RUNNING HEAD: AN EXPLORATION OF THE RELATIONSHIP BETWEEN BODY IMAGE AND TATTOO BEHAVIOR

A Thesis Paper for
PSY-589: Thesis
Presented to
Professor Gayle Morse
Department of Psychology
Sage Graduate School

In Partial Fulfillment
Of the Requirements for the Degree of
Master of Arts in Counseling and Community Psychology

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May, 2009

AN EXPLORATION OF THE RELATIONSHIP BETWEEN BODY IMAGE

AND TATTOO BEHAVIOR

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ABSTRACT

The purpose of the study was to examine the relationship between body image concerns and tattooing. One-Hundred and Twenty-Three participants (83 females; 40 males) were recruited and completed a survey that examined their current body image concerns. Sixty-One subjects identified as having tattoos while sixty-two subjects identified as not having tattoos. It was predicted that individuals with more tattoos would endorse more items on a measure of body image concerns (BDDQ) while those participants with fewer tattoos, or none at all, would endorse fewer items on a measure of body image concerns. The full model regression of the data collected illustrated that the combination of gender, age and number of tattoos did not affect a person's body image concerns. The sample was split into two nearly equivalent groups with individuals without tattoos placed into one group; individuals with tattoos placed into another group and a series of nonparametric correlation matrices were performed examining these two groups. Age was found to impact the endorsement of the item "worried about looks" for the individuals identified as without tattoos ($r = -.344$, $p \leq .01$). Age was found to impact the endorsement of the item "would like to think about appearance less" ($r = -.273$, $p \leq .05$). Gender was found to impact the endorsement of the item "worried about looks" for the individuals identified as without tattoos ($r = .430$, $p \leq .01$). Age was found to impact the endorsement of the item "problems at school, work and in social situations" ($r = .283$, $p \leq .05$).

Suggested Keywords: Tattooing, Body Image Concerns, Body Dysmorphic Disorder, and Attractiveness

An Exploration of the Relationship between Body Image and Tattoo Behavior

Physical attractiveness, as stated by Baron and Byrne (2004), is the combination of characteristics that are evaluated as beautiful, at the most attractive and unattractive extremes. As physical attractiveness is valued more and regarded more positively than such personality traits as emotional stability, maturity and dependability (Jones & Hill, 1993) people are increasingly likely to respond positively to those who are attractive (Baron & Byrne, 2004). Attractiveness is influenced by socio-cultural standards targeted at anyone from pre-adolescence to young adulthood and have been transmitted over the years by peers, parents and the media. For individuals who believe a defect exists within their appearance and cannot stop the preoccupation or subsequent distressing emotions, cognitions or behaviors, the very idea that sociocultural standards of attractiveness can affect impressions of power and personality characteristics can lead to an increased sense of inadequacy and compensatory behaviors.

Positive associations between physical attractiveness and interpersonal experiences are abundant. Maner, Kenrick, Becker, Delton, Hofer, Wilbur, and Nueberg (2003) note that attractive people are pursued for romantic relationships more frequently, are hired more often, and are more sexually experienced than individuals who are considered to be unattractive. Survey results illustrate that people who are considered to be attractive are deemed more interesting, successful and socially skilled (Alam & Dover, 2001). Pierce (1992) has acknowledged that female attractiveness is considered to be more important to men than male attractiveness is to women. This finding suggests a link between negative self-evaluation and a desire to alter appearance to emerge as more attractive to the opposite sex. Peers will react to the attractiveness of an individual by treating this person positively, nicely and respectfully (Zebrowitz, Collins, & Dutta, 1998) and in turn, the individual develops a high sense of self-worth.

According to the beauty-is-good stereotype, physically attractive individuals are believed to possess a wide range of favorable qualities and personality traits (Eagly, Ashmore, Makhijani, Longo, 1991). Attractive females are more than 10 times more likely to marry as opposed to the less attractive,

will marry sooner and are more likely to marry persons of higher social status (Taylor & Glenn, 1976). Sexual encounters are numerous and varied in comparison to the less attractive female (Alam & Dover, 2001). Perceived attractiveness is associated with perceived power, happiness, self-esteem, and the ability to adjust to change (Eagly et al., 1991). For many of average appearance, the life of the attractive female appears promising, and the belief develops that happiness will increase as physical features are enhanced. For the woman with body dissatisfaction, tattooing can serve as an enhancement procedure to correct perceived flaws.

Many people suffer from personal thoughts of physical unattractiveness, which illustrates a powerful relationship between body self-esteem and global self-esteem, the way in which an individual perceives a general sense of self-worth (Mendelson, Mendelson, & Andrews, 2000). A survey of 30,000 United States residents found that approximately 93% of women and 82% of men worry about their appearance and will actively work to improve it (Phillips, 2005). Men and women internalize cultural expectations, and begin to judge their physical attractiveness or personal self-worth along a continuum in relation to the unrealistic standards of society (Farquhar and Wasylkiw, 2007; Thompson & Stice, 2001). Therefore, the proposal that degrees of attractiveness are based upon standards arranged by society agitates the individual that worries about physical attractiveness, whereas the notion that beauty may predominantly be individualistic may alleviate worries (Honekopp, 2006).

Research presented by Maner and colleagues (2003) hypothesize that both women and men selectively attend to, and therefore remember more often, highly attractive members of the opposite sex. Previous research suggests that men place a premium on the physical attractiveness of potential romantic partners (Li, Bailey, Kenrick, & Linsenmeier, 2002) and that men are more likely to selectively attend to and remember highly attractive women, so the subjective well-being of average-appearing women can negatively be impacted (Maner et. al, 2003).

Body image is a construct assessed through the interactions of subjective experiences, the relationship between body function and aesthetic worth, and the ways in which an individual internalizes the ideal beauty standard. It is a multidimensional creation that embodies self-perceptions and the attitudes regarding physical attractiveness (Cash, Morrow, Hrabosky, & Perry, 2004). Body image dissatisfaction and body shame result from the internalization of unachievable standards of beauty and are acknowledged by multiple researchers as a pervasive problem experienced by large numbers of females (Moradi et. al, 2005; Trampe, Stapel & Siero, 2007). Exposure to media images of the ultra- thin and highly attractive female can have an adverse effect upon the way women evaluate their own beauty, and it is believed that this exposure prompts processes of social comparison and negative self-evaluation of the body (Trampe, Stapel & Siero, 2007).

Social comparison refers to the tendency of an individual to compare the self with a single person, or group, in order to decide whether the view of social reality is correct or not (Festinger, 1954). Individuals hold a strong desire to compare themselves to others with the purpose of gaining important information about the self (Bessenoff & Del Priore, 2007). Negative self-evaluation results from the comparison of the self to another individual perceived as better, such as in the case where the comparison individual appears more attractive (Bessenoff & Del Priore, 2007). The desire of an individual to emerge as similar in appearance to the ideal female, combined with socio-cultural pressures, and the evaluation of self, increases the occurrence of social comparison (Farquhar & Wasylkiw, 2007). Alam and Dover (2001) believe that physical beauty is much easier to assess than other desirable qualities which would require the time and effort of an individual to listen to self-disclosure of another. In assessing physical attractiveness of another, an individual does not need to examine the personality traits that lie beneath the exterior. Therefore, it is easier for an individual to assess and compare their personal appearance against an attractive individual and come up short, as opposed to putting in the time and effort required to assess other desirable qualities through mutual self-disclosure, and come up with an advantage.

Objectification theory, according to Moradi, Dirks, and Matteson (2005), address life events of a woman in relation to her sexual objectification, in which case a woman will experience the evaluation of her worth based upon the body rather than personality traits. The routine sexual objectification experience can socialize women to treat themselves as objects to be looked at, sized up and evaluated (Spitzack, 1990). Self-objectification represents the internalization of the observer perspective in conjunction with one's own body and will be manifested by persistent body surveillance (McKinley, 1998; Moradi et. al, 2005). Self-objectification manifested through body monitoring and surveillance can be described as the act of measuring oneself against an internalized cultural standard, whereas body shame is an emotion that occurs after measuring oneself against this standard and believing that you have come up short of the ideal (Moradi et al., 2005). Emotions that result from self-objectification can range from anxiety surrounding perceived physical harm, to fear revolving around the inability to adequately predict circumstances in which the body will be evaluated, to severe angst resulting from the internalized view of personal unattractiveness. The way in which a woman will internalize the cultural standards of beauty and attractiveness may be the significant link that converts sexual objectification, an external phenomenon, into extreme body observation and dissatisfaction that predict the potential course of pathology (Moradi et al., 2005).

Women who view their body as an object, as something that should appeal to others, may begin to treat their body in a decorative manner. Hewitt (1997) proposes that women who tattoo are outwardly declaring their independence from the aesthetic standards portrayed by society and no longer solely preserving their body for the pure enjoyment of another. These women believe that beauty is not based solely upon specific sociocultural standards, but rather is reflected within the desire of the individual, and tattoo as a form of self-expression (Hewitt, 1997). With the chosen decorative design tattooing allows for, a woman has the ability to reclaim the body, which had once been viewed as an object to evaluate and critique, as her own.

High levels of dissatisfaction with physical appearance are also experienced by men, and the differences between actual and ideal physical attractiveness, is associated with a number of psychological and physical health concerns (Farquhar & Wasylkiw, 2007). Dissatisfaction with general physical appearance among men has tripled over the course of thirty years (Garner, 1997) and low self-esteem, depression and increased usage of performance-enhancing drugs are some psychological and physical health concerns that arise from body dissatisfaction among men (Olivardia et al., 2004). Farquhar and Wasylkiw (2007) explain that the increase in body dissatisfaction among men occurs as a result of social comparison to media images. Research illustrates that the physiques of men in the media have increased in muscularity and leanness over time (Pope et al., 1999), presenting a new cultural standard of male physical attractiveness. According to social comparison theory, when a man begins to compare himself to the image presented in popular men's magazines with far superior physical appearances, he is comparing himself to others that are better off, and therefore he begins to feel inadequate and dissatisfied with his own physical appearance. Women view a less muscular image of men in magazines, so Farquhar and Wasylkiw (2007) present the notion that men may be encountering images that overestimate the ideal body required to appear physically attractive.

Farquhar and Wasylkiw (2007) introduce the idea of body conception, termed the "body-as-object" hypothesis, which describes the body in relation to distinct parts that are evaluated by the aesthetic qualities each portray. Morrison et al. (2003) argues the idea of a shift toward viewing and exemplifying the male body as decorative, as opposed to the traditional claim that the male body is represented in terms of function. The recent trend towards picturing shirtless men in woman's magazines and the increasing number of men engaging in behaviors directed towards aesthetic appeal, such as body hair removal, illustrates the growing emphasis that men are viewing their bodies in terms of attractiveness and appearance qualities rather than what the body can do as a function (Farquhar & Wasylkiw, 2007).

Research suggests that exposure to the image of the ultra-thin female can lead women to evaluate themselves negatively and could potentially initiate disordered eating patterns that increase the risk for

subsequent eating pathology (Polivy and Herman, 2004). Extending beyond the implications of eating pathology that arise from the exposure to images of the ultra-thin female, the idea arises, where the exposure may increase the likelihood of the average looking woman seeking certain procedures, such as tattooing, to alter or improve upon a perceived physical defect. Tattooing can blur gender lines, as both men and women seek out this form of self-expression, and create different standards of beauty (Hewitt, 1997). Extrapolations are made, presenting tattooing as similar to cosmetic surgery, which can be used to enhance the appearance of an individual that perceives a defect to exist. Researchers (Alam & Dover, 2001) have identified a potential link between repeat cosmetic surgery and Body Dysmorphic Disorder, so the hypothesis could be made that increased tattooing could also be related to Body Dysmorphic Disorder.

Body dissatisfaction appears common today and affects the lives of many, and for a significant number of individuals, the concern with physical appearance can be disabling (Rosen, Reiter & Orosan, 1995). Body Dysmorphic disorder (BDD) has been defined by the *Diagnostic and Statistical Manual of Mental Disorders* (4th ed.; DSM-IV; American Psychiatric Association, 1994) as the excessive preoccupation with an imagined or minor defect in appearance. Different from normal concerns about appearance that plague most everyone, the preoccupation with appearance is time consuming and causes significant distress for the individual in social, educational or occupational functioning. The perceived defect is generally not noticed by others, and if noticeable does not appear abnormal, so the defect can be considered an irrational and exaggerated body disfigurement (Eifert & Zvolensky, 2005). Often, the concerns of individuals with BDD revolve around the appearance of the skin, including the face, hair growth, and the size of the nose (Stangier, Adam-Schwebe, Muller & Wolter, 2008) but an individual can become distressed about any aspect of their appearance (Phillips, 1991). On a behavioral level, characteristics include avoidance behavior, excessive checking or grooming patterns, constant seeking of reassurance from others, and camouflaging imagined deformities (Eifert & Zvolensky, 2005). The

cognitive features of BDD can include, but are not limited to, intrusive thoughts, ideas of reference and excessive preoccupation (Eifert & Zvolensky, 2005).

Phillips (2005) acknowledges the idea that BDD is not rare, but rather, that secrecy, shame and embarrassment work to inhibit recognition of symptomatology. Research indicates that about 1% of the general population meets the criteria for BDD, while studies of students report that as high as 13% could be characterized this way (Phillips, 2005). It has been hypothesized that for individuals that tan frequently (Phillips, 2005) and individuals that receive frequent cosmetic surgery, BDD is quite common (Sarwer, Crerand, & Gibbons, 2007). When the statistics are combined, a greater number of individuals have the potential to be afflicted with characteristics of BDD. Phillips (2005) believes that in the United States alone, BDD may affect millions of people, and the disorder may be common like schizophrenia, panic disorder, bipolar disorder and anorexia nervosa. The increased number of individuals afflicted with characteristics of BDD could result from the belief that symptomatology lies along a continuum of severity, with core features of preoccupation, distress and impairment. Several decades ago, clinicians and researchers believed that an individual with BDD would need to be so severely affected in order to receive a diagnosis, and did not take into consideration the very subjective nature (Phillips, 2005). Individuals that present with BDD characteristics can live sociably, but experience distress doing so, and adopt behavioral and cognitive features that make life unbearable.

Sociocultural factors that influence attitudes toward body image have the potential to increase dissatisfaction with physical appearance and play a role in determining the extent to which an individual will become preoccupied with a physical defect (Eifert & Zvolensky, 2005). Several factors that may predispose an individual to the increased risk of developing BDD symptomatology are the exposure to high ideals of beauty standards, perfectionist tendencies regarding attractiveness, and experiences with being teased about appearance (Veale & Lambrou, 2002). The ideal standards of beauty that are portrayed within the media are internalized in such a way that preoccupation with a body part that deviates from these standards causes significant distress and impairment. Through the comparison of self

and others perceived as more attractive, an individual with BDD characteristics will experience extreme subjective distress, become preoccupied with the recognized body anomaly and use several behavioral mechanisms to compensate for the arising emotions. An increased sense of inadequacy may result in an increase in compensatory behaviors associated with BDD, such as avoidance and camouflaging in the form of tattooing.

The beliefs of a patient with BDD are characterized as irrational convictions or overvalued ideas because the perceived defect does not draw attention from outside sources (Rosen et al., 1995). Individuals with no visible abnormality are convinced of a defect, while others have ideas of reference, and do not realize that these thoughts are distorted (Rosen et. al, 1995). Appearance preoccupation will increase during social situations as the individual expects to be scrutinized and evaluated by others, so most patients will engage in various methods to avoid social situations (Rosen, 2001). Individuals with BDD are strongly convinced that in order to improve self-esteem and alter behaviors they must change and improve the way they look (Rosen et al, 1995). Therefore, individuals with BDD symptomatology will undertake various beauty procedures, such as cosmetic surgery, skin treatments, and weight loss methods to eliminate the perceived defect (Rosen et al, 1995).

Multiple tattooing can be considered a behavioral feature of BDD. These behaviors, according to Phillips (2005), are done to examine, hide, improve the supposed defect, or work as reassurance from others that it does not look bad. Avoidance behavior prevents the individual from habituating to the sight of a perceived defect, therefore leading to overwhelming anxiety in social situations where appearance seems to garner attention (Rosen et al., 1995). Multiple tattooing may be a form of avoidance behavior in which the symptomatic individual increases the amount of tattoos on the person in an attempt to alleviate distress over the perceived disfigurement. The individual with multiple tattoos does not have an opportunity to habituate to the appearance or the perceived anomaly, and by directing attention to other areas of the body inked with tattoos the individual may begin to become more sociable and less distressed.

Camouflaging the perceived defect, a limitless method, can be done through the use of cosmetic surgery, dermatologic procedures, makeup, clothing and any other number of creative alternatives (Phillips, 2005). As a safety method, the intent of camouflaging revolves around increasing comfort in certain social situations while decreasing anxiety and emotional distress (Phillips, 2005). Excessive tanning can be characterized as a BDD behavior which people use for multiple reasons, including diminishing the appearance of pale skin (Phillips, 2005). Multiple tattooing covers the perceived defect, and serves as a method of camouflaging behavior as it distracts the individual and directs the attention to something more "decorative," which portrays a sense of individuality. Therefore, the person with tattoos becomes more than the physically unattractive defect he or she perceives and transforms into an animated person that creatively expresses their own stories, beliefs and personality on their bodies (Hewitt, 1997). With the tattoos, the individual holds the ability to express personality on their bodies, so the irrational belief of personal inadequacy that stems out of others viewing the defect, may decrease.

Checking behavior can be characterized as a form of social comparison, according to Rosen (2001), in which some people with symptoms of BDD compare their perceived anomaly to the body parts of other people. In connecting social comparison theory with the checking behavior of BDD sufferers, individuals with tattoos may begin to compare to others with tattoos, attempting to look for reassurance about other aspects of their appearance, and not solely the anomaly. In comparing the self to others with tattoos, these individuals may inadvertently alter the sociocultural standards of beauty, which at the moment do not direct attention to the beauty or attractiveness of tattooing. Tattooing can be a tedious process and is not without risk of infection from on site injury, Hepatitis C and HIV (Hewitt, 1997). So, when an individual with characteristics of BDD attempts to tattoo as a way to control body image perception, and projects this new image to others, he or she runs the risk of self-harm. It is essential to identify a potential link between BDD characteristics and various behavioral features that arise for individuals that seek out multiple tattooing procedures.

Satisfaction with oneself varies with the ability to manipulate and control physical attributes of attractiveness. People attempt to cultivate the image they convey to others in an effort to influence the ways through which others perceive and respond to them (Sheppard & Kwavnick, 1999). Within certain social circles, tattoos are perceived as attractive statements of personality and expression, leading those who seek appearance approval to pursue tattooing to create desired attractiveness (Sheppard & Kwavnick, 1999). Studies of parolees reveal that the motivations to tattoo are similar to the motivation to self-mutilate and serve as a reaction to the environment, whereas a survey performed in 1964 concluded that tattoos may function to enhance the bearer's self-image (Hewitt, 1997). Within the past twenty years mainstream culture has viewed tattooing as a form of self-expression, and now the typical client of a tattoo artist comes from a wide range of cultures and backgrounds (Hewitt, 1997). Tattooing serve as an outlet for individuals to recreate their own meaning of personal experiences; so that an individual that exhibits extreme distress surrounding perceived body defects can "decorate" their bodies with tattoos and alleviate symptoms of distress. Individuals have the potential to express themselves in an alternate way, with tattoos that distinguishes them from the perceived defect or past experiences.

The present study attempts to extend the literature surrounding body image dissatisfaction and the characteristics of body dysmorphic disorder. The specific aim of the study is to analyze the potential connection between endorsed BDD behavior and number of tattoos. It is hypothesized that the more tattoos an individual has, the more items which illustrate a connection between symptoms of BDD, he or she will endorse on a self-report form. Extending the hypothesis further, the fewer number of tattoos an individual has the less number of items he or she will endorse.

Hypothesis #1: Individuals with increasing number of tattoos will exhibit more endorsed items on the Body Dysmorphic Disorder Questionnaire (BDDQ).

Hypothesis # 2: Individuals without tattoos, or with fewer tattoos, will endorse fewer items on the Body Dysmorphic Disorder Questionnaire (BDDQ).

Model:

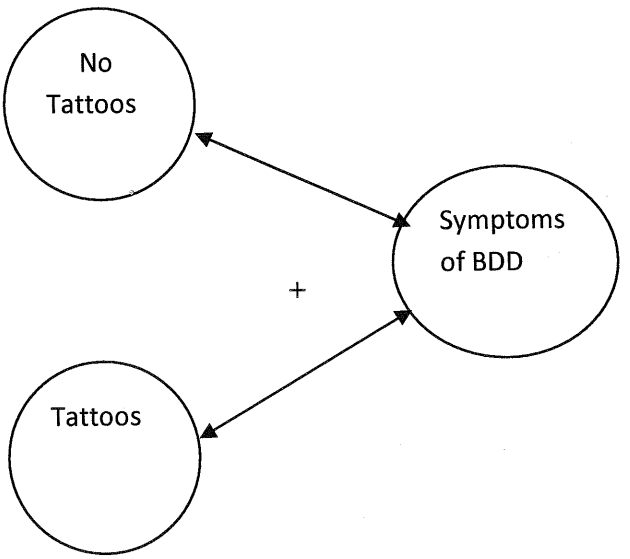

Figure 1

Chapter Two

Methods

The primary research design was based on ascertaining the extent to which various individuals, some with and some without tattoos, endorsed items of a measure of Body Dysmorphic Disorder. The endorsement of several items on the Body Dysmorphic Disorder measure would relate to perceived body image for the persons involved within the study.

Participants

Participants' demographics are shown in table 1 and include 123 male and female individuals. All participants were between eighteen and sixty-seven years of age ($M = 35.63$, $SD = 12.3$). The sample consisted of 40 males (32.5%) and 83 females (67.5%). With respect to tattoos, 49.6 percent of the respondents identified themselves as having one or more tattoos (mean = 2.76), while 50.4 percent identified as having no tattoos. A large number of participants with tattoos were obtained from tattoo shops within the upstate New York areas of Saratoga and Albany County. Other participants from across the United States and other parts of the world, including both individuals with or without tattoos, were attained electronically via various listservs.

Website and Measures

The Psychdata.com website was utilized to allow individuals to access the questionnaires. Participants were asked to complete the online measures, a combination of questions obtaining information about socio-demographic characteristics and a self-report screening tool with questions related to body dysmorphic disorder (Please see the introductory instruction page in Appendix A). All measures were available at the specified site on Psychdata.com. The ability to complete the measures at this website provides a foundation for gathering information from a wide variety of individuals, so that differences in age, socio-economic status and cultural background may adequately be addressed.

Materials:

Demographics Questionnaire: Socio-demographic characteristics were obtained for each participant. The demographics questionnaire contained ten items pertaining to each participant's gender, age, location where participant was born, highest level of education completed, presence of tattoos, number of tattoos, employment status, whether or not she/he is a student and if so what is the field of study, marital status, socio-economic status, employment status, and a brief narrative account of the story behind the tattooing.

Body Dysmorphic Disorder Questionnaire (BDDQ): The Body Dysmorphic Disorder Questionnaire (Please see the BDDQ in Appendix B) is a screening tool but not a diagnostic tool for BDD and relies upon self-report of individuals (Phillips, 2005). The BDDQ appears to have a sensitivity of 100% and a specificity of 92.3% among a population receiving dermatologic procedures (Dufresne et. al, 2001). The BDDQ has an Interrater reliability of .88 (Dufresne et. al, 2001). Many screening tools appear to overestimate an individual's potential, and available research does suggest that the BDDQ may potentially over estimate body dysmorphic behaviors among respondents (Phillips, 2005). However, when attempting to find a link between body dysmorphic ideas and multiple tattoos, the ability to overestimate can, in actuality, be more effective than not identifying those that may have potential symptoms. Appropriate mental health care services can be found and treatment can begin when identifying those individuals with the potential to be sensitive to body dysmorphic disorder.

Procedure

The measures were uploaded onto the Psychdata.com website for access by the participants. Anonymous participation was obtained from consumers at several tattoo shops in the New York counties of Saratoga and Albany, as well as through listservs, through the use of a recruitment letter (Appendix A). Participants went to the Psychdata.com site and completed the measures. There were no rewards offered for participation and completion of the measures.

Design and Data Analysis

The methods of data analysis that were employed include (1) descriptive statistics of the sample, , (2) linear regression for the predictor models aimed at calculating differences among the variables, and (3) nonparametric bivariate correlation matrices for the sample split for those with and those without tattoos.

The dependent variable (DV) is the measured number of endorsed items using the Body Dysmorphic Disorder Questionnaire (BDDQ). The independent variables (IV) within the study were number of tattoos, age, and gender. The questions within the BDDQ, used to measure and predict an individual's endorsement of body dissatisfaction, were not used as independent variables as each of these questions were used to yield a score of total number of endorsed items.

Chapter Three

Results

Demographics

The majority of respondents in this study were female (67.5%). The respondents were between 18 and 67 years of age, with the mean age of 36 ($M = 35.63$, $SD = 12.3$). All participants had at least some high school education and most had some higher degree of education (70.7%). Participants responded with having received a Bachelor's degree (10.6%), Master's degree (26.8%), and a Professional degree (33.3%). The sample was relatively equal among respondents identifying as having tattoos (49.6%) and respondents identifying as not having tattoos (50.4%). The respondents identified as having 0 to 124 tattoos. The mean number of tattoos for the subjects was 3 ($M = 2.76$, $SD = 11.643$). Additionally, 43.1% of the sample identified themselves as being married. The income levels of the respondents were between 0 and 80,000 dollars, with a mean income of 35,000 dollars ($M = 33568.97$, $SD = 12613.700$).

Table 1
Descriptive Statistics for Study Sample (N= 123)

Variable Name	N	% of sample
Gender		
Males	40	32.5%
Females	83	67.5%
Educational Attainment		
High School Diploma/ GED certificate	3	2.4%
Some College	14	11.4%
Bachelor's Degree	13	10.6%
Some Graduate School	15	12.2%

Master's Degree	33	26.8%
Professional Degree	41	33.3%
Other	10	3.3%
Variable Name	**N**	**% of sample**
Age		
18-67 yrs.	N=123	$M = 35.63$, $SD = 12.3$
Marital Status		
Never Married	37	30.1%
Married	53	43.1%
Widowed	1	0.8%
Divorced	11	8.9%
Separated	3	2.4%
Live in Partner	13	10.6%
Other	5	4.1%
Tattoo		
Yes	61	49.6%
No	62	50.4%
Tattoo Number		
0-124 tattoos	N=123	$M = 2.76$, $SD = 11.643$
Mean Income		
0-80,000 dollars	N=123	$M = 33568.97$ $SD = 12613.700$

One individual had extreme responses that needed to be considered in order to determine if there was anything systematic happening for this individual that would affect the data in any way. The respondent has 124 tattoos, greatly above the average for the sample of three ($M = 2.76$, $SD = 11.643$), thus resulting as an outlier. The respondent was male, 51-years-of-age, and identifies as being divorced. The respondent holds a full-time job, and appears to earn more than the average participant within the

study. The respondent did not endorse a single item on the BDDQ (Please see Addendum 1for descriptive statistics of this individual).

Characteristics of Measures

Participants in the study varied in their endorsement of items on the Body Dysmorphic Disorder Questionnaire form, even within the two sub-groups, individuals identified as having tattoos and individuals identified as not having tattoos. The items that could be endorsed by each participant were organized in a logical fashion and can best be described as (1) Worried about Looks (WAL), (2) Would Like to Think about Appearance Less (LTAL), (3) Main Concern Weight (MCW), (4) Often Upset about Looks (OUAL), (5) Decrease in Activities (DIA), (6) Problems at School, Work, and in Social Situations (PSWC), (7) Avoid Things Because of Looks (ATL), and (8) Time Spent Thinking about Looks (TSL). These will be used in the correlation matrices' analysis.

Descriptive Statistics

The means, standard deviations, ranges for the independent and dependent variables of the study, as well as the questions used to assess the endorsement of items on the BDDQ, are summarized in Table 3 (N = 123). The BDDQ, a measure used to assess participant's perceptions of body image concerns through the endorsement of a number of specific items, illustrates appropriate variability across subjects with a standard deviation of 1.8570, a minimum score of 0.00 and a maximum score of 7.00. Age as a variable revealed appropriate variability across subjects with a standard deviation of 12.300, a minimum age of 18 and a maximum age of 67. Tattoo Number as a variable also demonstrates appropriate variability across the subjects, with a standard deviation of 11.643, and a minimum of no tattoos and a maximum of 124 tattoos.

Table 2

Descriptive Statistics of the DV, IV and Questions of the Study (N = 123)

Variable	Mean	SD	Range
BDDQ	1.487	1.8570	.00-7.00
Gender	1.6748	.47037	1.00-2.00

Age	35.63	12.300	18-67
Tattoo Number	2.76	11.643	0-124
WAL (question)	.500	.50203	.00-1.00
LTAL (question)	.2683	.44488	.00-1.00
MCW (question)	.46395	.3089	.00-1.00
OUAL (question)	.40406	.2033	.00-1.00
DIA (question)	.0813	.27441	.00-1.00
PSWC (question)	.0410	.19907	.00-1.00
ATL (question)	.2683	.44488	.00-1.00
TSL (question)	.1220	.32857	.00-1.00

Analysis and Tests of Hypotheses

The data were analyzed using a series of regression analyses and several nonparametric correlations to evaluate the hypothesized relationships between number of tattoos and endorsement of items on the Body Dysmorphic Disorder Questionnaire. First the data were analyzed to ensure that the data met the basic assumptions of the normal distribution. The subsequent analysis is based on the evaluation of a full model regression using the operational variables age, gender, tattoo number, income, and education. The F-test (F (5,117) = 1.431, $p \leq .218$) was not significant, so therefore the next step is to remove the demographic variables, which include income and education, and examine the hypothesized variables. A partial model regression using age, gender and tattoo number was then evaluated. The F-test (F (3,119) = 1.332, $p \leq .267$) was not significant, so several nonparametric correlation matrices were performed because a nonparametric test does not assume normality of the sample scores.

Table three illustrates the precise statistical tests and research criteria used to evaluate the overall statistical significance of the regression model, as well as to test the specific research hypotheses.

Table 3

Statistical Tests and Research Criteria

Tests	Acceptance Criteria
The F-Test was used to evaluate the overall congruousness of the Regression model.	P (F) $\leq$ .05

The Coefficient of Multiple Determination (R^2) was used to estimate the proportion of the variation in the dependent variable.	$P(F) \leq .05$
H1 was evaluated based on the significance of t for the coefficient b_1.	$P(tb_1) \leq .05$

Multiple Regression Analysis

There were two regression analyses that were conducted. One analysis contained the independent variables (IV) age, gender, number of tattoos, income, education and the dependent variable (DV) endorsed items on the BDDQ which was not statistically significant. The second and third analyses were conducted with only the hypothesized variables.

Table four illustrates the full model regression that looks at gender, age, tattoo number, income and education, and their relationship with endorsed items on the BDDQ. Of the estimated independent variables within the model, gender, age, income, education and tattoo number were not statistically significant. The F-test (F (5,117) = 1.431, $p \leq .218$) was not significant, so therefore the next step is to remove the demographic variables, which include income and education, and examine the hypothesized variables.

Table 4

Multiple Regression of Gender, Age, Tattoo Number, Income, and Education on BDDQ

$R^2 = .058$, F (5,117) = 1.431, $p \leq .218$

Variable	B	SE	Beta	t	p (t)
Gender	.574	.367	.145	1.566	.120
Age	-.013	.016	-.087	-.813	.418
Tattoo Number	-.003	.015	-.018	-.195	.845
Income	-2.275E-5	.000	-.155	-1.581	.246
Education	.154	.132	.126	1.167	.117

Since there was no evidence of statistically significant correlations between any variables, income and education were removed from the analysis. Therefore, the second regression, as illustrated in Table five was conducted using only the hypothesized variables of age, tattoo number and gender. Results of the second regression analysis are not statistically significant as illustrated by the F-test (F (3,119) = 1.332, $p \leq .267$).

Table 5

Multiple Regression of Gender, Age, and Tattoo Number on BDDQ

$R^2 = .032$, F (3,119) = 1.332, $p \leq .267$

Variable	B	SE	Beta	t	p (t)
Gender	.573	.368	.145	1.556	.122
Age	-.009	.014	-.060	-.653	.515
Tattoo Number	-.007	.015	-.043	-.472	.637

Tests of Hypotheses

The hypotheses set forth and the results of the hypotheses are reviewed below.

Hypothesis #1: Individuals with increasing number of tattoos will exhibit more endorsed items on the BDDQ was not supported by the analysis.

Hypothesis #2: Individuals without tattoos, or with fewer tattoos, will endorse fewer items on the BDDQ was not supported by the analysis.

Nonparametric Correlation Matrices

Due to the nearly even split between those subjects with tattoos (n = 61) and those subjects without tattoos (n = 62), the relationship between number of tattoos and type of questions being asked was examined. A bivariate correlation matrix was performed for each group, without tattoos (Table 6) being first, followed by with tattoos (Table 7). The dependent variable (DV), endorsed items on the

BDDQ, the independent variables (IV), number of tattoos and question type, and the variables age, gender, education and income were used in the Correlation Matrix illustrated in Table six for individuals without tattoos. In Table seven, the dependent variable (DV), endorsed items on the BDDQ, the independent variables (IV), number of tattoos and question type, and the variables age, gender, education and income were used in the Correlation Matrix illustrated for individuals with tattoos.

The first nonparametric correlation matrix conducted examined the independent variables and the dependent variable for the group of individuals without tattoos. Upon conducting this nonparametric correlation matrix it was determined that women without tattoos endorse the item worried about looks (WAL, $r = .43$, $p \leq .01$). Age, for the subjects without tattoos, appears to be negatively correlated with the specific questions of worried about looks (WAL, $r = -.344$, $p \leq .01$) and like to think about appearance less (LTAL, $r = -.273$, $p \leq .05$) demonstrating that younger subjects endorse these items. The question related to problems at school, work, and in social situations (PSWC, $r = .283$, $p \leq .05$), illustrated a positive correlation with age, demonstrating that older subjects endorse this.

Upon conducting the nonparametric correlation matrix for the group with tattoos, different results were illustrated. No statistically significant results were shown from the nonparametric correlation matrix for the group with tattoos. A nonparametric correlation matrix was examined on one outlier to see if there was any difference from the rest of the sample who had tattoos. For case number 124, the results were similar to that of the group with tattoos therefore this data was retained.

Table 6

Nonparametric Correlations of Individuals without Tattoos (N = 62)

Table	Age	Income	Gender	WAL	LTAL	MCW	OUAL	DIA	PSWC	ATL	TSL
Age	1.00										
Income	.265*	1.00									
Gender	-.169	.030	1.00								
WAL	-.344**	-.024	.430**	1.00							
LTAL	-.273*	-.291*	.221	.565**	1.00						
MCW	-.146	-.154	.151	.494**	.384**	1.00					
OUAL	-.039	-.153	-.131	.251*	.471**	.319*	1.00				
DIA	-.097	-.038	-.206	.090	.253*	.080	.536**	1.00			
PSWC	.283*	-.027	-.047	.153	-.124	.053	-.091	-.049	1.00		
ATL	-.213	-.164	.123	.471**	.500**	.491**	.406**	.266*	-.199	1.00	
TSL	-.242	-.149	.105	.252*	.317*	.276*	.155	.163	-.055	.333**	1.00

*. Correlation is significant at the 0.05 level (2-tailed)
**. Correlation is significant at the 0.01 level (2-tailed)
NOTE:
WAL = Worried about Looks, LTAL = Like to Think About Appearance Less, MCW = Main Concern Weight, OUAL = Often Upset About Looks, DIA = Decrease in activities, PSWC = Problems at School, Work and in Social Activities, ATL = Avoid Things Because of Looks, TSL = Time Spent Thinking about Looks

Table7

Nonparametric Correlations of Individuals with Tattoos (N = 61)

Table	Age	Income	Gender	WAL	LTAL	MCW	OUAL	DIA	PSWC	ATL	TSL
Age	1.00										
Income	.307*	1.00									
Gender	-.175	-.068	1.00								
WAL	.113	-.066	.018	1.00							
LTAL	.083	-.029	.165	.633**	1.00						
MCW	.051	-.034	.204	.616**	.561**	1.00					
OUAL	.023	.046	.145	.523**	.668**	.782**	1.00				
DIA	.022	-.094	.205	.272*	.343**	.554**	.635**	1.00			
PSWC	.125	.027	-.028	.264*	.236	.381**	.437**	.434**	1.00		
ATL	.116	-.039	.185	.586**	.594**	.871**	.818**	.578*	.398**	1.00	
TSL	.112	.053	.176	.514**	.706*	.541**	.635**	-.449**	.514**	.673**	1.00

*. Correlation is significant at the 0.05 level (2-tailed)
**. Correlation is significant at the 0.01 level (2-tailed)

Chapter Four

Discussion

When looking at the partial model regression with the hypothesized variables, it appears that age, number of tattoos and gender were not related to one another and therefore were not statistically significant. Due to the lack of significance with the regression analysis, a series of nonparametric correlation matrices were performed. The data was analyzed by separating the subjects into two groups, those identifying as with tattoos and those identifying as without tattoos. The separation of the groups was done to ensure that the assumption of normality would not deter the analysis any further from exhibiting significant results. Upon conducting the nonparametric correlation matrices, statistically significant results were found.

The original hypotheses were not supported; however the data did have other results of interest. The first hypothesis stated that individuals with increasing number of tattoos will exhibit more endorsed items on the BDDQ but the data indicated that the hypothesis was not significant. The data indicated that age was negatively correlated with the items worried about looks ($r = -.344$, $p \leq .01$) and would like to think about appearance less often ($r = -.273$, $p \leq .05$). Age, for the group without tattoos, was positively correlated with the item problems at school, work and in social situations ($r = .283$, $p > .05$). Gender, for the group without tattoos, was positively correlated with the item worried about looks ($r = .43$, $p \leq .01$). It would appear as though increased number of tattoos was associated with a more secure body image, while subjects without tattoos may be less secure in the appearance of their body, as mediated by age.

Statistically significant negative and positive correlations were found for the group of individuals without tattoos. Younger respondents without tattoos tend to endorse the items worried about looks, and would like to think about appearance less often, while the older respondents endorse the item, problems at school, work or in social situations. The endorsement of these items by the younger respondents indicates that they worry about their appearance more often than the older respondent, which supports the

research that reports that young adults are susceptible to the ways in which society evaluates beauty and may internalize the ideal, leading to body dissatisfaction (Bessenoff & Del Priore, 2007; Dohnt & Tiggemann, 2006). As the individual without tattoos ages, perhaps he or she becomes more secure in body image and more capable of ignoring the cultural standards of beauty, as opposed to the younger respondent without tattoos. The older respondent without tattoos, however, appears to have more problems with functioning in social situations. Woman without tattoos appear to endorse the item, worried about looks, more than males which is consistent with Polivy and Herman (2004). Gender does not happen to influence the other questions within the study in a similar way. The younger female happens to endorse the item, worried about looks, more often than the older female and more often than the male subject of any age. Both of these results, the age and the gender interaction, appear to match the findings of several researchers (Bessenoff & Del Priore, 2007; Dohnt & Tiggemann, 2006; Polivy and Herman, 2004).

The results of the study indicate that there were no statistically significant results for the group of individuals with tattoos, so these individuals may be more secure with their body image. As there appears to be no relationship with any question, a gender and an age influence did not appear to exist for the group of participants that had tattoos. Perhaps these people are comfortable in their body and with their appearance and attempt to use the tattoo as a way to illustrate body acceptance.

There could be many variables affecting the individual identifying as having 124 tattoos, so he would serve as a case study for future research that would attempt to understand the actions of an individual with excessive tattooing. It is difficult to extrapolate or generalize simply from the responses of one individual, which is why it would be recommended to study this individual further, get more information from individuals with similar numbers of tattoos, and perform a study based on those dimensions. Although the results of the study appear to be the opposite of the predicted outcome it would appear that the present study can add to the literature surrounding tattooing and the perception of body image concerns among the general population.

Limitations

The present study is not without limitations in design and implementation. A limitation to the study lies within the survey implementation. The BDDQ is a self-report measure, and therefore while it may adequately indicate an individual's subjective sense of body dissatisfaction, it presents limitations and other measurement problems. The potential exists for participants to either over or under endorse several items, due to the self-report format of the BDDQ. Although Phillips (2005) warns that the BDDQ could potentially overestimate behaviors related to body dysmorphic disorder among respondents, the current study does not appear to follow that pattern. With the self-report format of the survey measure, participants may not have fully understood the questions being asked, which can impact the results. In fact, a few participants stated that the directions were confusing to follow, which may have been a result of the development of the online survey. These participants may have had alternative responses to the questions asked if the general directions were easier to follow. Many of the participants that were recruited from the listserv had a high educational attainment ($M = 82.9\%$). Although the all too common limitation of participants being college students did not occur, and although many of the participants within this study were from all over the country, the respondents were not adequately representative of the general population. More of the respondents were female (67.5%) and the limited male (32.5%) input impacts our ability to generalize our information to a male population of individuals. The current study did not collect data about ethnicity, so the study lacks the ability to generalize. Specific cultures could view tattooing or body image in a way that this researcher did not look at within the study. Finally, the hypothesis rested on the premise that increased number of tattoos would influence the endorsement of items on the measure of body image concern, but within the present study there were not many participants that had a wide range or variety of tattoos upon their bodies. The average number of tattoos for the respondents was approximately 3 ($M = 2.76$, $SD = 11.643$) and individuals with a lot of tattoos, specifically those with the majority of their bodies tattooed, were not represented within the study.

Perhaps these individuals would have endorsed more items on the body image measure, and were just not introduced to the possibility of participating in the study.

Further Research

Further research needs to be conducted with those individuals that have a significant amount of tattoos and how these people view their own body image. It does not appear as though there is much research available on the nature of tattooing, such as the view these people hold of attractiveness, of body image, and of society. Research could potentially focus on the culture of tattooing, identifying any possible differences in mate selection, the potential of a relationship between excessive tattooing and Body Dysmorphic Disorder symptomatology. The potential exists for subsequent research to address various narrative accounts of the reasoning behind tattooing, what views others' hold of the act of tattooing itself as well as the nature of tattooing a vast majority of the body. Research that can extend the literature about appearance and body image concerns, or that can attempt to look at the potential link between excessive tattooing and symptomatology will prove to benefit the whole of the health care community.

Appendix A: First Page of Computer Instructions

You are being asked to participate in a research project about body image and tattoos, entitled *An exploration of the relationship between body image and tattoo behavior.* This research is being conducted by: **Dr. Gayle Morse,** of Sage Graduate School, and **Jessica Bartnick,** a student within the Counseling and Community Psychology Program.

The purpose of the research is to investigate a connection between body image and increasing number of tattoos. Individuals with tattoos and without any tattoo at all are being asked to participate within the study at varying times. You may at anytime withdraw from the study without penalty.

Since you are being asked to participate in a study involving body image, thoughts and feelings may arise that could potentially become upsetting. If thinking about body image becomes upsetting to you, please withdraw from the study and talk with someone whom you feel comfortable.

Participation in the study should take no longer than ten minutes of your time. Should you choose to participate, an online site, Psychdata, will be used to collect the information. The site will be programmed so as not to collect any identifying information or the IP address, so your participation will remain anonymous. There is no way to identify the participant with the collected data. You may access the questionnaires at https://www.psychdata.com/s.asp?SID=128320.

Thank you for considering participating within the study. If you have any further questions pertaining to anything related to the study, please feel free to contact Jessica Bartnick at bartnj@sage.edu.

Appendix B: Demographic Questionnaire and BDDQ

1.) Gender

0.) Male

1.) Female

2.) On what date were you born?

3.) Where were you born? (Geographic Location, i.e., Town, Province, State)

4.) What is your current marital status?

1.) Never married

2.) Married

3.) Widowed

4.) Divorced

5.) Separated

6.) Live-in partner

7.) Other (please specify)

5.) What is your highest level of education completed?

1.) No school

2.) Grade school

3.) Some high school

4.) High school diploma/GED certificate

5.) Some college

6.) Bachelor's degree

7.) Some graduate school

8.) Master's degree

9.) Professional degree (Ph.D., RN., M.D., etc)

10.) Other (please specify)

6.) Are you going to school now?

0.) Yes

1.) No

7.) Are you currently employed?

1.) Yes, full-time

2.) Yes, part-time

3.) Yes, I am self-employed

4.) Seasonally

5.) No, I choose not to work at this time

6.) No, I am laid-off from work

7.) No, I cannot find suitable employment

8.) No, I am retired

9.) Other (please specify)

8.) Please estimate your annual income.

9.) Do you have a tattoo?

0.) Yes

1.) No

10.) If yes, how many tattoos do you have?

If you have a tattoo, please read the questions and provide a response in the space provided. If you do not have a tattoo, please move on to question 17.

11.) Please write about your first tattooing experience. For example, discuss any thoughts or feelings that may have arisen from the process. If you have multiple tattoos and cannot remember the first experience, please write about the most recent experience.

12.) How do others react to your tattoo(s)?

13.) Briefly describe the meaning that a significant tattoo holds for you.

14.) What would you tell an individual that does not have a tattoo, but that may think about getting one, about the experience of tattooing?

15.) If you had a chance to explain your personal understanding of your tattoo(s), otherwise known as a tattoo narrative, what would you say?

16.) Explain your ideas about society and acceptance of tattoos.

Please read each question carefully and mark the answer that is true for you. Also type in answers where indicated.

17.) Are you worried about how you look?

0.) Yes

1.) No

18.) If "yes" to the above question: Do you think about your appearance problems a lot and wish you could think about them less?

0.) Yes

1.) No

19.) If "yes" to the above question: Please list the body areas you do not like.

Examples of disliked body areas include: your skin (for example, acne, scars, wrinkles, paleness, redness); hair; the shape or size of your nose, mouth, jaw, lips, stomach, hips, etc.; or defects of your hands, genitals, breasts, or any other body part.

NOTE: If you answered "no" to any of the above questions, you are finished with this questionnaire. Otherwise, continue.

20.) Is your MAIN concern with how you look that you are not thin enough or that you might get too fat?

0.) Yes

1.) No

21.) Has it often upset you a lot?

0.) Yes

1.) No

22.) Has it often gotten in the way of doing things with friends, dating, your relationships with people, or your social activities?

0.) Yes

1.) No

23.) If "yes" to question 22, please describe how in the space provided.

If "no" to question 22, please move on to the next question.

24.) Has it caused you any problems with school, work, or in other activities?

0.) Yes

1.) No

25.) If "yes" to question 24, please describe these problems in the space provided.

If "no" to question 24, please move on to the next question.

26.) Are there things you avoid because of how you look?

0.) Yes

1.) No

27.) If "yes" to question 26, please describe the things that you avoid in the space provided.

If "no" to question 26, please move on to the next question.

28.) On an average day, how much time do you usually spend thinking about how you look?

0.) Less than 1 hour a day

1.) 1-3 hours a day

2.) More than 3 hours a day

Addendum A: Descriptive Statistics for Individual

Variable Name	Individual Response
Gender	Male
Age	51
Number of Tattoos	124
Educational Attainment	Psychology Degree
Marital Status	Divorced
Income Level	65,000
Endorsed Items on BDDQ	None

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