2.	I wish my body was naturally less hairy.	**.66**	.17
3.	Trimming or removing body hair is a normal for men as it is for women.	-.18	**.85**
4.	Those (of my same sex) with less body hair look more attractive.	**.57**	.34
5.	Those (of the opposite sex) prefer me to be smooth [gay or lesbian participants should answer about the same sex].	.38	**.53**
6.	I feel pressure from those in movies, TV, magazines and other media to maintain a hairless appearance.	**.85**	-.10
7.	It is common for men that I know to remove their body hair by trimming, shaving, or another method.	-.08	**.79**

Note: F1 = Hairless Norms; F2 = Depilation Norms

Table 15

Item to total statistics for the SN scale

	Item	Scale mean if item deleted	Scale variance if item deleted	Corrected item-total correlation	Cronbach's Alpha if item deleted
1.	I feel pressure from friends to have a hairless body.	21.69	37.20	0.42	0.76
2.	I wish my body was naturally less hairy.	20.31	31.40	0.56	0.73
3.	Trimming or removing body hair is a normal for men as it is for women.	20.07	38.08	0.35	0.77
4.	Those (of my same sex) with less body hair look more attractive.	20.16	32.97	0.64	0.72
5.	Those (of the opposite sex) prefer me to be smooth [gay or lesbian participants should answer about the same sex].	19.63	3.33	0.60	0.72
6.	I feel pressure from those in movies, TV, magazines and other media to maintain a hairless appearance.	20.98	33.81	0.53	0.74
7.	It is common for men that I know to remove their body hair by trimming, shaving, or another method.	20.15	37.28	0.39	0.77

Table 16

Item to total statistics for Factor 1 of the SN scale

	Item	Scale mean if item deleted	Scale variance if item deleted	Corrected item-total correlation	Cronbach's Alpha if item deleted
1.	I feel pressure from friends to have a hairless body.	10.04	14.62	0.52	0.71
2.	I wish my body was naturally less hairy.	8.67	11.72	0.55	0.70
4.	Those (of my same sex) with less body hair look more attractive.	8.52	13.61	0.55	0.69
6.	I feel pressure from those in movies, TV, magazines and other media to maintain a hairless appearance.	9.34	12.74	0.59	0.67

Table 17

Item to total statistics for Factor 2 of the SN scale

	Item	Scale mean if item deleted	Scale variance if item deleted	Corrected item-total correlation	Cronbach's Alpha if item deleted
3.	Trimming or removing body hair is a normal for men as it is for women.	7.89	5.61	0.45	0.53
5.	Those (of the opposite sex) prefer me to be smooth [gay or lesbian participants should answer about the same sex].	7.44	5.32	0.42	0.58
7.	It is common for men that I know to remove their body hair by trimming, shaving, or another method.	7.96	5.39	0.47	0.50

Table 18

Factor correlations of the SN scale

	Factor Name	1.	2.	3.
1.	Hairless Norms	-	.46 *	.91 *
2.	Depilation Norms		-	.79 *
3.	Full Scale SN			-

Note: * $p < .001$

Body Hair measurement. In order to determine potential differences between men and women on a measure of natural body hair growth that was developed for this study, a one-way ANOVA was conducted to measure the mean differences on the 12-item Body Hair Measurement (BHM) scale. Each of the items yielded statistically significant differences between the genders which indicated that men reported greater amounts of self-reported body hair at each of the twelve measured body sites. The results of a one-way ANOVA that tested gender differences on the BHM are presented with means and standard deviations in Table 19.

Despite the observed differences found between men and women on all of these items representing the 12 body sites contained within the scale, a series of exploratory factor analyses (EFA) were conducted with the entire sample as well as separately for women and men. The factor structure was affected by the gender of the sample under

evaluation. The women's extraction suggested a 2-Factor solution (e.g., F1: armpits, legs, arms, pubic hair; F2: all other body sites), while the men's extraction suggested a 3-Factor solution which contained several cross-loadings. Neither of these options was logical or theoretically consistent. For example, the development of hair at the three main sites shared between the genders as a result of the onset of secondary sexual characteristics might indicate a 2-Factor solution which included these three body sites on one factor and all other sites on another factor. For these reasons, it was decided to keep all participants in the analyses regardless of gender to maintain sample variability and it was also decided to force a single factor solution. Therefore all of the results related to the factor analysis associated with this measure included the entire sample (N = 600).

Factor Analysis. A Principle Components Analysis was conducted to examine the structure of the BHM. Although the proposal did not call for these analyses to be undertaken, they were nevertheless conducted because it is important to better understand the psychometric properties of this measure since it was used as both an outcome and a covariate in other analyses that were conducted for this study. A single factor was forced and the extracted model ultimately fit the data well explaining 52% of the variance accounted for. The extraction of a single factor seemed best both theoretically and statistically. The final factor loadings appear in Table 20 in bold. Future work is needed in order to enhance, examine, and evaluate this scale further.

Reliability Estimates. Cronbach's alpha was computed for the scale which contained a total of 12-items, $\alpha = .91$. Table 21 contains the item-to-total correlations for the full scale. No alterations were made as a result of this analysis because items collectively fit well with the total scale, the removal of any single item would not produce

better reliability, and because the removal of any item would not make theoretical sense since items represent body sites. These results suggested, at least for the time being, that all of the items on the scale should remain and function together as a single factor. Future work can test these assumptions further and may endeavor to collapse items, e.g., hands with arms, and feet with legs, which may allow for better interpretability. The final scale included 12-items and one factor.

While it is acknowledged that improvements can be made to the scales that were developed for this study, overall, the measures had adequate psychometric properties which allowed for their use in additional analyses. These analyses include predicting body depilation, the association of these measures with extant measures from the same construct, predicting BID and BDD symptomatology, and as covariates in an examination of demographic factors affecting BID/BDD as an outcome.

Table 19

Mean differences by Gender on the Body Hair Measurement scale

		Women		Men		
	Body Site	*M*	(*SD*)	*M*	(*SD*)	*F*
1.	Neck	1.18	.53	1.74	.91	90.39, $p < .001$
2.	Shoulders	1.11	.45	1.41	.82	32.22, $p < .001$
3.	Armpits	2.40	.91	3.08	1.00	74.97, $p < .001$
4.	Chest	1.21	.57	2.37	1.15	265.67, $p < .001$
5.	Abdomen	1.51	.85	2.32	1.10	107.37, $p < .001$
6.	Pubic Area	2.93	1.08	3.29	1.08	16.04, $p < .001$
7.	Back	1.27	.68	1.66	.96	33.21, $p < .001$
8.	Buttocks	1.32	.73	2.28	1.14	157.70, $p < .001$
9.	Arms	2.17	1.02	2.46	1.01	11.93, $p \leq .001$
10.	Hands	1.28	.67	1.79	.94	59.74, $p < .001$
11.	Legs	2.53	1.06	3.12	1.14	42.77, $p < .001$
12.	Feet	1.31	.62	1.96	.97	101.63, $p < .001$

Table 20

Factor Pattern Coefficients of the BHM scale from a Principal Components Analysis forcing a one Factor Solution

	Item	Factor 1
1.	Neck	**.64**
2.	Shoulders	**.63**
3.	Armpits	**.67**
4.	Chest	**.79**
5.	Abdomen	**.79**
6.	Pubic Area	**.59**
7.	Back	**.75**
8.	Buttocks	**.80**
9.	Arms	**.73**
10.	Hands	**.76**
11.	Legs	**.70**
12.	Feet	**.72**

Table 21

Item to total statistics for the single Factor BHM scale

	Item	Scale mean if item deleted	Scale variance if item deleted	Corrected item-total correlation	Cronbach's Alpha if item deleted
1.	Neck	10.92	58.43	0.55	0.91
2.	Shoulders	11.10	59.53	0.54	0.91
3.	Armpits	9.65	55.05	0.63	0.90
4.	Chest	10.64	53.52	0.72	0.90
5.	Abdomen	10.49	53.52	0.72	0.90
6.	Pubic Area	9.25	55.38	0.55	0.91
7.	Back	10.90	56.37	0.67	0.90
8.	Buttocks	10.61	53.17	0.74	0.90
9.	Arms	10.05	54.24	0.68	0.90
10.	Hands	10.84	56.12	0.69	0.90
11.	Legs	9.56	53.32	0.66	0.90
12.	Feet	10.75	56.43	0.65	0.90

Note: Cronbach's alpha for the full-scale = . 91

Regression Analyses: Body Depilation

In order to examine the predictive relationship of those constructs measured in the study with body depilation, several simultaneous multiple regressions were untaken to test these associations by body site. Due to the potential for differences between the genders, these analyses were conducted separately for women and men. Several steps

were involved in order to determine the appropriate sites of interest for each gender as in identifying factors that may predict depilation. First, the hirsuteness by body site data and the depilation prevalence results for each site were examined closely to select those sites appropriate for the analyses. For example, if only 10% of women reported hair at a given site, and only 3% of those women reported depilation at that site, this would have resulted in a regression analysis for very few participants. Therefore, a comprehensive review and evaluation of these data, along with an additional inclusion criterion that sites should be only be included when they are salient to the gender being evaluated, resulted in the following body site selections for these analyses. Regressions were conducted for women to include four body sites: (1) the armpits, (2) pubic area, (3) arms, and (4) legs, while for men nine body sites: (1) the neck, (2) armpits, (3) chest, (4) abdomen, (5) pubic area, (6) back, (7) buttocks, (8) arms, and (9) legs, were included.

In order to test **Exploratory Research Questions B, C, and D** among women, four simultaneous multiple regressions with the following constructs: appearance evaluation, body areas satisfaction, communion (femininity), body site comparison, and body hair satisfaction were included in the models because it was expected they would significantly predict body depilation frequency. The results of these analyses are presented in Table 22. As anticipated, the total model significantly predicted body depilation frequency accounting for approximately 8% of the variance, $R^2 = .08$, $F(5,337) = 5.54$, $p < .001$ for the armpits, 5% of the variance for the pubic area, $R^2 = .05$, $F(5, 337) = 3.83$, $p < .01$; 11% of the variance for the arms, $R^2 = .11$, $F(5, 337) = 8.28$, $p < .001$, and 8% of the variance for the legs, $R^2 = .08$, $F(5,337) = 5.54$, $p < .001$. Though the models were statistically significant in their ability to predict at each of these four body

sites, their practical significance is in question given the relatively low variance accounted for. Other factors might be considered and tested in future work in order to account for greater variance among the sites tested in these models.

Nevertheless, these analyses do allow for inspection of unique variance accounted for by the predictor variables. Individually, body site comparison accounted for the greatest amount of unique variance in body depilation at all four body sites: armpits (β = .26, $p < .001$), pubic area (β = .22, $p < .001$), arms (β = .23, $p < .001$), and legs (β = .20, $p < .001$). The legs had body hair satisfaction (β = -.16, $p < .01$) as an additional predictor, and arms had body hair satisfaction (β = -.18, $p < .01$) and communion (femininity; β = -.11, $p < .05$) as additional predictors. These results suggested that more frequent body site comparison is predictive of body depilation for women at the armpits, pubic area, arms, and legs. Further, for the arms and legs only, greater satisfaction with body hair is negatively associated with body depilation meaning that women who are more satisfied with their natural body hair growth depilate less frequently at those sites. Finally, for the arms only, greater communion (femininity) is negatively associated with body depilation.

Table 22

Regression of Body Depilation on Appearance Evaluation, Body Areas Satisfaction, Communion (Femininity), Body Site Comparison, and Body Hair Satisfaction Scores for Women

Site:	*B*	*SE B*	*β*	*t*
Armpits Total Model: R^2 = .08, F(5, 337) = 5.54, p < .001				
Appearance Evaluation	0.24	1.48	0.02	0.17
Body Areas Satisfaction	0.26	1.86	0.02	0.14
Communion (Femininity)	-0.09	1.12	-0.00	0-.08
Body Site Comparison	0.19	0.04	0.26***	4.46
Body Hair Satisfaction	-0.97	0.64	-0.09	-1.51
Pubic Area Total Model: R^2 = .05, F(5, 337) = 3.83, p < .01				
Appearance Evaluation	2.39	1.23	0.19	1.94
Body Areas Satisfaction	-1.21	1.55	-0.08	-0.78
Communion (Femininity)	-0.62	0.93	-0.04	-0.67
Body Site Comparison	0.13	0.04	0.22***	3.71
Body Hair Satisfaction	-0.28	0.53	-0.03	-0.52
Arms Total Model: R^2 = .11, F(5, 337) = 8.28, p < .001				
Appearance Evaluation	1.95	1.02	0.18	1.91
Body Areas Satisfaction	-0.59	1.29	-0.05	-0.46
Communion (Femininity)	-1.60	0.77	-0.11*	-2.07
Body Site Comparison	0.12	0.03	0.23***	4.13
Body Hair Satisfaction	-1.37	0.44	-0.18**	-3.09
Legs Total Model: R^2 = .08, F(5, 337) = 5.54, p < .001				
Appearance Evaluation	-0.05	1.26	-0.00	-0.04
Body Areas Satisfaction	1.28	1.59	0.08	0.80
Communion (Femininity)	-1.55	0.96	-0.09	-1.62
Body Site Comparison	0.13	0.04	0.20***	3.51
Body Hair Satisfaction	-1.54	0.56	-0.16**	-2.82

Note: N (Women) = 343, *p < .05, **p < .01, ***p < .001

Among men, as anticipated, the total model significantly predicted depilation frequency accounting for approximately 7% of the variance, R^2 = .07, F(6, 250) = 3.17,

$p < .01$, for the neck; 15% of the variance for the armpits, $R^2 = .15$, $F(6, 250) = 5.21$, $p < .001$; 13% of the variance for the chest, $R^2 = .13$, $F(6, 250) = 6.23$, $p < .001$; 11% of the variance for the abdomen, $R^2 = .11$, $F(6, 250) = 5.26$, $p < .001$; 9% of the variance for the pubic area, $R^2 = .09$, $F(6, 250) = 4.18$, $p \leq .001$; 18% of the variance for the back, $R^2 = .18$, $F(6, 250) = 9.34$, $p < .001$; 24% of the variance for the buttocks, $R^2 = .24$, $F(6, 250) = 13.28$, $p < .001$; 8% of the variance for the arms, $R^2 = .08$, $F(6, 250) = 3.46$, $p < .01$, and 10% of the variance for the legs, $R^2 = .10$, $F(6, 250) = 4.36$, $p < .001$. As expected, many of the key independent variables significantly predicted body depilation among men in the expected direction. Table A4 presents the results from these regression analyses.

Individually, the drive for muscularity accounted for the greatest amount of unique variance in body depilation of the neck ($\beta = .28$, $p < .001$). This result suggested that depilation of the neck is influenced by a higher drive for muscularity. For the armpits, appearance evaluation, ($\beta = .26$, $p < .01$), body areas satisfaction ($\beta = -.26$, $p < .01$), the drive for muscularity ($\beta = -.24$, $p < .05$), and body site comparison, ($\beta = .27$, $p < .001$), were significant predictors. These results suggested that depilation of the armpits is associated with greater overall evaluation of appearance and body site comparison and is less frequent or likely when men report less satisfaction with specific body sites and a lower drive for muscularity.

For the chest, appearance evaluation, ($\beta = .22$, $p < .01$), the drive for muscularity ($\beta = .25$, $p < .001$), the drive for leanness ($\beta = -.18$, $p < .01$), and body site comparison, ($\beta = .21$, $p < .01$), were significant predictors. These results suggested that depilation of the chest is predicted by men who reported greater evaluation of their overall appearance, a

higher drive for muscularity and greater levels of body site comparison. Further, a greater drive for leanness is negatively associated with body depilation distinguishing this dimension of men's body image from the inverse finding with the drive for muscularity. For the abdomen, appearance evaluation, (β = .28, p < .01), body areas satisfaction (β = -.18, p < .05), the drive for muscularity (β = .26, p < .001), and the drive for leanness (β = -.16, p < .05), were significant predictors. These results suggested that depilation of the abdomen is associated with greater overall appearance evaluation and the drive for muscularity. In addition, men with higher scores on measures of body areas satisfaction and drive for leanness were less likely to depilate at this site.

For the pubic area, appearance evaluation (β = .18, p < .05) and body site comparison (β = .24, p < .001) were significant predictors. These results suggested that a greater level of appearance evaluation and body site comparison are associated with depilation at the pubic area. For the back, body areas satisfaction (β = .27, p < .01), the drive for muscularity (β = .30, p < .001), the drive for leanness (β = -.29, p < .001), and body site comparison (β = .18, p < .01) were significant predictors. These results suggested that men who depilate their back have greater satisfaction with specific body sites, greater drive for muscularity, and higher levels of body site comparison. They are also less likely to depilate with an increased drive for leanness. For the buttocks, the drive for muscularity (β = .35, p < .001), the drive for leanness (β = -.35, p < .001) and body site comparison (β = .28, p < .001) were significant predictors. These results suggested that depilation of the buttocks is associated with an increased drive for muscularity and level of body site comparison. An increased drive for leanness was associated with decreases in depilation at this site.

For the arms, appearance evaluation (β = .18, p < .05) and the drive for muscularity (β = .22, p < .01) were significant predictors. These results indicated that increases in appearance evaluation and the drive for muscularity predict depilation of the arms. Finally, for the legs, appearance evaluation (β = .32, p < .001), body areas satisfaction (β = -.26, p < .01), and body site comparison (β = .19, p < .01) were significant predictors. These results suggested that depilation of the legs is predicted by greater body site comparison and greater overall appearance evaluation. Increased satisfaction with specific body sites was associated with a decrease in depilation of the legs. In order to test for potential problems with multicollinearity among the four regression models tested with women, and the nine regression models tested with men, a VIF was computed for every predictor in each individual analysis. Results indicated that multicollinearity was likely not a problem with all VIF values falling well below 5.

Together, several themes emerge from these regression analyses. First, two measures of body image; appearance evaluation (AES) and body areas satisfaction (BASS) were often predictors of depilation and often in contradictory directions. This may be explained by the level of precision or preciseness of the measures with AES measuring overall appearance and tapping into the construct of physical attractiveness rather than body image, per se, whereas the BASS items mostly target satisfaction with body sites other than the face. An alternative explanation may be that satisfaction or positive evaluation may be a function of how participants rated themselves after rather than before depilation, thus connecting these results with the aforementioned affective dimensions of depilation which suggested that both genders experience negative affect when unable to depilate. Because the predictor variables included in the models were

measured independent of body depilation, and without any particular relationship to it, these may prove to be useful dimensions of body image to measure and analyze with instructions to future participants to answer these items with or without depilation in mind. For those who currently depilate, it is assumed that they completed these scales with their hairless appearance in mind.

Second, the drive for muscularity was predictive of depilation at several sites for men, though the drive for leanness was often predictive of depilation in the inverse direction. This suggests that depilation, and thus hairlessness for men, is a more prominent appearance strategy for those who aspire to and pursue a muscular as opposed to lean body type through behaviors such as diet, exercise, use of supplements, and anabolic steroid use. Finally, greater body site comparison was often a predictor of depilation at several sites for both genders. This finding supports **Exploratory Research Question C** in that greater levels of appearance comparison were associated with body depilation.

To further explore the predictive relationship of the study variables on body depilation among both genders, an additional set of simultaneous multiple regressions were undertaken to test the predictive relationship of these constructs using a composite score as the outcome. Although the use of a composite score is decidedly less precise, this type of procedure often aides in the interpretability of the results. A composite score was computed for each participant that summarized their depilation behavior by a mean frequency score across all body sites. The composite allowed for the role of the predictors to be examined against one outcome (i.e., all body sites where depilation occurs). Only those participants that did not currently depilate were excluded from these

analyses which left a total $N = 565$ for these two regressions by gender. The range of the composite score was .05 - 60 which indicated the number of times *per month* that a participant depilates. A score of .05 indicated depilation less than once per month, while a score of 60 represented depilation more than once per day. The descriptive statistics for the composite were as follows: $M = 8.52$, $SD = 9.26$ for the entire sample, and for women, $M = 11.47$, $SD = 9.47$, while for men, $M = 4.09$, $SD = 6.88$ across the same range of scores.

Among women, the model [which included appearance evaluation, body areas satisfaction, communion (femininity), body site comparison, and body hair satisfaction] predicted 7% of the variance, $R^2 = .07$, $F(5,333) = 4.85$, $p < .001$. Individually, the only predictor that accounted for an amount of unique variance in body depilation was body site comparison ($\beta = .23$, $p < .001$). For men, the model [which included appearance evaluation, body areas satisfaction, the drives for muscularity and leanness, agency (masculinity), and body site comparison] also predicted 7% of the variance, $R^2 = .07$, $F(6, 219) = 2.67$, $p < .05$. Individually, the only predictor that accounted for an amount of unique variance in body depilation was body site comparison ($\beta = .19$, $p < .05$) with the drive for muscularity marginally significant ($\beta = .15$, $p = .055$). The results from these regressions tested **Exploratory Research Questions B, C, and D**, and suggested that body site comparison is a key predictor of depilation for both genders. The findings lent support for **Exploratory Research Question C** and they are presented in Table 23.

Table 23

Regression of Body Depilation Composite on Appearance Evaluation, Body Areas Satisfaction, Communion (Femininity), Body Site Comparison, and Body Hair Satisfaction Scores (Women) and Appearance Evaluation, Body Areas Satisfaction, Drive for Muscularity, Drive for Leanness, Agency (Masculinity) and Body Site Comparison Scores (Men)

Women	*B*	*SE B*	*β*	*t*
Appearance Evaluation	1.25	1.06	0.12	1.18
Body Areas Satisfaction	-0.70	1.33	-0.05	-0.52
Communion (Femininity)	-1.08	0.80	-0.07	-1.35
Body Site Comparison	0.12	0.03	0.23***	4.06
Body Hair Satisfaction	-0.47	0.46	-0.06	-1.02
Total Model: R^2 = .07, F (5, 333) = 4.55, p < .001				

Men	*B*	*SE B*	*β*	*t*
Appearance Evaluation	0.70	0.89	0.08	0.79
Body Areas Satisfaction	-0.34	0.96	-0.04	-0.35
Drive for Muscularity	0.07	0.03	0.15+	1.93
Drive for Leanness	-0.08	0.09	-0.07	-0.88
Agency (Masculinity)	0.06	0.63	0.01	0.09
Body Site Comparison	0.07	0.03	0.19*	2.52
Total Model: R^2 = .07, F (6, 219) = 2.67, p < .05				

Note: N (Women) = 343, *N* (Men) = 257; * p < .05, *** p < .001, + p = .055

Zero-Order Correlations and Theoretical Foundations

In order to better understand the relationship of all of the constructs of interest being measured in the study with one another and to test hypothesis six, a Pearson correlation was conducted with all measures. A zero-order correlation matrix along with descriptive statistics and Cronbach's alpha are presented for all study measures in Table 24. Two measures developed for this study were evaluated with regard to their association with extant measures of social comparison, i.e., body site comparison (BCS) and physical appearance comparison (PACS). The BCS and body depilation comparison (BDAC) were moderately correlated, $r(600) = .43$, $p < .001$, as was the BCS and depilation social norms (SN), $r(600) = .39$, $p < .001$. Further, these scales, which were developed for this study, were also reasonably correlated with the PACS. The PACS was positively correlated with the BDAC scale, $r(600) = .25$, $p <. 001$, and the SN scale, $r(600) = .31$, $p <. 001$. These significant correlations supported **Hypothesis Six** in that measures of body depilation comparison and depilation social norms were correlated with measures of body site comparison and physical appearance comparison.

In order to examine gender differences among the three measures which assessed appearance comparison (i.e., physical appearance comparison, body comparison, and body depilation comparison), and social norms (i.e., depilation social norms) a one-way ANOVA was used with gender as the independent variable and the z-scored conversions of each of these scale's total scores as outcome. Women's comparison and endorsement of social norms exceeded that of men on each of the four scales. Table 25 presents the results from the analysis of variance along with the mean and standard deviation of each of the scales by gender converted into z-scores for better interpretability.

Table 24

Descriptive Statistics and Zero-Order Correlation Matrix

Construct/Scale	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.
1. Appearance Comparison	-	.67**	.25**	.31**	-.28**	-.33**	.29**	.42**	.19**	.35**	.10*	-.18**
2. Body Site Comparison		-	.43**	.39**	-.29**	-.35**	.29**	.43**	.21**	.42**	.06	-.22**
3. Depilation Comparison			-	.36**	-.10*	-.13*	.24**	.29**	.26**	.28**	-.05	-.19**
4. Depilation Social Norms				-	-.22**	-.26**	.11*	.25*	-.07	.34**	.19**	-.12**
5. Appearance Evaluation					-	.80**	.03	-.38**	-.06	-.47**	.02	.47**
6. Body Areas Satisfaction						-	-.03	-.44**	-.07	-.43**	.001	.42**
7. Drive for Leanness							-	.22**	.43**	.04	-.01	.01
8. Drive for Thinness								-	.02	.40**	.06	-.22**
9. Drive for Muscularity									-	.001	-.21**	-.14**
10. Body Image Disturbance										-	.09*	-.33**
11. Communion (Femininity)											-	.36**
12. Self-Esteem												-
Mean	12.30	63.12	26.00	23.83	3.52	3.43	24.05	21.96	36.49	1.69	2.87	54.88
SD	3.52	19.24	10.04	6.76	.84	.72	6.05	7.62	15.19	.68	.71	11.81

Note: Scale ranges for continuous measures: 1. PACS 4-20; 2. BCS 25-125; 3. BDAC 10-60; 4. SN 7-42; 5. AES 1-5; 6. BASS 1-5; 7. DLS 6-36; 8. EDI-DT 7-42; 9. DMS 15-90; 10. BIDQ 1-5; 11. PAQ-F 0-4; 12. RSES 10-70;
* $p < .01$, ** $p < .001$ $N = 600$

Table 25

One-way Analysis of Variance with Gender as the Independent Variable and Physical Appearance Comparison, Body Comparison, Body Depilation Comparison, and Depilation Social Norms Z-score conversions as Outcomes

		Women		Men		
	Scales	*M*	(*SD*)	*M*	(*SD*)	*F*
1.	Physical Appearance Comparison	.15	.97	-.20	1.00	18.38, p <.001
2.	Body Comparison	.18	.93	-.24	1.04	26.83, p <.001
3.	Body Depilation Comparison	.07	.96	-.10	1.04	4.46, p <.05
4.	Depilation Social Norms	.26	.93	-.35	1.00	58.94, p <.001
	Scale Ranges	Min	Max			
1.	Physical Appearance Comparison	-2.36	2.19			
2.	Body Comparison	-1.98	3.22			
3.	Body Depilation Comparison	-1.59	3.39			
4.	Depilation Social Norms	-2.50	2.24			

Note: N = 600; Women N = 343; Men N = 257

Further examination of the other correlations observed in the zero-order correlation matrix revealed notable associations. For example, the drive for thinness was moderately correlated with appearance comparison, $r(600) = .42$, $p < .001$, body site comparison, $r(600) = .43$, $p < .001$, and body depilation comparison, $r(600) = .29$, $p < .001$. These correlations suggest a relationship with a social comparison of overall appearance, specific body sites, and observation of depilation by others, to be associated with a drive for thinness. Several of the constructs measured also had notable correlations with body image disturbance using an instrument that measures this construct continuously and assesses for probable BDD (i.e., the BIDQ).

The drive for thinness was correlated with BDD symptomatology, $r(600) = .40$, $p < .001$, as were all three measures of appearance comparison and the measure of social norms including overall appearance comparison, $r(600) = .35$, $p < .001$, body site comparison, $r(600) = .42$, $p < .001$, body depilation comparison, $r(600) = .28$, $p < .001$, and depilation social norms, $r(600) = .34$, $p < .001$. Measures of appearance evaluation, $r(600) = -.47$, $p < .001$, and body areas satisfaction, $r(600) = -.43$, $p < .001$, were strongly negatively correlated with BID/BDD. These results suggested that BID and BDD symptomatology are influenced by greater levels of physical appearance comparison, greater levels of body site comparison, greater levels of body depilation comparison, greater agreement in support of the hairless norm (ideal), and lower levels of appearance evaluation and body areas satisfaction. These results were all in the expected direction and they suggested a relationship between multiple dimensions of appearance comparison, body satisfaction, and BID/BDD symptomatology. The results also

provided a foundation to test the next hypothesis; namely that several of these constructs will uniquely predict BID and symptoms consistent with BDD.

Additional correlational analyses were undertaken to examine gender differences among the constructs measured. These Pearson correlations by gender revealed that the association of depilation comparison with overall physical appearance comparison was much stronger for men, $r(257) = .33$, $p < .001$, than for women, $r(343) = .17$, $p < .001$. Likewise, for men, $r(257) = .21$, $p < .01$, femininity was positively correlated with depilation social norms, whereas this was a non-significant association for women, $r(343) = .05$, $p > .05$. Finally, these comparative analyses revealed that for men, body depilation comparison, $r(257) = .34$, $p < .001$, and depilation social norms, $r(257) = .36$, $p < .001$, were more strongly correlated with body image disturbance than for women, $r(343) = .23$, $p < .001$ (body depilation comparison) and, $r(343) = .27$, $p < .001$ (depilation social norms). These results suggested that men may be more likely than women to socially compare themselves and their level of visible body hair with other like peers, that men who are higher in communion (femininity) are more likely to view depilation as socially normative for men, and finally that body depilation may be a more salient issue, as it relates to body image disturbance, for men than for women. The results of these correlations tested **Exploratory Research Question E**, and they are presented by gender in Table 26.

Table 26

Descriptive Statistics and Zero-Order Correlation Matrix by Gender

	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.
1. Appearance Comparison	-	.61***	.17***	.28***	-.36***	-.40***	.31***	.47***	.15**	.34***	.07	-.26***
2. Body Site Comparison	.72***	-	.40***	.38***	-.33***	-.40***	.35***	.43***	.29***	.39***	-.02	-.31***
3. Depilation Comparison	.33***	.44***	-	.32***	-.09	-.14*	.27***	.30***	.31***	.23***	-.13*	-.21***
4. Depilation Social Norms	.27***	.31***	.38***	-	-.19***	-.25***	.18**	.19**	.02	.27***	.05	-.19***
5. Appearance Evaluation	-.13*	-.21***	-.08	-.21**	-	.84***	-.05	-.39***	-.20***	-.51***	.10	.49***
6. Body Areas Satisfaction	-.19**	-.25***	-.09	-.21**	.74***	-	-.12*	-.43***	-.29***	-.47***	.10	.50***
7. Drive for Leanness	.36***	.32***	.23***	.14*	.11	-.04	-	.34***	.40***	.10	.06	-.07
8. Drive for Thinness	.27***	.35***	.25***	.14*	-.31***	-.41***	.20**	-	-.21***	-.02	-.07	-.26***
9. Drive for Muscularity	.46***	.40***	.36***	.14*	-.03	-.02	.43***	.20***	-	-.19***	.20***	-.20***
10. Body Image Disturbance	.29***	.39***	.34***	.36***	-.38***	-.32***	.04	.27***	.11	-	.07	-.42***
11. Communion	.05	.04	-.00	.21**	-.02	-.03	-.00	-.01	-.06	.13*	-	.33***
12. Self-Esteem	-.10	-.15*	-.18**	-.08	.43***	.34***	.14*	-.22***	-.08	-.25***	.40***	-

* $p < .05$, ** $p < .01$, *** $p < .001$ N = 343 (Women – *right side of graph*); 257 (Men – *left side of graph*)

Body Depilation Correlates as Predictors of Body Image Disturbance

It was anticipated that greater BID would correspond with greater levels of body site comparison, a higher drive for leanness, thinness, and muscularity, less satisfaction with appearance and individual body sites, lower self-esteem, as well as greater body depilation comparison, greater endorsement of depilation as socially normative, and higher levels of communion (femininity). This expectation was outlined in **Exploratory Research Question F**. It was also expected that a model including each of these salient constructs that were measured in the study: body site comparison, appearance evaluation, body areas satisfaction, the drives for leanness, thinness, and muscularity, body depilation comparison and depilation social norms, communion (femininity), and self-esteem, would significantly predict BID and BDD symptomatology. In order to test these expectations and examine the individual and unique predictions of BID made by these variables, a hierarchal multiple regression analysis was conducted. The first block contained the predictors entered that are already known to affect the outcome of BDD including body site comparison (BCS), appearance evaluation (AES), body areas satisfaction (BASS), and self-esteem (RSES). The second block contained the rest of the predictors because they are considered exploratory; these predictors were also entered into the model. The results of this analysis that tested **Exploratory Research Question F** were in the predicted direction and are presented in Table 27. Due to potential differences between the genders, these analyses were conducted separately for women and men.

Table 27

Regression of Body Image Disturbance on Body Site Comparison, Appearance Evaluation, Body Areas Satisfaction, the Drives for Leanness, Thinness, and Muscularity, Body Depilation Comparison, Body Depilation Social Norms, Communion (Femininity) and Self-Esteem Scores

Women

	B	*SE B*	*β*	*t*
Body Site Comparison	0.01	.00	0.13*	2.37
Appearance Evaluation	-0.27	0.07	-0.33***	-4.00
Body Areas Satisfaction	0.04	0.08	0.04	0.51
Drive for Leanness	-0.01	0.01	-0.07	-1.28
Drive for Thinness	0.01	0.01	0.14**	2.61
Drive for Muscularity	.00	.00	0.05	0.87
Body Depilation Comparison	.00	.00	0.06	1.12
Body Depilation Norms	0.01	.00	0.09	1.78
Communion (Femininity)	0.07	0.05	0.07	1.36
Self-Esteem	-0.01	.00	-0.20***	-3.54

Total Model: $R^2 = .37$, F (10, 332) = 19.30, $p < .001$

Men

	B	*SE B*	*β*	*t*
Body Site Comparison	0.01	.00	0.22***	3.42
Appearance Evaluation	-0.16	0.06	-0.22**	-2.72
Body Areas Satisfaction	0.02	0.06	0.02	0.24
Drive for Leanness	-0.00	0.01	-0.03	-0.51
Drive for Thinness	0.01	0.01	0.06	0.90
Drive for Muscularity	-0.00	.00	-0.06	-0.97
Body Depilation Comparison	0.01	.00	0.16*	2.44
Body Depilation Norms	0.01	0.01	0.15*	2.48
Communion (Femininity)	0.10	0.05	0.13*	2.21
Self-Esteem	-0.01	.00	-0.13	-1.95

Total Model: $R^2 = .33$, F (10, 246) = 12.02, $p < .001$

Note: N (Women) = 343, *N* (Men) = 257; *$p < .05$, **$p < .01$, ***$p < .001$

Among women, model 1 (BCS, AES, BASS, and RSES) predicted 34% of the variance, $R^2 = .34$, $F(4,338) = 43.17$, $p < .001$. As anticipated, after controlling for all of these variables, the exploratory constructs including the drives for thinness, leanness, and muscularity, body depilation comparison, depilation social norms, and communion (femininity) contributed an additional 3% of the variance $R^2 = .37$, $F(10,332) = 19.30$, $p < .001$. This analysis also allowed for an inspection of the unique variance accounted for by the predictor variables. Individually, appearance evaluation accounted for the greatest amount of unique variance in BID ($\beta = -.33$, $p < .001$), followed by self-esteem ($\beta = -.20$, $p < .001$), the drive for thinness ($\beta = .14$, $p < .01$), and finally body site comparison ($\beta = .13$, $p < .05$) which accounted for the least amount of variance in BID.

Among men, as anticipated, model 1 (BCS, AES, BASS, and RSES) predicted 25% of the variance, $R^2 = .25$, $F(4,252) = 21.14$, $p < .001$. After controlling for these variables, the exploratory constructs contributed an additional 8% of the variance $R^2 = .33$, $F(10, 246) = 12.02$, $p < .001$. Individually, body site comparison accounted for the greatest amount of unique variance in BID ($\beta = .22$, $p < .001$), followed by appearance evaluation ($\beta = -.22$, $p < .01$), body depilation comparison ($\beta = .16$, $p < .05$), body depilation social norms ($\beta = .15$, $p < .05$), and finally communion (femininity; $\beta = .13$, $p < .05$). Contrary to the outlined expectations noted in **Exploratory Research Question F**, all of the independent variables did not significantly predicted BID/BDD symptomatology, though each of the predictors did so in the expected direction. Greater additional variance was explained for men than women as a result of the exploratory predictors, and the genders also differed with regard to which variables predicted BID/BDD symptomatology with both sharing body site comparison and appearance

evaluation. For women, self-esteem and the drive for thinness were unique predictors; while for men, body depilation comparison, depilation social norms, and communion (femininity) were unique predictors.

In order to test for potential problems with multicollinearity, a VIF was computed for each predictor. Results indicated that multicollinearity was likely not a problem with all VIF values falling well below 5. The results of this regression model indicated that body site comparison, appearance evaluation, and self-esteem were significant predictors of BID for both genders (self-esteem was marginally significant $p = .053$ for men), which replicated previous work. The exploratory variables differentially predicted BID by gender. For example, the drive for thinness was a strong predictor for women, while body depilation comparison, body depilation social norms, and communion (femininity) were relatively weaker predictors for men. The effect sizes were especially large for appearance evaluation, consistent with previous research, indicating that this construct is particularly relevant when predicting BID. Further work is necessary in this area of research in order to better account for variance in BID perhaps with models that differ by gender.

In order to further examine BID/BDD symptomatology differences among the demographic groups included in the study, first a series of procedures were undertaken to examine the degree of group heterogeneity.

Tests to explore Demographic Group Heterogeneity

A t-test was performed to measure group age differences between the heterosexual and sexual minority groups, revealing no significant differences, $t(598) = -0.54$, $p > .05$. In addition, no differences on age were found among the genders $t(598) =$

- 1.27, p >.05. A chi-square test was performed to measure racial/ethnic diversity amongst the heterosexual and sexual minority groups with no significant differences found, χ^2 (13, 600) = 8.74, p >.05; in addition, no differences were observed among the two genders χ^2 (13, 600) = 6.39, p > .05. These tests revealed between group homogeneity on age, race/ethnicity, and sexual orientation composition.

Chi-square tests were also conducted to examine racial/ethnic group differences in the highest level of education attained, χ^2 (60, 600) = 23.96, p >.05, and relationship status, χ^2 (48, 600) = 17.5, p >.05. Both tests revealed no significant group differences. These results indicated that the racial/ethnic groups did not significantly differ in terms of highest education attained, or relationship status.

Chi-square tests were also conducted to test for gender group differences in racial/ethnic composition, χ^2 (12, 600) = 6.39, p <. 05, the highest level of education attained, χ^2 (10, 600) =.84, p >.05, and relationship status, χ^2 (8, 600) = 16.60, p < .01. The first two tests revealed no significant group differences by gender in racial/ethnic composition or highest level of education attained. The final result indicated that the genders differed significantly in terms their reported relationship status. Women, who participated in the study, were more likely to report being married, divorced or in a committed relationship (domestic partnership) than men.

Chi-square tests were also conducted to test for sexual orientation group differences in the highest level of education attained, χ^2 (11, 600) = 5.98, p >.05, and relationship status, χ^2 (9, 600) = 2.03, p >.05. Both tests revealed no significant group differences. These results indicated that the heterosexual and sexual minority groups did

not differ significantly in terms of age, racial/ethnic makeup, highest level of education attained, or relationship status.

These tests were performed to ensure sufficient diversity across the independent demographic variables being used in an analysis of covariance (ANCOVA) statistical procedure. In summary, the tests suggest that the groups are equal in their diversity with one exception: women were more likely to report being in a relationship than men.

Body Image Disturbance as an Outcome

An omnibus ANCOVA model would be best suited to examine these data to test the relationship between gender, race/ethnicity, and sexual orientation on body image disturbance and BDD symptomatology using age, body mass index (BMI), and body hair as covariates. Unfortunately, this 2 x 4 x 2 design had insufficient cell sizes across several of the groups. For example, Asian American sexual minority men (N = 1) or African American sexual minority women (N = 7), revealed insufficient cell sizes to conduct the proposed factorial ANCOVA. Table 28 presents the cross tabulation of the demographic groups originally proposed for the 2 x 4 x 2 design. After inspection revealed that several cells that were too small to conduct the omnibus test, it was decided instead that two ANCOVAs would be conducted to examine the relationships among these variables. The first model was a gender (2 levels) by race/ethnicity (4 levels) with Native Americans and Arab Americans excluded due to insufficient cell sizes, while the second model was a 2 x 2 gender by sexual orientation ANCOVA.

In order to assess the relationship between gender, racial/ethnic group, and BID including symptoms of BDD, a 2 x 4 ANCOVA was conducted with gender and race/ethnicity as the independent variables, BDD symptomatology as the dependent

variable, and age, BMI, and total body hair as covariates. Results indicated that there was a significant interaction, $F(3, 577) = 2.79$, $p < .05$, $\eta_p^2 = .02$. In partial support of **Hypotheses 7 and 8**, the interaction suggested that while Latinas ($M = 1.92$, $SD = .70$) and Caucasian American women ($M = 1.90$, $SD = .73$) were roughly equal in their scores, together their level of body image disturbance and BDD symptomatology was higher than African American women ($M = 1.57$, $SD = .56$), African American men ($M = 1.58$, $SD = .61$), Asian American men ($M = 1.40$, $SD = .45$), Latinos ($M = 1.46$, $SD = .63$), and Caucasian American men ($M = 1.46$, $SD = .55$). One additional observed result was that Asian American women ($M = 1.78$, $SD = .82$) had significantly higher scores than Caucasian American men.

These results suggest that Caucasian American women and Latinas have the greatest body image disturbance and BDD symptomatology compared to the other gender and racial/ethnic groups evaluated even after controlling for age, BMI, and body hair growth while the scores of African American women along with men of all the included racial/ethnic groups were lower on this construct. The effect size was small. The results from this test along with means and standard deviations are presented in Table 29.

In order to assess the relationship between gender, sexual orientation, and body image disturbance, a 2 x 2 ANCOVA was conducted with gender and sexual orientation as the independent variables, BID/BDD symptomatology as the dependent variable, and age, BMI, and level of body hair growth as the covariates. Results indicated that there was a significant interaction of gender with sexual orientation on the level of body image disturbance even after controlling for the effects of age, BMI, and level of body hair growth, $F(1, 581) = 4.89$, $p < .05$, $\eta_p^2 = .01$. As hypothesized, the interactive effect

demonstrated that sexual minority women (*M* = 1.95, *SD* = .69), heterosexual women (*M* = 1.83, *SD* = .72), and sexual minority men (*M* = 1.84, *SD* = .55) endorsed significantly greater BID and symptoms of BDD than heterosexual men (*M* = 1.41, *SD* = .54). These findings partially supported **Hypothesis Nine** which predicted that sexual minority women would demonstrate the highest reported level of BID/BDD symptomatology compared to the other groups. In fact, this analysis demonstrated similarly high scores on the outcome for three of the groups: sexual minority women and men, and heterosexual women when compared to heterosexual men. This suggested that heterosexual men experienced little body image disturbance compared with heterosexual women or all sexual minorities consistent with previous scholarly findings in this area. The effect size was small. Table 29 presents the results from these analyses comparing the group means and standard deviations (i.e., ANCOVA B).

Table 28

Sample Size of Demographic Groups

Women

Race/Ethnicity	Heterosexual	Sexual Minority
African American	36	7
Arab American	3	2
Asian American	29	2
Latinos/as	49	9
Native American	0	0
Caucasian American	162	42

Men

Race/Ethnicity	Heterosexual	Sexual Minority
African American	27	6
Arab American	1	0
Asian American	16	1
Latinos/as	31	7
Native American	2	0
Caucasian American	141	23

Note: N = 596. This reflects four fewer cases that were previously reported as the sample size because some participants did not report any racial/ethnic category. These participants were omitted from this table.

Table 29

A 2 (gender) x 4 (race/ethnicity) Analysis of Covariance and a 2 (gender) x 2 (sexual orientation) Analysis of Covariance with Body Image Disturbance/BDD as the Dependent Variable and age, BMI, and Body Hair as Covariates

	Women		Men		
	M	(*SD*)	*M*	(*SD*)	*F*
ANCOVA:					
A. Gender x Race/Ethnicity					2.79, $p = .04$
1. African American	1.57	.56	1.58	.61	
2. Asian American	1.78	.82	1.40	.45	
3. Latinos/as	1.92	.70	1.46	.63	
4. Caucasian American	1.90	.73	1.46	.55	
B. Gender x Sexual Orientation					4.89, $p = .03$
1. Sexual Minority	1.95	.69	1.84	.55	
2. Heterosexual	1.83	.72	1.41	.54	

Note: Partial eta-squared for ANCOVA A = .02 (small estimated effect size), and partial eta-squared for ANCOVA B = .01 (small estimated effect size).

Discussion

Body Depilation involves the reduction or removal of body hair from the neck down. It is a behavior that is shared by both genders at a very high prevalence. For example, this study found that 98% of women, and 81% of men currently depilate at at-least one of 12 body sites. These prevalence estimates are consistent with previous findings in the literature (e.g., Boroughs, under review; Boroughs et al., 2005; Martins et al., 2008a). A key finding from this study, related to observed differential prevalence by gender, was that about 12% of men depilated in the past, but have ceased to do so, while less than 1 % of women reported cessation of depilation. This result suggests that while depilation may be a shared behavior among both genders, its meaning and function serve different purposes. This is the first study to measure depilation among women and men simultaneously thus allowing for head-to-head comparisons on key outcomes of interest. The results of this study may offer new directions to the burgeoning literature into issues that surround body hair and its reduction and removal by women and men.

Though depilation has been previously studied among men with related constructs such as appearance evaluation, body areas satisfaction, the drive for muscularity, and gender role conflict, this study was the first to investigate potential correlates of body depilation with both genders on a variety of dimensions of body image appropriate for both genders. While some results replicated previous findings regarding body depilation correlates for men, other findings provided more evidence for the relationship between

depilation and appearance comparison as well as the role of both natural body hair growth, and its depilation, as they relate to body image disturbance and BDD symptomatology (Boroughs, 2012).

A related but not surprising finding was that higher levels of body image disturbance/BDD symptomatology was positively associated with higher levels of physical appearance comparison, body site comparison, body depilation comparison, greater agreement in support of the hairless norm (ideal), and lower levels of appearance evaluation and body areas satisfaction. This finding provided a foundation with which to test the predictive ability of these constructs to explain variance in body image disturbance and BDD.

For example, among women, greater appearance comparison and drive for thinness along with lower appearance evaluation and self-esteem were significant predictors of BID/BDD symptomatology. Although men shared appearance comparison and appearance evaluation as predictors (in the same direction), other constructs such as body depilation comparison, depilation norms and communion (femininity) were also predictive of this outcome. These findings suggests that appearance comparison is a salient construct of interest for both genders with regard to BID, but that for men only, other dimensions of comparison, e.g., specifically comparing with like others on depilation, contribute uniquely to their body image disturbance. Because depilation is a relatively new behavior among contemporary men, the results suggest that increased comparison with like others may play a role in creating a new hairless appearance norm for men. Further, these observations of either naturally hairless or depilated others may inform men about expectations for the appearance of their body hair and possibly

influence decisions to depilate that affect body satisfaction and influence body image disturbance.

The current study also adds to the current body of literature by finding that constructs considered correlates of body depilation were predictive of depilation at certain body sites. Indeed, this study was also the first to test models that would predict body depilation among both genders. Although the variances accounted for were rather small for some of the body sites that were tested, it does appear that some of the constructs measured in the study that were thought to be associated with body depilation are relevant to, and predictive of, the behavior. For women, 11% of the variance was accounted for in depilation of arm hair by the constructs included in the model. Greater body site comparison was most predictive, followed by dissatisfaction with body hair overall, and communion (femininity). For men, 13% of the variance was accounted for in depilation of chest hair by the constructs included in the model. Increased drive for muscularity was most predictive, followed by appearance evaluation, body site comparison, and lower drive for leanness.

Surprisingly, four of the body sites tested for men in these models resulted in an inverse relationship between the constructs of drive for muscularity and drive for leanness. This is a rather curious finding because these constructs are thought to be well correlated with one another for men (see Smolak & Murnen, 2008). The inverse relationship may be attributed to different goals of hair appearance on the body related to preference for either a lean or muscular build. It is unclear if this, or another, hypothesis might explain this finding particularly given the lower variances accounted for at many of the body sites for both genders. Nevertheless, these analyses provide for a foundation

with which to further investigate other constructs that may be more predictive of body depilation. Future work may further our understanding of the role of social comparison as it relates to depilation because this construct seems to individually predict in many of the models for both genders.

One of the goals of this study was to examine theoretical explanations of depilation. This was accomplished by evaluating the association of general measures of bodily social comparison, such as physical appearance comparison and body site comparison, with measures that were developed for this study designed to assess body depilation comparison and depilation social norms. For example, using the whole sample, body site comparison was correlated with body depilation comparison and depilation social norms. The two newly developed scales were also associated with one another. A further examination of these associations by gender revealed that for men there was a stronger relationship between body site comparison and body depilation comparison, whereas for women the stronger relationship was between body site comparison and depilation social norms. Body depilation comparison appears to be an independent dimension of appearance comparison. While these results will require replication and further examination in future work, these preliminary findings are promising regarding the central role of appearance comparison, i.e., Social Comparison Theory, as an underlying theoretical paradigm with which to predict and explain body depilation.

Analysis of the instrument developed to measure depilation social norms revealed that although depilation social norms were higher among women, elevations were associated with body image disturbance for both genders. Further this construct was a unique predictor of body depilation for men, but not for women. Particularly in light of

the prevalence differences between the genders as well as the differences in reasons for depilation that were reported, Social Norms Theory should be further evaluated in future work in order to better understand its role in body depilation.

Together these findings may further buttress the argument that body depilation is strongly socially normative for women, more so than for men, and that men may engage in greater levels of comparison in order to make decisions about the appearance of their body hair such that a hairless appearance is not yet as normative for men as it is for women. An alternative hypothesis might relate to the genesis of depilation and how that differs between genders. Women reported engaging in depilation significantly longer than men, and they also were more likely to attribute depilation to being taught by others (e.g., mothers, older sisters, or peers) at much higher rates than men. Women also, almost universally, utilized depilation methods that removed hair completely, in contrast with men, who often used methods that reduced, i.e., trimmed hair to leave stubble. For these reasons, the relationship between body depilation comparison and overall body site comparison may differ for men because women likely compare themselves to other hairless women with no level of stubble in-between hairlessness and hairy to be observed.

Another novel aspect of this study involved the investigation of demographic differences in body image disturbance while holding age, BMI, and body hair growth constant. Significant interactions were observed suggesting that body image disturbance and symptoms of BDD were highest among Caucasian American women and Latinas compared to the other demographic groups that were tested in the model. Heterosexual men had the lowest levels of body image disturbance when compared to heterosexual women and sexual minority women and men. Sexual minority women had the highest

rate of body image disturbance relative to all of the other demographic groups measured which replicates findings from similar recent studies in this area (see Boroughs, Krawczyk & Thompson, 2010; Peplau, Frederick, Yee, Maisel, Lever & Ghavami, 2009).

While two scales (BDAC, SN) were developed specifically for this study, one additional scale was modified greatly in order to measure body hair growth (BoDeQ-BHM). All of the developed scales were evaluated and shown to have acceptable psychometric properties. A surprising result from the body hair measurement scale was the factor structure that was extracted. When the entire sample was used, two factors emerged, but when the sample was divided by gender, a two-factor solution was extracted for women, while a 3-factor solution was extracted for men. These results made little theoretical sense. Further developmental work is needed in this area, particularly tests of the factor structure with another sample through confirmatory factor analysis. It is unclear how accurate self-reported body hair growth before depilation is without independent objective measurement. One hypothesis that might explain the gender differences is the smaller sample size of the men's group. Two hundred participants are considered minimally acceptable in order to conduct a factor analysis. Future research may endeavor to collect more data in order to examine the factor structure more closely. Additionally, perhaps collapsing certain body sites, e.g., feet with legs, or hands with arms, may result in clearer outcomes that allow for better interpretation of the factor structure.

This study was not without additional limitations. As with many studies, the cross-sectional design was a limitation along with the data being collected from a single geographic location and among a university student population with a relatively

homogeneous age distribution. Statistical procedures that might have been most appropriate to analyze the data had to be replaced with less sophisticated tests in order to accommodate small and asymmetrical cell sizes where insufficient data were available.

For example, an omnibus factorial ANCOVA (2 x 4 x 2) design would have been ideal to test differences in body image disturbance/BDD symptomatology, but cell sizes remained too small in order to conduct such an omnibus analysis so the preferred ANCOVA model had to be broken-up into two smaller analyses. The findings from this study are limited in their external validity because the sample was constrained not only geographically, but also by the inability to compare all of the demographic features of interest with one another. Future work should endeavor to include a variety of geographic regions of the United States, expand data collection into community samples which may result in greater age variance, and additional cross-cultural work is also indicated. Researchers might also find more novel ways with which to collect data from traditionally understudied communities, inclusive of a variety of racial/ethnic and sexual orientation groups so that the prevalence and presentation of body depilation might be compared among a variety of diverse groups.

In a similar vein, a possible limitation associated with the data collected for this study comes from the internet based methodology (rather than data being collected in a psychology laboratory) and the possibility of a greater level of inattentiveness by study participants. Recent data suggests that as many as 48% of participants in the university data pool, where these data were collected, reported at least one distracter while participating in another web-based study (Vandello, personal communication). These distracters included talking or texting on a telephone, talking with others, watching

television, or browsing the internet. While these issues of attentiveness are of concern, the data from this study are consistent with previous investigations which utilized more traditional lab-based methodologies. In addition, researchers have compared internet-based versus lab-based studies and have found that the relative benefits, i.e., greater diversity in the samples measured and more truthful responding on sensitive issues, outweigh the potential problems (Dillman, 1999; Gosling, Vazire, Srivastava, & John, 2004; Reimers, 2007; Schmidt, 1977; Smith & Leigh, 1997).

Men reported being single and romantically unattached at a significantly greater rate than women. This demographic difference may have affected some of the results of the study. Women reported greater pressure to depilate before being seen by others including significant others, and therefore these relational differences may explain some of the gender differences found with regard to the affective dimensions of depilation. In addition, much of the data collected on body depilation is descriptive and categorical (i.e., items such as "does depilation take place at a given site or not", or "how is depilation accomplished at that site," etc.), which limits the use of more sophisticated analyses.

An additional methodological limitation was realized through the use of the PAQ which measured gender roles. Although it is likely that continuous measurement of femininity and masculinity are implicated in body depilation, just as they are in other areas of body image research, many of the extant scales seem to tap into a different dimension of gender roles (i.e., personality traits) rather than what is needed with this work. An effort should be made to identify a scale that measures femininity and masculinity as they relate to issues of appearance or perhaps self-presentation, because

that aspect of gender roles is likely a more appropriate dimension of the construct and may prove to be associated with the outcomes of interest.

Despite these limitations, and potentially others that have not been identified here, the results of the present study added to the literature by being the first to investigate gender differences in body depilation from the same measured sample, describing the features of depilation by gender in a comparative way, measuring affective dimensions of depilation across gender, predicting depilation at key body sites for both genders, postulating a workable foundation for theoretical approaches to depilation by tethering depilation to theoretically-based measures of both appearance comparison and depilation social norms, connecting body hair and depilation to body image disturbance and BDD symptomatology, and further investigating how BID/BDD are disorders that differentially impact gender, sexual orientation, and racial/ethnic groups. Additional contributions include two new measures that were developed and a third modified to include a new body hair measurement scale. It is hoped that the findings of this study will lead to new investigations in this area and potentially include experimental models which might examine the role of depilation in appearance satisfaction, i.e., because individuals are able to accomplish a hairless body with relative ease and low cost in their own homes through depilation.

Future work may collapse some categories previously investigated, such as reducing body sites by merging hands with arms, etc., but also by expanding upon areas not yet explored such as the role of hair color in depilation. Future work might also include a balanced methodological approach that includes additional qualitative work, i.e., to better understand from those that depilate what “cleanliness” [an oft cited reason

for depilation] means with regard to reducing or removing their body hair, as well as to further theoretical development. With regard to further theoretical work, although a variety of theoretical models have been proposed, tested, and documented in explaining body image disturbance, adapting these approaches to help understand body depilation is just at the very earliest stages.

Theoretical models of body image have generally been organized into three broad categories: perceptual, developmental, and sociocultural (Calogero, Boroughs, & Thompson, 2007; Heinberg, 1996). Over the last 15 years, support for these models has been demonstrated through a myriad of studies that have leaned toward sociocultural perspectives and the evidence, thus far, suggests that sociocultural theoretical paradigms hold the most promise in explaining depilation.

Sociocultural theoretical models that have been applied in the area of BID and eating pathology are diverse and multidimensional. These include social reinforcement theory, cognitive processing models, social comparison theory, and the Tripartite Influence Model of body image (Keery et al., 2004; Shroff et al., 2006; Thompson & Stice, 2001). In an effort to demonstrate the mechanisms for body image disturbance, researchers looked to risk factors associated with its development. Using a variety of methodologies, findings demonstrate that the internalization of societal standards of attractiveness is a causal risk factor for body-image and eating disturbances (Thompson & Stice, 2001). Characterized as "thin-ideal internalization", this process is thought to result from individuals internalizing thoughts and attitudes that are approved of by significant or respected others (Kandel, 1980; Thompson & Stice, 2001).

Indeed this study found that some degree of internalization may take place regarding depilation practices with support for the social normativity of depilation, depilation comparison, and gender differences in affective feelings about depilation before being seen by others. This social reinforcement of an ideal body, in the case of women, “a thin ideal” is perpetuated by various socializing agents, e.g., family, peers, and media that communicate expectations in support of the thin ideal and potentially an analogue, a hairless ideal (Hohlstein, Smith, & Atlas, 1998). This reciprocal arrangement involves ongoing social feedback, both implicit and explicit, whereby the predominant cultural body image message is made clear: thinness is equal to beauty, acceptance, and success.

Though this theoretical model has not yet been tested in the area of body depilation, clearly the internalization of societal standards, particularly for women, holds promise as a model to explain the genesis and maintenance of depilation. The feedback processes noted would most likely apply beyond dissatisfaction with the level of thinness, but also to other appearance related issues such as the smoothness of skin and hairlessness. Other studies have shown that women attribute their body hair removal to socially normative reasons or to maintaining femininity and attractiveness (see Basow, 1991; Tiggemann & Kenyon, 1998; Tiggemann & Hodgson, 2008; Toerien & Wilkinson, 2003, 2004; Toerien, Wilkinson, & Choi, 2005). Though thin-ideal internalization refers to the extent to which an individual cognitively "buys into" socially defined ideals of attractiveness and engages in behaviors designed to produce an approximation of these ideals (Thompson et al., 1999); the process of “buying in” is likely similar for women in attributing depilation behaviors. This suggests that further research is needed to test this

theoretical model in women's body depilation. Young women are surrounded by parents (i.e., mostly their mothers) that likely instruct them on how to depilate, other family members (e.g., aunts or cousins) who perpetuate the behavior as a norm, peers who engage in the same behavior, and media that regularly show most, if not all, adult women portrayed as hairless. Given the great deal of advertising dollars spent in support of products with which to remove hair, it is no wonder that this message of hairlessness is internalized by girls early on in their development. In sum, sociocultural theoretical models, particularly the Tripartite Influence Model, are likely a fruitful theoretical avenue worthy of further exploration in this area.

In conclusion, despite the outlined limitations and the future directions that were offered, the results of the present study suggest that body depilation is a key element of body image for both women and men, that a hairless norm exists for women and may be emerging for men, that sociocultural theoretical perspectives show promise as an underlying explanation for depilation, that level of body hair is associated with body image disturbance and symptoms of BDD, and that BID/BDD are disorders that differentially impact gender, sexual orientation, and racial/ethnic groups. It is hoped that the findings of this study will stimulate further theoretical work to guide future investigations into this area.

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Appendix I:

Measures and Instrumentation

Appendix I-A: Measurement of Sexual Orientation (adapted from: Epstein, 2007, 2009; Moradi, Mohr, Worthington & Fassinger, 2009; Worthington & Reynolds, 2009)

1. Please check one of the following that best describes your sexual attraction toward others:

1- attracted only to the same sex
2- mostly attracted to the same sex but sometimes to the opposite sex
3- attracted to both sexes equally
4- mostly attracted to the opposite sex but sometimes to the same sex
5- attracted only to the opposite sex

2. Please check one of the following that best describes your sexual behavior with others:

1- sexual activity only with the same sex
2- most sexual activity with the same sex but sometimes with the opposite sex
3- sexual activity with both men and women equally
4- most sexual activity with the opposite sex but sometimes with the same sex
5- sexual activity only with the opposite sex

3. Please check on of the following that best describes your sexual fantasies:

1- fantasy only for the same sex
2- fantasy mostly for the same sex but sometimes for the opposite sex
3- fantasy for both males and females equally
4- fantasy mostly for the opposite sex but sometimes for the same sex
5- fantasy only for the opposite sex

4. Please check one of the following that best describes your sexual orientation (identity):

1- Gay/Lesbian
2- Bisexual (more same-sex orientation)
3- Bisexual
4- Bisexual (more opposite sex orientation)
5- Heterosexual

Appendix I-B: Body Depilation Questionnaire (BoDeQ; Boroughs, Thompson & Cafri, 2005; revised Boroughs, under review).

1. Do you (or have you ever) remove (for example: shave, wax, etc.] or reduce [for example: trim via an electric razor, or clippers etc.] any of your body hair from the neck down? [for example: on your chest, back, pubic area, underarms, legs, etc.]

___ Yes, I currently trim or remove some body hair
___ Yes, I trimmed or removed body hair, but only in the past
___ No, I have never trimmed or removed any body hair

Participants that answer affirmatively to current use on Question 3 proceed to the items below. Participants that answer affirmatively to only past use on Question 3 proceed to an item asking how long they have refrained from depilation. Those that answer 'no' to Question 3 advance to the next measure in the study.

2) How many years have you been trimming and/or removing your body hair? (If less than one year, enter "1") ___

3) What prompted you to begin trimming or removing your body hair? (Check all that apply)

- ☐ overheard someone talking about it
- ☐ observed someone I know doing it
- ☐ talked to someone about it
- ☐ magazines or other media influenced me
- ☐ observed that other did it
- ☐ taught be a friend(s) to do it
- ☐ not influenced by others
- ☐ Other (please specify) _____

4) Does trimming or removing your body hair become less important during certain times? (Check all that apply)

- ☐ yes, when I am IN a relationship
- ☐ yes, in the off-season for a sport
- ☐ yes, when it is colder (climatic season)
- ☐ yes, when I am NOT in a relationship
- ☐ haven't been shaving or trimming long enough to know
- ☐ no, it does not become less important
- ☐ Other (please specify) _____

Appendix I-B (Continued)

5) For the next three questions, please indicate the importance of trimming or removing body hair using the following scale:

5 = extremely important
4 = moderately important
3 = somewhat important
2 = slightly important
1 = not important

A) Rate how important it is for you to trim or remove your body hair when being seen by a significant other.

1 = not important	2 = slightly important	3 = somewhat important	4 = moderately important	5 = extremely important

B) Rate how important it is for you to trim or remove your body hair before seeing friends.

1 = not important	2 = slightly important	3 = somewhat important	4 = moderately important	5 = extremely important

C) Rate how important it is for you to trim or remove your body hair before going out in public.

1 = not important	2 = slightly important	3 = somewhat important	4 = moderately important	5 = extremely important

6) Please answer the next two questions with ratings from "extremely good" to "extremely bad".

A) How do you feel when you have not trimmed or removed your body hair?

Extremely good	Moderately good	Some good and some bad feelings	Moderately bad	Extremely bad

B) How do you feel when you have gone a few days without trimming or removing your body hair?

Extremely good	Moderately good	Some good and some bad feelings	Moderately bad	Extremely bad

Appendix I-B (Continued)

7) Rate how anxious you would feel if you could not trim or remove your body hair for a few weeks.

1 = not anxious at all
2 = slightly anxious
3 = somewhat anxious
4 = moderately anxious
5 = extremely anxious

8) Using the drop-down menus below, please indicate the most frequently used METHOD of body hair trimming or removal for each of the listed body sites, and the FREQUENCY you trim or remove hair at that site.

* Note: Please read all choices carefully and enter an answer for all 12 body sites.

	Method	Frequency
1-Neck	Regular razor	More than once daily
2-Shoulders	Electric razor	Daily
3-Armpits	Electric clippers	Twice weekly
4-Chest	Waxing at home	Weekly
5-Abdomen	Waxing at salon	Twice monthly
6-Groin/Pubic Area	Nads™	Monthly
7-Back	Depilatory creams (e.g. Nair™ or Veet™)	Less than once monthly
8-Buttocks	Chemical Depilatories	
9-Arms	Scissors	
10-Hands	Plucking	
11-Legs	Pulling	
12-Feet	Electrolysis	
	Laser Hair Removal	
	No Hair at this site	
	This site not depilated	
	other	

Appendix I-B (Continued)

9) Using the drop-down menus below, please identify the primary reason you trim or remove body hair and indicate injuries that have occurred for each of the listed body sites.

** Note: Please read all choices carefully and enter an answer for all 12 body sites. **

	Why trim or remove hair	Injuries
1-Neck	definition/muscularity	Nicks
2-Shoulders	cleanliness	Cuts
3-Armpits	to avoid teasing	ingrown hair
4-Chest	sex appeal	razor burn
5-Abdomen	Better healing	no injuries this site
6-Groin/Pubic Area	youthfulness	other injury
7-Back	better sexual experience	this site not trimmed or shaved
8-Buttocks	makes this part of my body appear larger	
9-Arms	better tanning	
10-Hands	don't like the color of the hair at this site	
11-Legs	makes this part of my body appear better	
12-Feet	to reduce smell (body odor)	
	hygiene	
	to sweat less	
	to be feminine	
	to be masculine	
	other	
	this site not trimmed or shaved	

Appendix I-C: The Physical Appearance Comparison Scale (PACS; Thompson, Heinberg, & Tantleff, 1991)

Using the following scale please select a number that comes closest to how you feel:

Never	Seldom	Sometimes	Often	Always
1	2	3	4	5

1. At parties or other social events, I compare my physical appearance to the physical appearance of others.

1 2 3 4 5

2. The best way for a person to know if they are overweight or underweight is to compare their figure to the figure of others.

1 2 3 4 5

3. At parties or other social events, I compare how I am dressed to how other people are dressed.

1 2 3 4 5

*4. Comparing your "looks" to the "looks" of others is a bad way to determine if you are attractive or unattractive.

1 2 3 4 5

5. In social situations, I sometimes compare my figure to the figures of other people.

1 2 3 4 5

* Reverse-scored

Appendix I-D: Body Comparison Scale (BCS; Fisher, Dunn, & Thompson, 2002)

For the items below, use the following scale to rate how often you compare these aspects of your body to those of other individuals of the same sex. NOTE: Please be sure that you read and respond to all of the questions according to how you would compare yourself to your same sex peers.

Never	Rarely	Sometimes	Often	Always
1	2	3	4	5

1.	Ears	1	2	3	4	5
2.	Nose	1	2	3	4	5
3.	Lips	1	2	3	4	5
4.	Hair	1	2	3	4	5
5.	Teeth	1	2	3	4	5
6.	Chin	1	2	3	4	5
7.	Shape of face	1	2	3	4	5
8.	Cheeks	1	2	3	4	5
9.	Forehead	1	2	3	4	5
10.	Upper arm	1	2	3	4	5
11.	Forearm	1	2	3	4	5
12.	Shoulders	1	2	3	4	5
13.	Chest	1	2	3	4	5
14.	Back	1	2	3	4	5
15.	Waist	1	2	3	4	5
16.	Stomach	1	2	3	4	5

Appendix I-D (Continued)

17.	Buttocks	1	2	3	4	5
18.	Thighs	1	2	3	4	5
19.	Hips	1	2	3	4	5
20.	Calves	1	2	3	4	5
21.	Muscle tone of upper body	1	2	3	4	5
22.	Overall shape of upper body	1	2	3	4	5
23.	Muscle tone of lower body	1	2	3	4	5
24.	Overall shape of lower body	1	2	3	4	5
25.	Overall body	1	2	3	4	5

Note: general appearance, non weight, non muscular scale: items 1-9; muscular scale: items 10-15; weight scale items 16-20.

Appendix I-E: The Multidimensional Body Self-Relations Questionnaire-Appearance Evaluation Scale (MSBRQ-AES; Brown, Cash & Mikula, 1990).

Instructions: Using the scale below, please circle the number than best matches your agreement with the following statements.

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

1.	My body is sexually appealing.	1	2	3	4	5
2.	I like my looks just the way they are.	1	2	3	4	5
3.	Most people would consider me good looking.	1	2	3	4	5
4.	I like the way I look without my clothes.	1	2	3	4	5
5.	I like the way my clothes fit me.	1	2	3	4	5
6.	I dislike my physique.	1	2	3	4	5
7.	I'm physically unattractive.	1	2	3	4	5

The Multidimensional Body Self-Relations Questionnaire-Body Areas Satisfaction Scale (MSBRQ-BASS; Brown, Cash & Mikula, 1990).

Instructions: Using this 1 to 5 scale, indicate how dissatisfied or satisfied you are with each of the following areas or aspects of your body:

Very dissatisfied 1	Mostly dissatisfied 2	Neither satisfied nor dissatisfied 3	Mostly satisfied 4	Very satisfied 5

_____	1	Face (facial features, complexion)
_____	2	Hair (color, thickness, texture)
_____	3	Lower torso (buttocks, hips, thighs, legs)
_____	4	Mid torso (waist, stomach)
_____	5	Upper torso (chest, shoulders, arms)
_____	6	Muscle tone
_____	7	Weight
_____	8	Height
_____	9	Overall appearance
_____	10	Body Hair (amount, locations, coarseness)*

* This item was added to the scale for this study with the author's permission.

Appendix I-F: Drive for Leanness Scale (DLS; Smolak & Murnen, 2008)

Please rate the following six items on a scale ranging from 1 = always to 6 = never.

1 Always	2 Very Often	3 Often	4 Sometimes	5 Rarely	6 Never

1. I think the best looking bodies are well-toned.

1 2 3 4 5 6

2. When a person's body is hard and firm, it says they are well-disciplined.

1 2 3 4 5 6

3. My goal is to have well-toned muscles.

1 2 3 4 5 6

4. Athletic looking people are the most attractive people.

1 2 3 4 5 6

5. It is important to have well-defined abs.

1 2 3 4 5 6

6. People with well-toned muscles look good in clothes.

1 2 3 4 5 6

Note: Items are to be summed to create a total score. A high score indicates higher drive for leanness.

Appendix I-G: Eating Disorders Inventory –Drive for Thinness Subscale (EDI-DT; Garner, 1991)

Please answer the following questions related to your eating habits on the following scale:

1 = always 2 = usually 3 = often 4 = sometimes 5 = rarely 6 = never

1.	I eat sweets and carbohydrates without feeling nervous.	1	2	3	4	5	6
2.	I think about dieting.	1	2	3	4	5	6
3.	I feel extremely guilty after overeating.	1	2	3	4	5	6
4.	I am terrified of gaining weight.	1	2	3	4	5	6
5.	I exaggerate or magnify the importance of weight.	1	2	3	4	5	6
6.	I am preoccupied with the desire to be thin.	1	2	3	4	5	6
7.	If I gain a pound, I worry that I will keep gaining.	1	2	3	4	5	6

Appendix I-H: Drive for Muscularity Scale (DMS; McCreary & Sasse, 2000)
Please read each item carefully then, for each statement, circle the number that best applies to you:

1 = always 2 = very often 3 = often 4 = sometimes 5 = rarely 6 = never

1. I wish that I were more muscular.	1	2	3	4	5	6
2. I lift weights to build up muscle.	1	2	3	4	5	6
3. I use protein or energy supplements.	1	2	3	4	5	6
4. I drink weight gain or protein shakes.	1	2	3	4	5	6
5. I try to consume as many calories as I can in a day.	1	2	3	4	5	6
6. I feel guilty if I miss a weight training session.	1	2	3	4	5	6
7. I think I would feel more confident if I had more muscle mass.	1	2	3	4	5	6
8.Other people think I work out with weights too often.	1	2	3	4	5	6
9. I think that I would look better if I gained 10 pounds in bulk.	1	2	3	4	5	6
10. I think about taking anabolic steroids.	1	2	3	4	5	6
11. I think that I would feel stronger if I gained a little more muscle mass.	1	2	3	4	5	6
12. I think that my weight training schedule interferes with other aspects of my life.	1	2	3	4	5	6
13. I think that my arms are not muscular enough.	1	2	3	4	5	6
14. I think that my chest is not muscular enough.	1	2	3	4	5	6
15. I think that my legs are not muscular enough.	1	2	3	4	5	6

Appendix I-I: Body Image Disturbance Questionnaire (BIDQ; Cash, Phillips, Santos, Hrabosky, 2004)

This questionnaire assesses concerns about physical appearance. Please read each question carefully and circle the answer that best describes your experience. Also write in answers where indicated.

1A. Are you concerned about the appearance of some part(s) of your body, which you consider especially unattractive? (Circle the best answer)					
	1 Not at all concerned	2 Somewhat concerned	3 Moderately concerned	4 Very concerned	5 Extremely concerned
1B. What are these concerns? What specifically bothers you about the appearance of these body parts?					
2A. If you are at least somewhat concerned, do these concerns preoccupy you? That is, you think about them a lot and they're hard to stop thinking about? (Circle the best answer)					
	1 Not at all preoccupied	2 Somewhat preoccupied	3 Moderately preoccupied	4 Very preoccupied	5 Extremely preoccupied
2B. What effect has your preoccupation with your appearance had on your life? (Please describe)					
3A. Has your physical ''defect'' often caused you a lot of distress, torment, or pain? How much? (Circle the best answer)					
	1 No distress	2 Mild, and not too disturbing	3 Moderate and disturbing but still manageable	4 Severe, and very disturbing	5 Extreme, and disabling

4A. Has your physical ‘‘defect’’ caused you impairment in social, occupational or other important areas of functioning? How much? (Circle the best answer)					
	1 No limitation	2 Mild interference but overall performance not impaired	3 Moderate, definite interference, but still manageable	4 Severe, causes substantial impairment	5 Extreme, incapacitating
5A. Has your physical ‘‘defect’’ significantly interfered with your social life? How much? (Circle the best answer)					
	1 Never	2 Occasionally	3 Moderately often	4 Often	5 Very often
5B. If so, how?					
6A. Has your physical ‘‘defect’’ significantly interfered with your schoolwork, your job, or your ability to function in your role? How much? (Circle the best answer)					
	1 Never	2 Occasionally	3 Moderately often	4 Often	5 Very often
6B. If so, how?					
7A. Do you ever avoid things because of your physical ‘‘defect’’? How often? (Circle the best answer)					
	1 Never	2 Occasionally	3 Moderately often	4 Often	5 Very often
7B. If so, what do you avoid?					

Appendix I-J: Personal Attributes Questionnaire (PAQ; Spence & Helmrich, 1978)

Instructions: The items below inquire about what kind of person you think you are. Each item consists or a PAIR of characteristics, with the letters A-E in between. For example,

Not at all artistic A….B….C….D….E Very artistic

Each pair describes contradictory characteristics – that is, you cannot be both at the same time, such as very artistic and not at all artistic.

The letters form a scale between the two extremes. You are to choose a letter which describes where YOU fall on the scale. For example, if you think that you have no artistic ability, you would choose A. If you think you are pretty good, you might choose D. If you are only medium, you might choose C, and so forth.

M-F	1.	Not at all aggressive	A…B…C…D…E	Very aggressive*
M	2.	Not at all independent	A…B…C…D…E	Very independent*
F	3.	Not at all emotional	A…B…C…D…E	Very emotional*
M-F	4.	Very submissive	A…B…C…D…E	Very dominant*
M-F	5.	Not at all excitable in a major crisis*	A…B…C…D…E	Very excitable in a major crisis
M	6.	Very passive	A…B…C…D…E	Very active*
F	7.	Not at all able to devote self completely to others	A…B…C…D…E	Able to devote self completely to others*
F	8.	Very rough	A…B…C…D…E	Very gentle*
F	9.	Not at all helpful to others	A…B…C…D…E	Very helpful to others*
M	10.	Not at all competitive	A…B…C…D…E	Very competitive*
M-F	11.	Very home oriented	A…B…C…D…E	Very worldly*
F	12.	Not at all kind	A…B…C…D…E	Very kind*
M-F	13.	Indifferent to others approval*	A…B…C…D…E	Highly needful of others' approval
M-F	14.	Feelings not easily hurt*	A…B…C…D…E	Feelings easily hurt
F	15.	Not at all aware of feelings of others	A…B…C…D…E	Very aware of feelings of others*
M	16.	Can make decisions easily*	A…B…C…D…E	Has difficulty making decisions
M	17.	Gives up very easily	A…B…C…D…E	Never gives up easily*
M-F	18.	Never cries*	A…B…C…D…E	Cries very easily
M	19.	Not at all self-confident	A…B…C…D…E	Very self-confident*
M	20.	Feels very inferior	A…B…C…D…E	Feels very superior*
F	21.	Not at all understanding of others	A…B…C…D…E	Very understanding of others*
F	22.	Very cold in relations with others	A…B…C…D…E	Very warm in relations with others*
M-F	23.	Very little need for security*	A…B…C…D…E	Very strong need for security
M	24.	Goes to pieces under pressure	A…B…C…D…E	Stands up well under pressure*
F	25.	Unconcerned with my physical appearance	A…B…C…D…E	Very concerned with my physical appearance *

Note: Item 25 was added to the scale for this study.

Appendix I-K: Rosenberg Self-Esteem Scale (RSES; Rosenberg, 1965)

Using the scale below as a guide, circle the number that indicates your agreement with each statement.

1 = strongly disagree
2 = disagree
3 = disagree slightly
4 = neutral, neither agree nor disagree
5 = agree slightly
6 = agree
7 = strongly agree

1. I feel that I am a person of worth, at least on an equal plane with others.
   1 2 3 4 5 6 7

2. I feel that I have a number of good qualities.
   1 2 3 4 5 6 7

3. All in all, I am inclined to feel that I am a failure.
   1 2 3 4 5 6 7

4. I am able to do things as well as most other people.
   1 2 3 4 5 6 7

5. I feel I do not have much to be proud of.
   1 2 3 4 5 6 7

6. I take a positive attitude toward myself.
   1 2 3 4 5 6 7

7. On the whole, I am satisfied with myself.
   1 2 3 4 5 6 7

8. I wish I could have more respect for myself.
   1 2 3 4 5 6 7

9. I certainly feel useless at times.
   1 2 3 4 5 6 7

10. At times I think I am no good at all.
    1 2 3 4 5 6 7

Appendix I-L: Body Depilation Appearance Comparison (BDAC; Boroughs, 2009)

Please refer to your observations of the appearance of body hair on OTHERS and the trimming or removal of body hair by OTHERS to answer the next set of items on the scale provided (from always to never).

1. How often do you see (notice) men at the gym that trim or remove their body hair?

1 = Always 2 = Very often 3 = Often 4 = Sometimes 5 = Rarely 6 = Never

2. How often do you see (notice) male friends that trim or remove their body hair?

1 = Always 2 = Very often 3 = Often 4 = Sometimes 5 = Rarely 6 = Never

3. How often do you see (notice) male classmates that trim or remove their body hair?

1 = Always 2 = Very often 3 = Often 4 = Sometimes 5 = Rarely 6 = Never

4. How often do you see (notice) men anywhere else that trim or remove their body hair?

1 = Always 2 = Very often 3 = Often 4 = Sometimes 5 = Rarely 6 = Never

5. How often do you compare your level of body hair to others of the same sex?

1 = Always 2 = Very often 3 = Often 4 = Sometimes 5 = Rarely 6 = Never

6. How often do you compare yourself to those you see in pornography that trim or remove their body hair?

1 = Always 2 = Very often 3 = Often 4 = Sometimes 5 = Rarely 6 = Never

7. How often do you compare yourself to athletes that trim or remove their body hair?

1 = Always 2 = Very often 3 = Often 4 = Sometimes 5 = Rarely 6 = Never

8. How often do you compare yourself to celebrities that trim or remove their body hair?

1 = Always 2 = Very often 3 = Often 4 = Sometimes 5 = Rarely 6 = Never

9. How often do you compare yourself to those seen in advertisements that trim or remove their body hair?

1 = Always 2 = Very often 3 = Often 4 = Sometimes 5 = Rarely 6 = Never

10. How often do you compare yourself to others of the same sex that trim or remove their body hair?

1 = Always 2 = Very often 3 = Often 4 = Sometimes 5 = Rarely 6 = Never

Appendix I-M: Depilation Social Norms Scale (SN; Boroughs, under development)

Directions: Please answer the next six questions by indicating your level of agreement with each statement.

1. I feel pressure from friends to have a hairless body.

1 = Completely disagree	2 = Mostly disagree	3 = Slightly disagree	4 = Slightly agree	5 = Mostly agree	6 = Completely agree

2. I wish my body was naturally less hairy.

1 = Completely disagree	2 = Mostly disagree	3 = Slightly disagree	4 = Slightly agree	5 = Mostly agree	6 = Completely agree

3. Trimming or removing body hair is as normal for men as it is for women.

1 = Completely disagree	2 = Mostly disagree	3 = Slightly disagree	4 = Slightly agree	5 = Mostly agree	6 = Completely agree

4. Those (of my same sex) with less body hair look more attractive.

1 = Completely disagree	2 = Mostly disagree	3 = Slightly disagree	4 = Slightly agree	5 = Mostly agree	6 = Completely agree

5. Those (of the opposite sex) prefer me to be smooth [gay or lesbian participants should answer about the same sex].

1 = Completely disagree	2 = Mostly disagree	3 = Slightly disagree	4 = Slightly agree	5 = Mostly agree	6 = Completely agree

6. I feel pressure from those in movies, TV, magazines and other media to maintain a hairless appearance.

1 = Completely disagree	2 = Mostly disagree	3 = Slightly disagree	4 = Slightly agree	5 = Mostly agree	6 = Completely agree

7. It is common for men that I know to remove their body hair by trimming, shaving, or another method.

1 = Completely disagree	2 = Mostly disagree	3 = Slightly disagree	4 = Slightly agree	5 = Mostly agree	6 = Completely agree

Appendix I-N: Body Hair Measurement Scale (BHM – BoDeQ-R; Boroughs 2005, 2009)

Instructions: For the next set of questions, we would like to ask about your (natural) body hair growth for specific body sites.

Part A: Using a scale of 1 = very little hair (or no hair) to 5 = very hairy, please indicate the amount of hair that grows on each of the following body sites:

* Note: please estimate your hair growth at each site prior to any trimming or hair removal.

		Very little to no hair (1)	(2) minimally hairy	(3) somewhat hairy	(4) moderately hairy	(5) very hairy
1.	Neck					
2.	Shoulders					
3.	Armpits					
4.	Chest					
5.	Abdomen					
6.	Groin/Pubic Area					
7.	Back					
8.	Buttocks					
9.	Arms					
10.	Hands					
11.	Legs					
12.	Feet					

Part B: Considering the question above, please indicate whether you consider your natural body hair growth to be (above average, average, or below average) the natural body hair growth of friends and/or peers:

		above average	average	below average
1.	Neck			
2.	Shoulders			
3.	Armpits			
4.	Chest			
5.	Abdomen			
6.	Groin/Pubic Area			
7.	Back			
8.	Buttocks			
9.	Arms			
10.	Hands			
11.	Legs			
12.	Feet			

Appendix II:

Additional Tables

Table A1

Reasons for Depilation by Body Site and Gender

	Body Site	Reason for Depilation	Women %	Men %
1.	Neck			
	a.	Definition/muscularity	1.3	2.9
	b.	Cleanliness	2.2	37.6
	c.	To avoid teasing	.3	.5
	d.	Sex appeal	.6	4.4
	e.	Better healing		.5
	f.	Youthfulness		
	g.	Better sexual experience		
	h.	Makes body part look larger	.3	1.0
	i.	Better tanning		.5
	j.	Dislike color of hair		
	k.	Makes body part appear better		5.9
	l.	To reduce smell (body odor)		
	m.	Hygiene		1.5
	n.	To sweat less		1.0
	o.	To be feminine	.9	
	p.	To be masculine		
2.	Shoulders			
	a.	Definition/muscularity	1.3	1.6
	b.	Cleanliness	1.9	13.1
	c.	To avoid teasing		1.5
	d.	Sex appeal	.3	4.5
	e.	Better healing		.5
	f.	Youthfulness		
	g.	Better sexual experience	.3	1.0
	h.	Makes body part look larger		.5
	i.	Better tanning		
	j.	Dislike color of hair		.5
	k.	Makes body part appear better		1.5
	l.	To reduce smell (body odor)	.3	
	m.	Hygiene		.5
	n.	To sweat less		
	o.	To be feminine	.3	.5
	p.	To be masculine		

	Body Site	Reason for Depilation	Women %	Men %
3.	Armpits			
	a.	Definition/muscularity	1.2	2.4
	b.	Cleanliness	33.9	17.6
	c.	To avoid teasing	.9	.5
	d.	Sex appeal		5.4
	e.	Better healing		
	f.	Youthfulness		
	g.	Better sexual experience		
	h.	Makes body part look larger	.3	.5
	i.	Better tanning		
	j.	Dislike color of hair		1.0
	k.	Makes body part appear better	2.1	2.9
	l.	To reduce smell (body odor)	2.7	4.4
	m.	Hygiene	20.4	6.3
	n.	To sweat less	3.0	6.3
	o.	To be feminine	27.9	1.0
	p.	To be masculine		
4.	Chest			
	a.	Definition/muscularity	.9	8.7
	b.	Cleanliness	1.6	14.1
	c.	To avoid teasing	.3	
	d.	Sex appeal	1.9	19.9
	e.	Better healing	.3	.5
	f.	Youthfulness		.5
	g.	Better sexual experience		1.0
	h.	Makes body part look larger	.3	1.0
	i.	Better tanning		
	j.	Dislike color of hair	.6	.5
	k.	Makes body part appear better	.3	7.8
	l.	To reduce smell (body odor)		
	m.	Hygiene	.3	1.0
	n.	To sweat less		.5
	o.	To be feminine	2.8	.5
	p.	To be masculine		1.0

	Body Site	Reason for Depilation	Women %	Men %
5.	Abdomen			
	a.	Definition/muscularity	.9	10.2
	b.	Cleanliness	2.5	16.1
	c.	To avoid teasing	.9	.5
	d.	Sex appeal	7.5	21.5
	e.	Better healing		.5
	f.	Youthfulness	.3	
	g.	Better sexual experience	1.3	.5
	h.	Makes body part look larger		
	i.	Better tanning	.3	
	j.	Dislike color of hair	2.5	1.0
	k.	Makes body part appear better	5.7	5.9
	l.	To reduce smell (body odor)		
	m.	Hygiene		1.5
	n.	To sweat less		.5
	o.	To be feminine	8.5	
	p.	To be masculine		
6.	Pubic Area			
	a.	Definition/muscularity	.9	.9
	b.	Cleanliness	23.0	22.1
	c.	To avoid teasing	.3	
	d.	Sex appeal	30.5	32.7
	e.	Better healing	.3	.5
	f.	Youthfulness		13.4
	g.	Better sexual experience	10.9	
	h.	Makes body part look larger		5.1
	i.	Better tanning		
	j.	Dislike color of hair		
	k.	Makes body part appear better	3.9	7.4
	l.	To reduce smell (body odor)		
	m.	Hygiene	11.2	6.0
	n.	To sweat less		.5
	o.	To be feminine	10.9	.5
	p.	To be masculine		.5

	Body Site	Reason for Depilation	Women %	Men %
7.	Back			
	a.	Definition/muscularity	.9	2.6
	b.	Cleanliness	1.3	10.7
	c.	To avoid teasing	.6	1.0
	d.	Sex appeal	.3	2.6
	e.	Better healing		
	f.	Youthfulness		
	g.	Better sexual experience		
	h.	Makes body part look larger		.5
	i.	Better tanning	.3	
	j.	Dislike color of hair	.3	.5
	k.	Makes body part appear better	.3	2.0
	l.	To reduce smell (body odor)		
	m.	Hygiene	.3	1.0
	n.	To sweat less		.5
	o.	To be feminine	1.6	
	p.	To be masculine		
8.	Buttocks			
	a.	Definition/muscularity	.9	1.0
	b.	Cleanliness	3.1	11.9
	c.	To avoid teasing		1.0
	d.	Sex appeal	2.5	5.0
	e.	Better healing		
	f.	Youthfulness	.3	.5
	g.	Better sexual experience	.6	1.5
	h.	Makes body part look larger		5.4
	i.	Better tanning		
	j.	Dislike color of hair		
	k.	Makes body part appear better	.9	
	l.	To reduce smell (body odor)	.3	
	m.	Hygiene	.6	2.0
	n.	To sweat less		1.0
	o.	To be feminine	1.3	
	p.	To be masculine	.3	.5

	Body Site	Reason for Depilation	Women %	Men %
9.	Arms			
	a.	Definition/muscularity	.9	3.6
	b.	Cleanliness	6.3	8.2
	c.	To avoid teasing	1.6	.5
	d.	Sex appeal	1.3	3.1
	e.	Better healing		
	f.	Youthfulness	.6	
	g.	Better sexual experience	.3	
	h.	Makes body part look larger		
	i.	Better tanning		.5
	j.	Dislike color of hair	.9	
	k.	Makes body part appear better	4.1	2.6
	l.	To reduce smell (body odor)	.3	
	m.	Hygiene	.3	
	n.	To sweat less	.3	.5
	o.	To be feminine	9.1	
	p.	To be masculine		
10.	Hands			
	a.	Definition/muscularity	.6	1.0
	b.	Cleanliness	2.8	7.2
	c.	To avoid teasing	.3	1.0
	d.	Sex appeal	.3	2.1
	e.	Better healing		
	f.	Youthfulness		
	g.	Better sexual experience		
	h.	Makes body part look larger		1.0
	i.	Better tanning		
	j.	Dislike color of hair		
	k.	Makes body part appear better	1.6	1.5
	l.	To reduce smell (body odor)	.3	
	m.	Hygiene		.5
	n.	To sweat less	.3	
	o.	To be feminine	2.2	
	p.	To be masculine		

	Body Site	Reason for Depilation	Women %	Men %
11.	Legs			
	a.	Definition/muscularity	1.2	3.6
	b.	Cleanliness	14.6	7.6
	c.	To avoid teasing	.3	1.5
	d.	Sex appeal	12.8	1.5
	e.	Better healing		
	f.	Youthfulness	.3	
	g.	Better sexual experience	.9	.5
	h.	Makes body part look larger		1.0
	i.	Better tanning		
	j.	Dislike color of hair	1.2	
	k.	Makes body part appear better	9.1	3.6
	l.	To reduce smell (body odor)	.3	
	m.	Hygiene	3.0	1.0
	n.	To sweat less	.9	
	o.	To be feminine	48.0	3.0
	p.	To be masculine		
12.	Feet			
	a.	Definition/muscularity	1.0	2.1
	b.	Cleanliness	5.1	8.2
	c.	To avoid teasing	1.3	.5
	d.	Sex appeal	1.9	2.1
	e.	Better healing		
	f.	Youthfulness	.3	
	g.	Better sexual experience		.5
	h.	Makes body part look larger		
	i.	Better tanning		
	j.	Dislike color of hair	2.5	
	k.	Makes body part appear better	2.9	3.6
	l.	To reduce smell (body odor)		
	m.	Hygiene	.3	1.0
	n.	To sweat less	.6	.5
	o.	To be feminine	7.0	
	p.	To be masculine		

Note: Totals not equaling 100% represent participants that do not depilate at that site.

Table A2

Frequency of Depilation by Body Site and Gender

	Body Site	Frequency	Women %	Men %
1.	Neck			
	a.	More than once daily	1.3	1.0
	b.	Daily	.6	3.9
	c.	Twice weekly	.3	13.7
	d.	Weekly	1.0	12.2
	e.	Twice monthly	.3	12.7
	f.	monthly	.3	9.3
	g.	Less than once monthly	1.6	6.8
2.	Shoulders			
	a.	More than once daily	1.0	1.0
	b.	Daily	1.0	
	c.	Twice weekly	.3	3.6
	d.	Weekly		3.1
	e.	Twice monthly	.7	6.7
	f.	monthly		4.1
	g.	Less than once monthly	.7	6.2
3.	Armpits			
	a.	More than once daily	1.2	.5
	b.	Daily	48.4	2.4
	c.	Twice weekly	26.0	3.4
	d.	Weekly	13.4	4.4
	e.	Twice monthly	4.5	5.9
	f.	monthly	1.5	17.6
	g.	Less than once monthly	2.4	12.7
4.	Chest			
	a.	More than once daily	1.3	1.0
	b.	Daily	1.3	1.5
	c.	Twice weekly	.3	4.0
	d.	Weekly	1.3	11.9
	e.	Twice monthly	2.0	13.9
	f.	monthly	1.3	10.4
	g.	Less than once monthly	3.6	17.3
5.	Abdomen			
	a.	More than once daily	1.3	1.0
	b.	Daily	2.6	1.0
	c.	Twice weekly	3.2	4.9
	d.	Weekly	5.8	13.7
	e.	Twice monthly	3.8	11.7
	f.	monthly	8.9	14.1
	g.	Less than once monthly	8.3	14.1

	Body Site	Frequency	Women %	Men %
6.	Pubic Area			
	a.	More than once daily	1.5	1.4
	b.	Daily	12.8	3.2
	c.	Twice weekly	28.0	9.0
	d.	Weekly	26.5	19.9
	e.	Twice monthly	10.7	23.5
	f.	monthly	9.5	19.0
	g.	Less than once monthly	4.8	14.5
7.	Back			
	a.	More than once daily	1.0	2.1
	b.	Daily	.3	.5
	c.	Twice weekly	.3	2.6
	d.	Weekly	1.0	3.2
	e.	Twice monthly		3.7
	f.	monthly	.7	2.6
	g.	Less than once monthly	2.0	7.4
8.	Buttocks			
	a.	More than once daily	1.3	1.0
	b.	Daily	.7	1.0
	c.	Twice weekly	1.0	1.5
	d.	Weekly	1.0	4.1
	e.	Twice monthly	2.3	4.6
	f.	monthly	2.0	10.3
	g.	Less than once monthly	4.6	8.7
9.	Arms			
	a.	More than once daily	1.3	1.1
	b.	Daily	6.3	.5
	c.	Twice weekly	5.4	3.7
	d.	Weekly	5.7	1.1
	e.	Twice monthly	2.5	1.6
	f.	monthly	3.2	3.7
	g.	Less than once monthly	4.1	5.3
10.	Hands			
	a.	More than once daily	1.3	.5
	b.	Daily	2.3	1.1
	c.	Twice weekly	1.0	1.6
	d.	Weekly	1.0	1.1
	e.	Twice monthly	.6	2.1
	f.	monthly	1.0	2.7
	g.	Less than once monthly	2.3	3.2

	Body Site	Frequency	Women %	Men %
11.	Legs			
	a.	More than once daily	.9	1.5
	b.	Daily	20.9	1.5
	c.	Twice weekly	39.1	2.1
	d.	Weekly	17.6	3.1
	e.	Twice monthly	7.5	2.1
	f.	monthly	4.2	2.1
	g.	Less than once monthly	3.6	9.8
12.	Feet			
	a.	More than once daily	1.0	1.1
	b.	Daily	3.2	.5
	c.	Twice weekly	5.5	1.1
	d.	Weekly	5.1	1.1
	e.	Twice monthly	2.6	2.1
	f.	monthly	2.6	4.2
	g.	Less than once monthly	5.1	6.3

Table A3

Method of Depilation by Body Site and Gender

	Body Site	Depilation Method	Women %	Men %
1.	Neck			
	a.	Scissors		.5
	b.	Electric razor	1.3	17.0
	c.	Electric Clipper		14.1
	d.	Regular Razor	1.0	28.2
	e.	Waxing at home	.6	
	f.	Waxing at Salon	1.0	
	g.	Nads		
	h.	Depilatory Creams		.5
	i.	Chemical depilatories		
	j.	Plucking	.6	
	k.	Pulling		
	l.	Electrolysis		
	m.	Laser hair removal	.3	
2.	Shoulders			
	a.	Scissors	.3	
	b.	Electric razor	.3	8.2
	c.	Electric Clipper		2.1
	d.	Regular Razor	2.3	11.9
	e.	Waxing at home		.5
	f.	Waxing at Salon		
	g.	Nads		
	h.	Depilatory Creams	.3	1.0
	i.	Chemical depilatories		
	j.	Plucking		3.6
	k.	Pulling		.5
	l.	Electrolysis		
	m.	Laser hair removal		

	Body Site	Depilation Method	Women %	Men %
3.	Armpits			
	a.	Scissors		7.4
	b.	Electric razor	1.2	12.8
	c.	Electric Clipper		15.8
	d.	Regular Razor	92.0	16.7
	e.	Waxing at home	.9	
	f.	Waxing at Salon	.6	
	g.	Nads	.3	
	h.	Depilatory Creams		
	i.	Chemical depilatories		
	j.	Plucking	.6	
	k.	Pulling		
	l.	Electrolysis		
	m.	Laser hair removal	.6	
4.	Chest			
	a.	Scissors	1.0	.5
	b.	Electric razor	.3	19.8
	c.	Electric Clipper	.3	12.9
	d.	Regular Razor	4.2	26.2
	e.	Waxing at home		.5
	f.	Waxing at Salon		.5
	g.	Nads		
	h.	Depilatory Creams		.5
	i.	Chemical depilatories		
	j.	Plucking	2.6	1.0
	k.	Pulling	.3	
	l.	Electrolysis		
	m.	Laser hair removal	.3	
5.	Abdomen			
	a.	Scissors		2.0
	b.	Electric razor	.3	24.5
	c.	Electric Clipper	.6	13.7
	d.	Regular Razor	23.2	21.6
	e.	Waxing at home	.9	
	f.	Waxing at Salon	.6	
	g.	Nads	.3	.5
	h.	Depilatory Creams	.9	.5
	i.	Chemical depilatories	.3	
	j.	Plucking	2.5	
	k.	Pulling		.5
	l.	Electrolysis		
	m.	Laser hair removal		

	Body Site	Depilation Method	Women %	Men %
6.	Pubic Area			
	a.	Scissors	2.1	9.5
	b.	Electric razor	4.5	22.7
	c.	Electric Clipper	.6	21.8
	d.	Regular Razor	77.8	34.5
	e.	Waxing at home	3.3	
	f.	Waxing at Salon	3.0	.5
	g.	Nads	.3	
	h.	Depilatory Creams	1.2	.9
	i.	Chemical depilatories		
	j.	Plucking		.5
	k.	Pulling	.3	
	l.	Electrolysis		
	m.	Laser hair removal	.6	.5
7.	Back			
	a.	Scissors		
	b.	Electric razor	.3	7.6
	c.	Electric Clipper		3.2
	d.	Regular Razor	1.9	10.3
	e.	Waxing at home	.3	
	f.	Waxing at Salon	.3	1.1
	g.	Nads		
	h.	Depilatory Creams	1.3	2.7
	i.	Chemical depilatories		
	j.	Plucking		
	k.	Pulling		.5
	l.	Electrolysis		
	m.	Laser hair removal	.3	.5
8.	Buttocks			
	a.	Scissors	.6	.5
	b.	Electric razor	1.0	11.5
	c.	Electric Clipper		6.3
	d.	Regular Razor	7.1	13.0
	e.	Waxing at home		.5
	f.	Waxing at Salon		1.0
	g.	Nads		
	h.	Depilatory Creams	.3	1.6
	i.	Chemical depilatories		.5
	j.	Plucking		.5
	k.	Pulling		
	l.	Electrolysis		.5
	m.	Laser hair removal	.6	

	Body Site	Depilation Method	Women %	Men %
9.	Arms			
	a.	Scissors	.3	1.6
	b.	Electric razor	1.3	6.5
	c.	Electric Clipper		2.7
	d.	Regular Razor	22.9	10.8
	e.	Waxing at home	.6	
	f.	Waxing at Salon	.9	
	g.	Nads	.3	
	h.	Depilatory Creams	.3	
	i.	Chemical depilatories		
	j.	Plucking		.5
	k.	Pulling		.5
	l.	Electrolysis		
	m.	Laser hair removal		
10.	Hands			
	a.	Scissors		
	b.	Electric razor	.3	6.0
	c.	Electric Clipper		.5
	d.	Regular Razor	6.1	9.9
	e.	Waxing at home		
	f.	Waxing at Salon	.3	
	g.	Nads		
	h.	Depilatory Creams		
	i.	Chemical depilatories		
	j.	Plucking		1.1
	k.	Pulling		
	l.	Electrolysis	.3	
	m.	Laser hair removal		
11.	Legs			
	a.	Scissors	.3	1.1
	b.	Electric razor	1.2	9.0
	c.	Electric Clipper		4.3
	d.	Regular Razor	88.4	10.1
	e.	Waxing at home	.9	.5
	f.	Waxing at Salon	1.2	.5
	g.	Nads		
	h.	Depilatory Creams	2.1	2.1
	i.	Chemical depilatories		
	j.	Plucking	.3	
	k.	Pulling	.3	
	l.	Electrolysis		
	m.	Laser hair removal		.5

	Body Site	Depilation Method	Women %	Men %
12.	Feet			
	a.	Scissors	.6	
	b.	Electric razor	.6	4.9
	c.	Electric Clipper		3.8
	d.	Regular Razor	19.7	10.8
	e.	Waxing at home		
	f.	Waxing at Salon		
	g.	Nads		.5
	h.	Depilatory Creams	.3	1.1
	i.	Chemical depilatories		.5
	j.	Plucking	.6	
	k.	Pulling		
	l.	Electrolysis	.3	
	m.	Laser hair removal	.6	.5

Table A4

Regression of Body Depilation on Appearance Evaluation, Body Areas Satisfaction, Drive for Muscularity, Drive for Leanness, Agency (Masculinity), and Body Site Comparison Scores for Men

Site:	*B*	*SE B*	*β*	*t*
Neck Total Model: $R^2 = .07$, $F(6, 250) = 3.17$, $p < .01$				
Appearance Evaluation	0.62	0.89	0.07	0.70
Body Areas Satisfaction	-1.06	0.98	-0.10	-1.11
Drive for Muscularity	0.14	0.03	.28***	3.94
Drive for Leanness	-0.06	0.09	-0.04	-0.62
Agency (Masculinity)	-0.40	0.62	-0.04	-0.65
Body Site Comparison	-0.02	0.03	-0.04	-0.60
Armpits Total Model: $R^2 = .15$, $F(6, 250) = 5.21$, $p < .001$				
Appearance Evaluation	1.89	0.65	0.26**	2.90
Body Areas Satisfaction	-2.05	0.71	-0.26**	-2.87
Drive for Muscularity	-0.05	0.03	-0.14*	-1.97
Drive for Leanness	0.03	0.07	0.03	0.45
Agency (Masculinity)	0.36	0.45	0.05	0.80
Body Site Comparison	0.08	0.02	0.27***	3.90
Chest Total Model: $R^2 = .13$, $F(6, 250) = 6.23$, $p < .001$				
Appearance Evaluation	1.74	0.72	0.22**	2.50
Body Areas Satisfaction	-0.45	0.79	-0.05	-0.58
Drive for Muscularity	0.10	0.03	0.25***	3.63
Drive for Leanness	-0.20	0.07	-0.18**	-2.67
Agency (Masculinity)	-0.63	0.50	-0.08	-1.28
Body Site Comparison	0.06	0.02	0.21**	3.00
Abdomen Total Model: $R^2 = .11$, $F(6, 250) = 5.26$, $p < .001$				
Appearance Evaluation	2.20	0.70	0.28**	3.14
Body Areas Satisfaction	-1.48	0.76	-0.18*	-1.94
Drive for Muscularity	0.10	0.03	0.26***	3.64
Drive for Leanness	-0.16	0.07	-0.16*	-2.28
Agency (Masculinity)	-0.64	0.48	-0.08	-1.32
Body Site Comparison	0.04	0.02	0.12	1.78

Pubic Area Total Model: R^2 = .09, $F(6, 250) = 4.18$, $p \leq .001$				
Appearance Evaluation	1.83	0.93	0.18*	1.98
Body Areas Satisfaction	-0.67	1.01	-0.06	-0.66
Drive for Muscularity	0.07	0.04	0.13	1.89
Drive for Leanness	-0.12	0.10	-0.09	-1.26
Agency (Masculinity)	-0.43	0.64	-0.04	-0.67
Body Site Comparison	0.10	0.03	0.24***	3.44
Back Total Model: R^2 = .18, $F(6, 250) = 9.34$, $p < .001$				
Appearance Evaluation	-1.41	0.85	-0.15	-1.67
Body Areas Satisfaction	2.85	0.93	0.27**	3.07
Drive for Muscularity	0.15	0.03	0.30***	4.50
Drive for Leanness	-0.39	0.09	-0.29***	-4.44
Agency (Masculinity)	-1.02	0.59	-0.10	-1.74
Body Site Comparison	0.07	0.03	0.18**	2.72
Buttocks Total Model: R^2 = .24, $F(6, 250) = 13.28$, $p < .001$				
Appearance Evaluation	0.54	0.63	0.07	0.86
Body Areas Satisfaction	1.06	0.69	0.13	1.53
Drive for Muscularity	0.13	0.03	0.35***	5.36
Drive for Leanness	-0.35	0.07	-0.35***	-5.44
Agency (Masculinity)	-0.85	0.44	-0.11	-1.94
Body Site Comparison	0.08	0.02	0.28***	4.39
Arms Total Model: R^2 = .08, $F(6, 250) = 3.46$, $p < .01$				
Appearance Evaluation	1.33	0.67	0.18*	1.98
Body Areas Satisfaction	-0.87	0.73	-0.11	-1.18
Drive for Muscularity	0.08	0.03	0.22**	3.11
Drive for Leanness	-0.13	0.07	-0.13	-.1.86
Agency (Masculinity)	-0.28	0.47	-0.04	-0.61
Body Site Comparison	0.04	0.02	0.12	1.74
Legs Total Model: R^2 = .10, $F(6, 250) = 4.36$, $p < .001$				
Appearance Evaluation	2.90	0.84	0.32***	3.45
Body Areas Satisfaction	-2.63	0.92	-0.26**	-2.86
Drive for Muscularity	0.05	0.03	0.10	1.40
Drive for Leanness	-0.09	0.09	-0.08	-1.09
Agency (Masculinity)	-0.78	0.58	-0.08	-1.33
Body Site Comparison	0.07	0.03	0.19**	2.68

Note: N (Men) = 257, * $p < .05$, ** $p < .01$, *** $p < .001$

About the Author

Michael S. Boroughs is from Philadelphia, Pennsylvania. He graduated cum laude from the University of South Florida in 1997 with a B.A. in psychology, with psychology honors, and received his first Master's degree in sociology in 2000. Following this training, he was hired as research faculty at the de la Parte Florida Mental Health Institute (USF College of Behavioral and Community Sciences) and later earned an M.A. in clinical psychology from the University of South Florida in 2009. After completing his doctoral internship at the Warren Alpert Medical School of Brown University, he will earn his Ph.D. in clinical psychology from the University of South Florida in 2012 where he studied under the mentorship of J. Kevin Thompson, Ph.D. Mike served the field for two years on the APA Commission on Accreditation from 2010 to 2012. He will continue his training as a postdoctoral clinical and research fellow in the Behavioral Medicine Service within the Department of Psychiatry at the Massachusetts General Hospital and as a clinical fellow at the Harvard Medical School. Mike's research interests include body image, sexual health, and gender roles. He is also interested in novel adaptations of third generation cognitive-behavioral treatments to address a variety of psychiatric presentations.