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THE PREVALENCE OF MIRROR GAZING BEHAVIORS IN MEN

A Dissertation
Presented to
The Faculty of the Psychology Doctoral Program
Western Kentucky University

In Partial Fulfillment
Of the Requirements for the Degree
Doctor of Applied Psychology

By
Rutuja Pramod Chinchankar

May 2022

THE PREVALENCE OF MIRROR GAZING BEHAVIORS IN MEN

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I dedicate this dissertation to my family and professors. They have been a constant source of support through the obstacles that I have overcome to finish this program. I solely dedicate this piece of my hard work to them.

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THE PREVALENCE OF MIRROR GAZING BEHAVIORS IN MEN

Rutuja Pramod Chinchankar May 2022 86 Pages

Directed by: Frederick Grieve, Ph.D., Aaron Hughey, Ph.D., Andrea Jenkins, Ph.D., and Karl Laves, Ph.D.

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Abstract

Muscle Dysmorphia is when the individual is preoccupied with the idea that his or her body build is too small or insufficiently muscular. This study looked at the distinct criteria of MD, which is persistently and obsessively checking one's appearance in the mirror and being dissatisfied with it. It studied the reasons behind these repetitive mirror-gazing behaviors. This study also attempted to understand the effect of an individual's age, educational background, religious orientation, sexual orientation, and socio-economic status on his predisposition to MD via mirror-gazing behaviors. This study used a qualitative research design. Part I of the study included participants who filled out the Muscle Dysmorphia Questionnaire (MDQ) related to the symptomology of MD. Participants scoring high were selectively contacted for Part II of the study. Part II included participants filling out an open-ended survey stating various reasons, thoughts, feelings, and opinions about their mirror-gazing behaviors. Content analysis was done to understand the themes of how many males perceive flaws in their appearance when exposed to the mirror repeatedly. The study aimed at connecting all the relevant characteristics underlying the concept of mirror-gazing behaviors. The impact of the current study is to help men become aware that their uncontrollable need for mirror checking behaviors may be clinically significant or can lead to MD or BDD.

Chapter 1: Introduction

Body Dysmorphic Disorder (BDD) is a body-image disorder characterized by persistent and intrusive preoccupations with an imagined or slight defect in one's appearance. (Anxiety and Depression Association of America, 2010). According to the International Obsessive-Compulsive Disorder Foundation, the prevalence of BDD is 1.7% to 2.4% of the general population. Statistics suggest that it is about 1 in 50 people. Schmich (1997) stated that inspecting one's features to achieve social desirability is making body image issues more significant in the general population. He also stated that looking into reflective surfaces such as bathroom mirrors, rear-view mirrors, mirrored buildings, cosmetic-compact mirrors, mirrored sunglasses, purse mirrors, and clock dials are popular pastimes for women. Schmich (1997) suggested that women feel embarrassed for staring at themselves in a mirror; however, he indicated that they are not afraid to glance in a mirror or reflective window within their vicinity. Bjornsson et al. (2010) concluded that Body Dysmorphic Disorder (BDD) is a relatively common psychiatric disorder consisting of distressing or impairing preoccupation with imagined or slight defects in appearance. Bjornsson et al. (2010) asserted the importance of reflective surfaces acting as negative reinforcers for mirror checking behaviors and excessive self-focus. The purpose of the present study is to examine mirror-gazing behavior in males who have Muscle Dysmorphia (MD), a subtype of BDD.

Body Dysmorphic Disorder

The *Diagnostic and Statistical Manual for Mental Disorders* (5th Ed.; American Psychiatric Association [APA], 2013) helps us understand the diagnostic and clinical picture of this disorder. The manual suggests that a person should experience at least four of the following criteria to be diagnosed with BDD.

The first criterion for BDD is the preoccupation with one or more perceived defects or flaws in physical appearance that are covert or appear slight to others. The second criterion is that, at some point during the course of the disorder, the individual has performed repetitive behaviors (e.g., mirror checking, excessive grooming, skin picking, reassurance seeking) or mental acts (e.g., comparing his or her appearance with that of others) in response to the appearance concerns. There is a history of a repetitive behavioral component focused on grooming to hide or fix the perceived flaw or seeking reassurance from others about his or her appearance without satisfaction. The third criterion is the preoccupation with appearance causes clinically significant distress or impairment in social, occupational, or other important areas of functioning. The fourth criterion is the preoccupation with appearance is not better explained by concerns with body fat or weight in an individual whose symptoms meet diagnostic criteria for eating disorder (APA, 2013).

One must specify if the symptoms exist with or without MD. Muscle Dysmorphia is when the individual is preoccupied with the idea that his or her body build is too small or insufficiently muscular. One must specify the degree of insight the individual has regarding body dysmorphic beliefs. The three types of insight are: with good insight (the individual realizes the BDD beliefs are definitely or probably not true), with poor insight (the individual thinks that the BDD beliefs are probably true), with absent insight/delusional beliefs (the individual is completely convinced that the BDD beliefs are true (APA, 2013).

Patients with BDD can be distressed about virtually any aspect of their physical appearance (Phillips, 1991), though they look like most of the population around them. Complaints about the size, shape, or symmetry of facial features are common. Some individuals reported concerns about skin blemishes, breast size or symmetry, thinning hair or excessive body hair, structure of

their teeth, and size of their genitals. Others have more vague complaints such as being "ugly." Dislike of body weight or shape is common today (Grieve, Wann, Henson & Ford, 2006). However, these complaints can reach the level of BDD if accompanied by distressing and disabling preoccupation (Crisp, 1988). Like other somatoform disorders, the essence of BDD is not where in the body the patient sees the defect, but the fact that the patient is preoccupied with it. Appearance preoccupation occurs mostly in social situations in which the person feels self-conscious and expects to be scrutinized by other people. This attention makes the patient feel ashamed because he or she believes the defect reveals some personal inadequacy (Grieve et al., 2006).

BDD is obsessive-compulsive disorder symptoms manifesting in the framework of body image (Leone, Edward & Gray, 2005). In MD the object of obsession is a person's physical appearance, and the compulsion is to achieve the desired levels of muscularity and leanness (Leone, Edward & Gray, 2005). Katharine et al. (2006) spoke about gender differences in BDD symptomology. They stated that men showed severe distress on the Psychiatric Status Rating Scale for Body Dysmorphic Disorder, as compared to women.

Muscle Dysmorphia

The clinical picture of MD consists of men believing that their appearance is *puny* or *small.* They look either average-built or unusually muscular (Pope et al, 2005). As a result of a distorted self-image, they may neglect social and/or occupational responsibilities and feelings of shame, guilt, sadness, and anxiety (Pope et al., 2005). Their dysfunctional behaviors normally included hiding their perceived appearance flaws by following a meticulous diet and adhering to a time-consuming workout schedule. In some cases, they damage their health by excessively working out (Pope et al.,2005). Olivardia et al. (2004) presented a comprehensive diagnostic

criterion for MD. The first criterion states that one must be preoccupied with the idea that his or her body is not sufficiently lean or muscular. The second criterion states the preoccupation must cause clinically significant distress or impairment in social, occupational, or other important areas of functioning as demonstrated by (a) giving up participating in important activities in these areas because of a compulsive need to maintain diet and workout schedules, (b) avoiding situations in which one's body is exposed to others, (c) exhibiting clinically significant distress in these areas of functioning, (d) continuing exercising, dieting, and using performance-enhancing substances despite negative physical or psychological consequences, and (e) being preoccupied with being too small or inadequately muscular rather than with being overweight. The DSM- V is presently being used to state the clinical diagnosis of MD. In addition to diagnostic criteria, the DSM -V provides associated features for MD (APA, 2013). As an example, individuals with MD wear bulky clothing to hide their bodies (Olivardia et al., 2004). One important, yet understudied, is the feature of mirror checking behavior (Olivardia et al., (2004).

Research indicated that mirror checking behaviors are derived from an obsessive thought about being too puny or small, right after this thought men with MD feel an intense urge to check themselves in the mirror (Olivardia et al., 2004). Men diagnosed with MD reported checking mirrors 7.5 to 9.2 times per day (Olivardia et al., 2004). Weightlifters, without a clinical diagnosis of MD, reported checking themselves in the mirror up to 3.4 to 3.3 times per day (Olivardia et al., 2004). They specified that men diagnosed with MD are dissatisfied with their reflection and generally may want to avoid looking into mirrors. However, the obsessive thought of being too small compels them to check their reflections repeatedly for visual feedback (Olivardia et al., 2004). Fabris et al. (2018) indicated that body dissatisfaction is the primary

characteristic of MD, and it leads to feelings of anxiety and compulsive actions. The clinical picture of MD encompasses controlling diets, engaging in excessive physical exercise, and excessive mirror checking behaviors (Fabris et al., 2018). Individuals with MD experience feelings of shame and embarrassment about their physical appearance, and 60% of affected individuals adopt safety behaviors, such as constant mirror-gazing and excessive bodybuilding, that may reach clinically significant levels (Fabris et al., 2018).

Mirror Gazing

Individuals with MD spend time looking at themselves in the mirror or other reflective surfaces (Olivardia et al., 2004). This behavior is called *mirror gazing*. Mirror gazing may be elaborated by understanding the meaning of *gazing*. Gazing, according to *The Oxford Dictionary*, is to "look steadily and intently; especially in admiration, surprise, or thought" (Oxford University Press, 2018, p 726). Mirrors may be defined as virtually perfect imitators and reflectors of the observer's body and face (Giovani, 2013). Gazing at oneself in the mirror for hours repetitively obsessing over an imagined flaw, as people with MD do, may come close to understanding mirror gazing.

The early instances of mirror gazing were documented by Dr. Sigmund Freud popularly known as *Wolf Man* (Veale, 2004). Dr. Freud's patient was said to be deeply engrossed with imagined defects of his nose. Veale (2004) stated that the patient looked at himself in every shop window and in his pocket mirror that he always carried (Veale, 2004). The patient gazed at varied mirrors for long hours, thereby disrupting his quality of life (Veale, 2004). The patient was obsessed with his beard and hence came to be known as the Wolf-man. As a result of Wolf Man's popularity, mirror-gazing, and body image concerns started gathering attention in the early 1900s (Veale, 2004).

Early research studies, using mirror gazing as an intervention concluded that negative self-perception involved thinking about oneself as being less attractive than anticipated (Lipson & Przybyla, 1983). Experimental observers rated the physical attractiveness of each participant, and the participants were asked to fill out a questionnaire that measured the degree of self-focused behavior while gazing in a mirror (Lipson & Przybyla, 1983). Each subject was asked to gaze at his/her image in a body-sized mirror. There were no time restrictions levied on the amount of time the participants looked at themselves. Lipson & Przybyla (1983) found that the time duration of the gazing and the level of perceived attractiveness were correlated, as the total time taken was found to be directly proportionate to physical attractiveness.

An investigation undertaken by Windheim, Veale & Anson (2011) demonstrated the effects of mirror checking in individuals with and without BDD. They included participants without BDD symptoms as a control group to see the effects of long and short sessions of mirror checking behaviors (Windheim, Veale, & Anson, 2011). They found out that not only subjects with BDD, but also those without the diagnosis of BDD, experienced an increase in distress and self-focused attention upon exposure to the mirror. In addition, people without BDD, unlike those with BDD, experienced more disturbance when gazing in the mirror for a long period of time as opposed to short periods of time. Windheim, Veale, & Anson (2011) suggested that there is a discrepancy in one's appearance and self-perception. This discrepancy may lead to fluctuations in the emotional state of individuals.

Giovani (2013) stated that self-examining behavior makes people mere spectators to their own mirror image, leading to a faulty perception of their physical features. He further stated that flawed self-recognition exemplifies a troubling form of self-knowledge.

Researchers indicated that gazing actions may act as an instant trigger for irrational cognitive processing and associated distress (Delinsky & Wilson, 2006). They also elaborated that negative associations developed from excessive mirror checking. Delinsky and Wilson (2006) instructed 22 participants to observe their bodies in a full-length body-sized mirror. They were asked to observe a holistic view as opposed to selectively focusing on body parts that bring about distress, anxiety, and mood fluctuation. Delinsky and Wilson (2006) also found out that mirrors may be used in the treatment of MD if the exposure is coupled with therapy.

Mood plays a motivating role in driving an individual to check his/her appearance in reflective surfaces as a reassurance (Veale et al., 2016). He indicated that persons with a fair insight about their feelings towards their body concerns realize that they are spending hours in front of the mirror. However, the realization leads to feelings of frustration and anxiety, which in turn, forces them into mirror-gazing behaviors (Veale et al., 2016). Research suggests that people are often secretive about repeated mirror checking because it makes them feel shameful, embarrassed, and disgusted about themselves (Veale et al., 2016).

A relatively recent research study conducted by Veale et al. (2016) aimed at an experimental paradigm to examine the effect of self-focused attention during mirror-gazing on appearance dissatisfaction. The study involved 173 randomly selected women who were allocated to one of the three experimental conditions before they were exposed to the mirror for a duration of two minutes. The conditions were (a) focus of attention, (b) internal self-focus, and (c) self-focus (negative mood induction). Participants were administered the Multidimensional Body-Self Relations Questionnaire Appearance scale (Veale et al., 2016). The results suggested that self-focused attention during mirror-gazing leads to an increase in dissatisfaction with one's appearance via negative mood (Veale et al., 2016).

The Body Dysmorphic Disorder Foundation (2018) has published various cases to propagate the urgency towards creating awareness and providing help to individuals in a timely manner. The following case was published by the foundation to spread awareness of BDD and its common occurrence in the general population:

"I was in school when I first thought of myself as being too skinny and awkward looking. I needed reassurance and security. I wanted to feel loved and accepted. I spent most of my childhood years feeling depressed and started to believe that the key to happiness lay in my looking a certain way. I allowed myself to be ruled by an ideal of unattainable perfection. I looked to the mirror to help me cope with my difficult feelings. If I could only make myself appear a certain way, then I would be okay. The mirror became my best friend and my worst enemy. I gazed in it secretly because the monster would always gaze back. I would become hysterical at the sight of my photographs. I dropped out of school and, for an entire year, became a recluse. All my time was spent gazing into the mirror, wondering what was wrong with me. At sixteen I'd spend hours naked, just looking at myself, poking and prodding bits, preening, exercising, worrying that every additive in the food I ate was conspiring to make my skin uglier. I'd check my reflection from every angle, under every kind of light, always ending up back with self-loathing and tears. One day, I read about my state of mind in a magazine, and it was the start of my awareness. I looked for guidance from medical and mental health professionals. I talked with others who were suffering" (Body Dysmorphic Disorder Foundation, 2018).

This case study emphasizes the need to focus our attention on mirror checking behaviors. Vandereycken (2011) emphasized that media plays a very influential role in the maintenance of body image disorders. Social media acts as a reinforcing agent to mirror gazing behaviors (Veale et al., 2016). The next section will elaborate on this topic.

Mirror Gazing and Use of Cameras

There has been a vast increase in the use of cameras in the present times (Kindberg et al., 2005). ‘Self-focus’ is rising, which can make the general population more susceptible to developing BDD or MD tendencies. A study conducted by Veale (2004) indicated that 85% of mirror checkers spent at least one hour in front of the mirror (long session) and had numerous 15-minute phases (short session) per day. They checked their appearances in various reflective surfaces like car mirrors, windows of shops on the street, a variety of silverware, and television screens. Only 30% of controls, participants not diagnosed with BDD, reported a long session without checking in a variety of reflective surfaces, and 67% of BDD patients avoided mirrors in public places with poor lighting (Veale, 2004).

Silvers and Farrants (2015) examined participants with a diagnosis of BDD. A purposive sampling technique was used. The participants consisted of seven females and three males. They were recruited from internet support groups. All participants gave informed consent and identified themselves as suffering from BDD and reported that they had suffered from the illness for approximately 4 to 25 years. The age range included was from late teens to mid-30s. Silvers and Farrants (2015) found out that participants with BDD wished to create a photographic record of themselves and analyze it.

A qualitative design was conducted using Interpretative Phenomenological Analysis (IPA) and Photo Elicitation (Silvers and Farrants, 2015). IPA is a type of qualitative study that attempts to understand the subjective experience of individuals and how they make sense of their surroundings. Photo Elicitation refers to a method of using photographs in interviews as a method of data collection technique. This methodology was particularly selected, as photographs are a good tool for gaining insight into their mirror-gazing experience. Participants were

requested to write down any feelings or thoughts when taking the photographs (Silvers and Farrants, 2015). Participants were provided with a notebook and a disposable camera. They were permitted to use their cell phones cameras or laptop cameras to capture their pictures. The researchers arranged their photos in any way that they were in full view of the participants. Participants expressed their thoughts about each image in the order of their choice and described how it represented their BDD experiences. Mirror gazing was the most common symptom amongst all the participants. This study drew commonalities between looking in the mirror and looking at one's photographs. Silvers & Farrants (2015) concluded that participants described mirrors and photographs as being controlling, imprisoning, and disempowering forces that had a crippling and paralyzing effect on life. This study sheds light on the importance of analyzing the role of cameras in perpetuating body image dissatisfaction.

There is a steep growth in smartphone usage in all age groups (Khanna & Sharma, 2018). If this growth is coupled with social pressures, then it can be safe to assume the *selfie phenomenon* may grasp everyone with no exceptions to socio-economic status, age, sex, color, creed, etc. (Khanna & Sharma, 2018). The sociocultural theory of body image emphasizes the importance of appearance on being accepted in the desirable social structure. The theory suggests that individuals internalize and adopt standards set by others as their own beauty (Khanna & Sharma, 2018).

The front camera of cell phones, laptops, and iPad may be included in the types of reflective surfaces that people use to look at themselves. It is a given that these gadgets can be easily connected to the internet. Research suggests that approximately 93% of youth have internet access at home, 89% of 18 to 29 years old children use social networking sites, and there are approximately 1.7% to 2.4% of BDD cases within this population (Khanna & Sharma, 2018).

Due to the combination of cell phones and technology, users with body image disturbance are more at risk for developing body image trepidations (Wallace, 2015). The usage of front-facing cameras is so rampant that it is, to a very large extent, looked upon as normal and accepted activity. There is a certain degree of conforming behaviors associated with the usage of the front-facing camera as a reflective surface and the internet (Wallace, 2015). Because these behaviors are so rampant, there is a high chance that people with mirror gazing issues are neither noticed nor get professional help if they do. Hence, few cases body image cases are reported and documented. The intensity of this problem is not being felt (Wallace, 2015).

Recent statistics suggest that considering the average lifespan is 27,375 days, an average millennial is expected to take 25,700 selfies during their lifetime (Cohen, Newton, & Slater, 2018). A recent Experimental study aimed to use self-objectification as a framework to examine the relationship between social networking site (SNS) photo postings and body-related concerns in a population of young women. Participants were 259 women who completed self-report questionnaires of SNS use and body-related concerns. Results showed that SNS *selfie* activities were associated with body-related dissatisfaction and eating concerns. Specifically, *selfie-centered* activities were linked to bulimia symptomatology (Cohen, Newton, & Slater,2018). The usage of front cameras is rapidly increasing in the general population, and so is the urge to repetitively look at one's appearance again and again. The impulse to look into the mirror and become self-focused are indicators of finding imagined defects in one's appearance, which may lead to vulnerability to develop symptoms of BDD or MD.

Recent research suggests that women who are dissatisfied with their bodies tend to take more selfies per month (Wagner, 2016). The behavior of looking at a picture in a critical way and negatively analyzing perceived flaws may lead to mirror checking and severe self-critical

evaluation (Veale, 2004). Since the rise of camera phones, two out of three patients have a compulsion to repeatedly take and post selfies on social media sites (Khanna & Sharma, 2018). Mirror checking is a symptom of BDD which emphasizes the constant need to look at one's image and evaluate it for reassurance of looking socially acceptable (Veale, 2004). Mirror checking is more common than we perceive, and it is rapidly increasing because of the infinite reflective surfaces available around us (Khanna & Sharma, 2018). The repercussions of constant self-checking may push the 'Non—Clinical' population to be vulnerable to being diagnosed with BDD. The impact of this problem is multifold, and its ramifications reach worldwide.

Current Study

The impact of frequent and prolonged mirror-gazing behaviors is manifold. It can start in the non-clinical population and spread quickly. Reflective surfaces are everywhere: restrooms, lobbies, elevators, portable pocket mirrors, front cameras of all the smartphones, full-body mirrors in salons and gyms, mirrors in the car, etc. The current study attempts to understand prolonged mirror-gazing behaviors and their effect on self-critical thoughts about one's appearance in the non-clinical population. Mirror gazing can be termed as excessively looking at oneself in reflective surfaces. This study will attempt to understand if the general population is prone to muscle dysmorphia via mirror-gazing behaviors.

This study will look at specific criteria, which is persistently and obsessively checking one's appearance in the mirror and being dissatisfied with it. It will look at the reasons behind these repetitive behaviors. The impact of the current study is to help the men become aware that their uncontrollable need for mirror checking behaviors may be clinically significant or can lead to clinically significant symptoms.

Chapter 2. Method

Participants

The study will include students at Western Kentucky University (WKU). It will include only male participants as there is very little research exploring mirror-gazing behaviors in men.

Research Design

The current study used use a qualitative research design. Qualitative research is used to examine the iterative process of evolving findings and analyzing subjective descriptions of experiences (Levitt at al., 2018). Part I of the study included sample collection via Study Board which is an online platform belonging to the WKU Psychology department for collection of surveys. Participants were asked to fill out a questionnaire related to the symptomology of MD. Participants scoring two standard deviations higher than the mean were selectively contacted for the part II of the study. The researcher, however, did not divide the sample into two groups based on gender as MD mostly occurs in the male population (APA, 2013). Including only male participants was assumed to be a good representation of the sample. The researcher included a sample of 11 participants for Part II of the study. Part II consisted of a detailed open-ended survey about their mirror-gazing behaviors and body image concerns. Qualitative data is typically drawn from a smaller sample size as it includes rich, detailed, and heavily contextualized descriptions from each source (Levitt et al., 2018). Content analysis was carried out with the help of NVivo software. This software helped organize codes and themes from the participant responses.

Measures

The questions for the open-ended survey were put together by the researcher and the chair. This open-ended survey encompassed participants' experience with mirror gazing. Copies of *The Muscle Dysmorphia Questionnaire (*MDQ) and open-ended survey questions are included in the appendices. Content analysis was done to understand the themes of how and why males perceive flaws in their appearance when exposed to the mirror repeatedly.

Materials

The MDQ was included, in part I of the study, as a screening tool for recruiting students for the open-ended survey (Part II). The students willing to participate were sent informed consent forms and the open-ended survey via Study Board. The materials used in the part II section are kept confidential by using an encrypted password for the files. The participant identities are kept confidential by assigning them with an alpha-numeric code.

Procedure

Permissions were obtained from WKU's Institutional Review Board (See Appendix A). The researcher plans to recruit students from WKU through Study Board. *The MDQ* was used as a screening tool (See Appendix C). Students who scored high on the screening tool were selected and contacted. Those identified students were asked to provide consent to participate in filling out a detailed open-ended survey. The contents of the survey consisted of frequency, duration of mirror checking behaviors, and their thoughts and feelings about their body image issues.

The methods of sampling will be purposive and convenience. The participants are undergraduate students from WKU. They will be recruited through the *study board*, which is a platform where interested participants register for being a part of university research for course

credit. Study Board is primarily a WKU Psychology Department initiative, hence the chosen sampling method is convenience sampling. Including a sample belonging to a certain educational level will help control confounding variables. The researcher obtained 11 participants for the qualitative study. The sample size is small; however, it is assumed to be representative in a qualitative research design.

The open-ended responses are safely saved in a file with a passcode. No data was uploaded to the cloud storage applications for backup purposes. The documents were placed in a locker safely. The names on the personal data sheet were included in an excel sheet with the contact details. The data was separated from the names of the participants by assigning random numbers to each participant.

Chapter 3. Results

The participants were students at WKU. A total of 177 males filled out the MDQ. The mean score obtained was 78.82 and the standard deviation was 24.03. Assuming that the data was normally distributed, the participants who scored two standard deviations above the mean were selected to participate in part II of the study. The range of high scores was between 104 and 163. A total of 42 male participants obtained a high score. 11 of these high scorers consented to participate in part II of the study. Part II of the study consisted of filling out an open-ended survey about the participants' reasons behind their mirror checking behaviors. Informed consent from 11 participants were obtained before gathering their responses. To maintain confidentiality, the participants were assigned a letter and a number ranging from P1 to P11. The participants' demographic details were collected as a part of a personal datasheet.

Table 1: The demographic details/ closed codes of participants:

	Age	Education	Ethnicity	Religious orientation	Sexual Orientation	Relationship status	Socio-economic Status
P1	20	Some college	White		Heterosexual	In Relationship	Working Class
P2	19	Some college	White		Heterosexual	In Relationship	Middle Class
P3	21	Some college	Black or African American	Christian	Heterosexual	In Relationship	Middle Class
P4	18	Some college	White	N/A	Heterosexual	In Relationship	Working Class
P5	18	Some college	White	Roman Catholic	Heterosexual	Single	Middle Class
P6	18	High school graduate	White	catholic	Heterosexual	Single	Middle Class
P7	18	High school graduate	White	Muslim	Heterosexual	Single	Middle Class
P8	19	4 year degree	White	None	Homosexual	Single	Middle Class
P9	18	Did not report	-	-	-	-	-
P10	18	Did not report	-	-	-	-	-
P11	21	Some college	White	Christian	Heterosexual	In Relationship	Upper Class

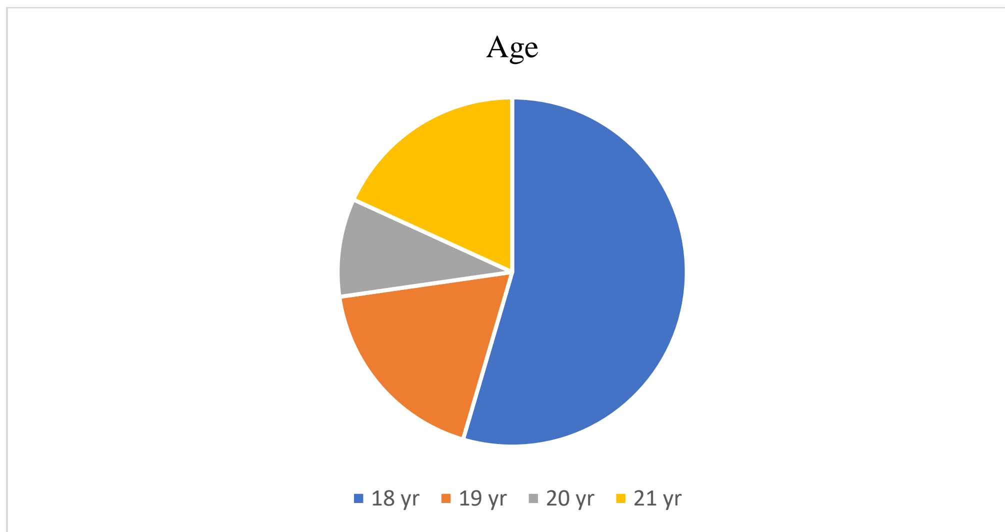
Closed codes:

The demographic details of the participants are labeled as *closed codes*. Each of the closed codes is graphically represented to understand the breakdown of the data.

Age

All the participants belonged to an age range of 18 to 21 yrs. Six participants were aged 18 years old. Hence, most of the participants were 18 years old.

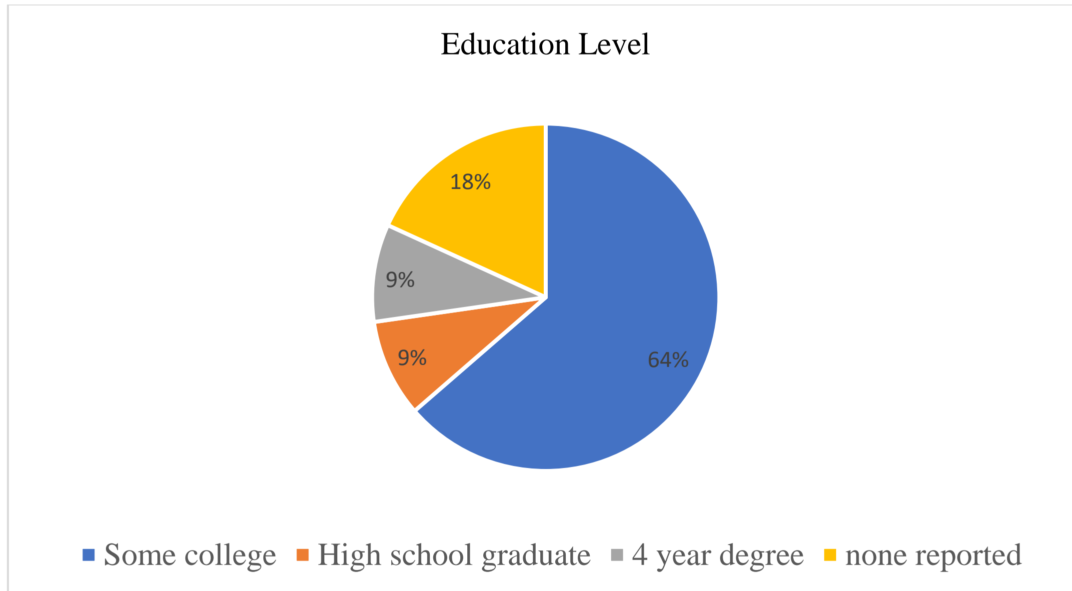
Figure 1: The graphical representation of closed code of Age



Education Level

All the participants were students from Western Kentucky University. There were three levels of education the participants belonged to; namely high school graduates, students with some college, and fourth-year degree college. According to the demographic statistics, 64% of the sample had attended some college. Only P8 reported he was in the fourth year of college.

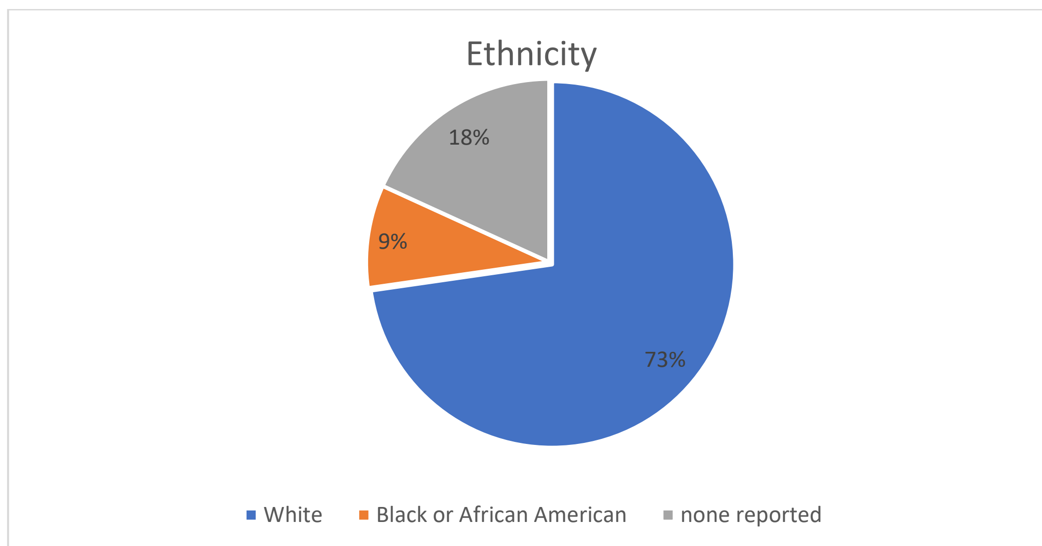
Figure 2: Participant education level.



Ethnicity

In the current sample, 73% of the participants reported being of Caucasian ethnicity. Only one participant reported that he belonged to the African American ethnicity. P9 and P10 chose not to report their ethnicity.

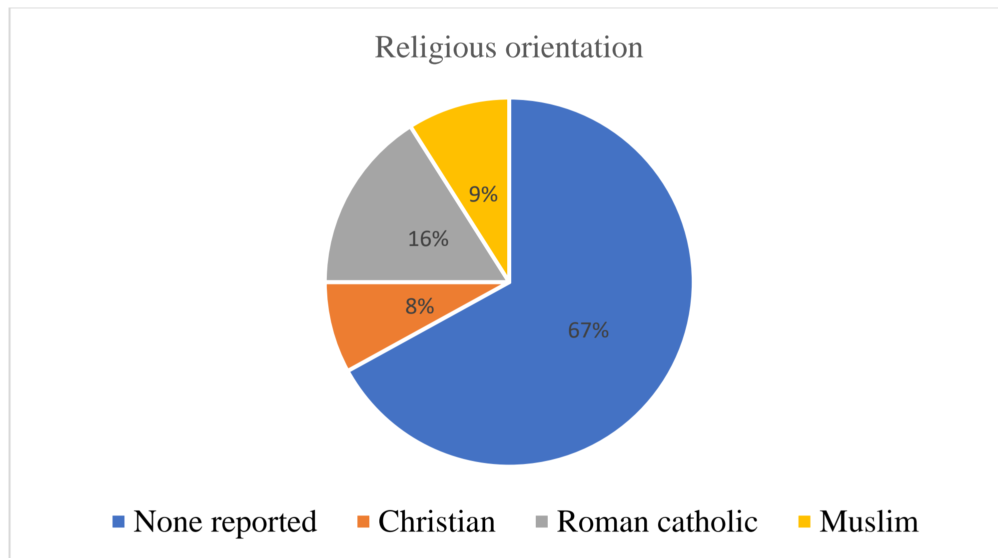
Figure 3: Participant ethnicity



Religious orientation

Religious orientation was included in the personal data sheet to determine if religious beliefs have an influence on body image issues. In the current sample, most of the participants chose not to report their religious orientation. Among those who reported, 8% were Christian, 16% were roman catholic, and 9% were Muslim.

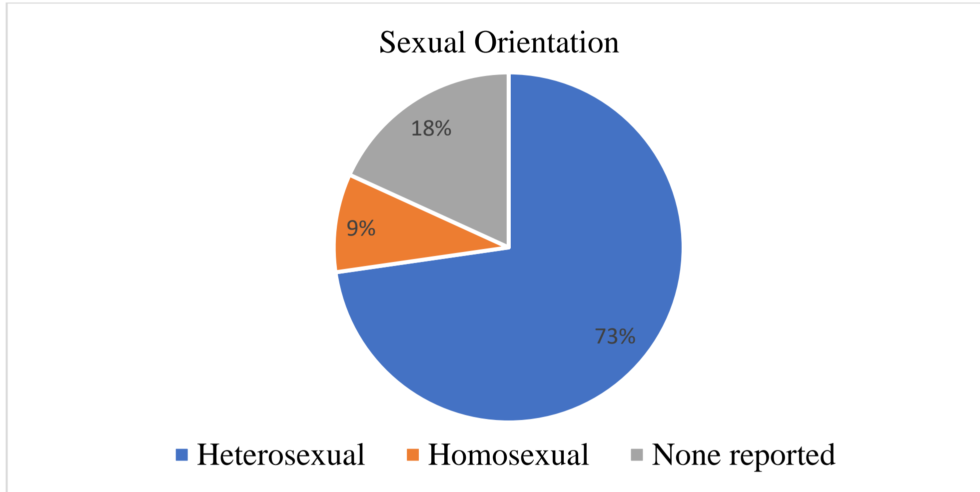
Figure 4: Participant religious orientation



Sexual orientation

A total of 73% of the sample reported that their sexual orientation was heterosexual. P8 was the only participant who indicated that his sexual orientation was homosexual. P9 and P10 chose not to report their sexual orientation.

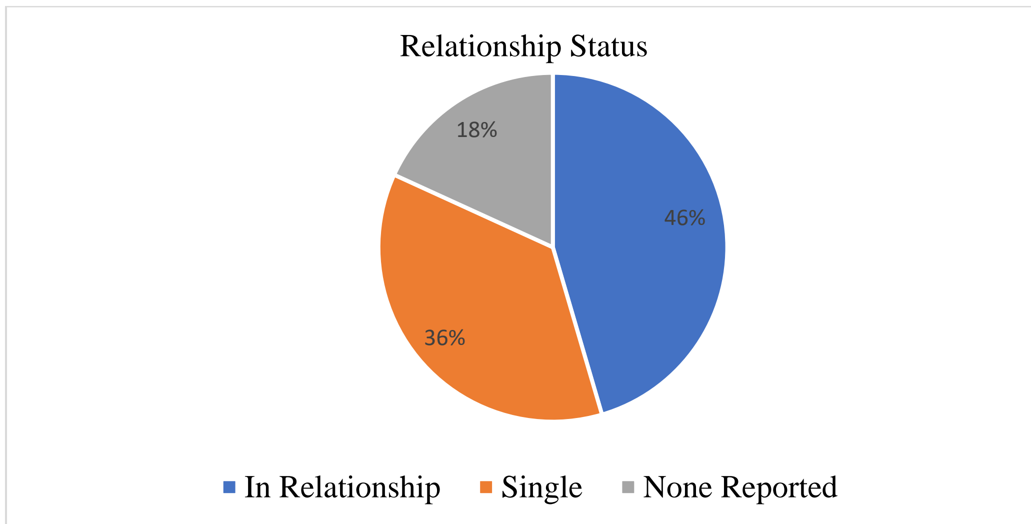
Figure 5: Participant sexual orientation



Relationship Status

Results indicated that 46% of the current sample indicated they were in a relationship at the moment. A total of 36% of the participants responded that they were single.

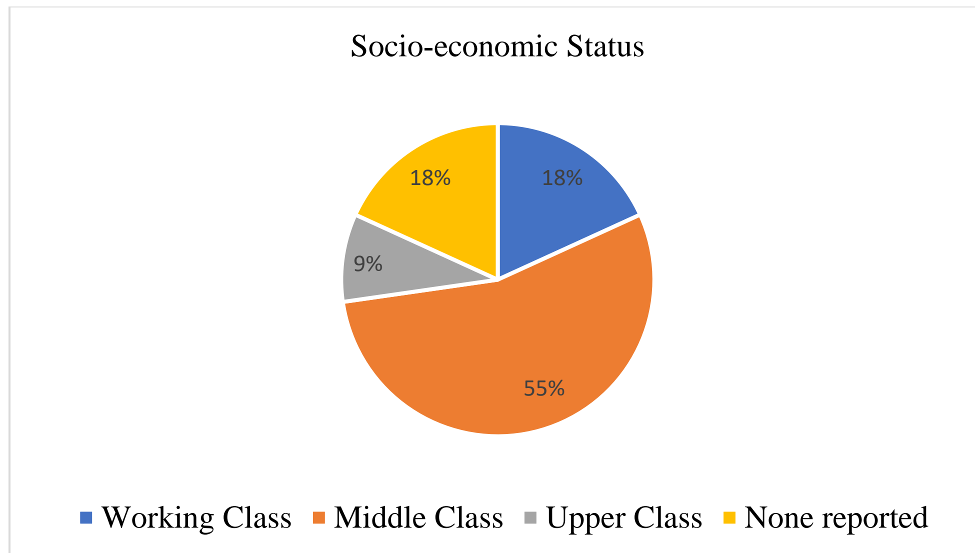
Figure 6: Participant relationship status



Socio-economic Status

There were three distinct classes that emerged in the demographic data: working class, middle class, and upper class. The middle-class population comprised 55%. 18% reported that they belonged to the working class, and another 18% indicated that were upper-class.

Figure 7: Participant socio-economic status



Participant responses

High scores on the Muscle Dysmorphia Questionnaire indicate their proneness to be diagnosed with muscle dysmorphia, which is a specifier of body dysmorphic disorder in men (see Appendix B for diagnosis). These selected participants were contacted to respond to an open-ended survey that consisted of questions regarding their thoughts, feelings, and opinions about their mirror-gazing behaviors. Their consent was obtained before the open-ended survey. Most of the participants answered all questions. However, P9 and P10 chose not to respond to demographic information.

The open-ended survey consisted of eleven questions and the responses are presented using the following tables.

Table 2: Participant responses to the question “Tell me about the concerns you have with your body?”:

P1	I feel like I have to much fat on my chest and stomach
P2	I’m too skinny
P3	I feel like i’m too skinny compared to other guys my age
P4	Weight is a big one, followed by muscle mass and definition. Some days I feel i am overweight while others I feel as if i am scrawny or weak.
P5	Not fulfilling requirements for my career path.
P6	I feel overweight
P7	My concern is that my athletic abilities will fade over time
P8	I’m concerned about how others view my body
P9	Too skinny
P10	Under eye bags and obesity
P11	Short in height. Inadequate penis length. Low strength. Muscles could be better defined.

Table 3: Participant responses to the question “If you had to describe what the mirror means to you, what would you say?”

P1	I mostly focus on my acne in the mirror, other than that I just find imperfections
P2	It’s how others perceive me
P3	I don’t mind it. It does sometimes decrease my self-esteem.
P4	I have a strange love-hate relationship with the mirror. Some days I look at my appearance negatively and focus on what I dislike or think could be better. Other days I look in the mirror and focus on how far I have come in terms of losing weight/ working out and being healthy. It depends on the mindset I have before looking in the mirror.
P5	A reminder to improve.
P6	It shows that I feel insecure with my body
P7	It mainly represents a way to check on my progress and help me get motivated if I am slacking off on working out
P8	I don’t like looking in the mirror it makes me uncomfortable
P9	A reflection
P10	It means it’s how I look physically
P11	My unfortunate reality. I'm not unhealthily over-weight, but I have some pudge (fat) that I could stand to shed. Looking into a mirror just reminds me of how lazy I am and the effects it has on my body.

Table 4: Participant responses to the question “What are some of the reasons you look into the mirror frequently?”

P1	to check my hair and acne
P2	To make sure I look good
P3	Check my hair, point out flaws
P4	At the gym to be sure my form is correct. To look and see if im making progress in terms of losing weight and gaining muscles mass/definition.
P5	Allows me to see if I appear acceptable
P6	I don’t really like to look in the mirrors
P7	Mainly to keep myself in check for my own health and keeping me motivated to work out and stay healthy
P8	To see if my face is breaking out or to make sure I look okay
P9	Because I’m so hot
P10	To check and make sure there nothing in my teeth
P11	See if clothes match. See if hair is in place. Observe my body and flex to try to make myself look better.

Table 5: Participant responses to the question “What are some of the emotions you feel when you look at yourself in the mirror?”

P1	either pride when I'm dressed well but mostly shame
P2	Anxious, Worried, Happy
P3	Upset, sad, sometimes happy
P4	content, shame, proud, confidence, disgust
P5	Disappointment
P6	Sad
P7	I’m mainly indifferent but on some days I can get somewhat disappointed if I have been slacking off on maintaining my health
P8	Sad, angry
P9	Happy
P10	Discouraged or encouraged
P11	Embarrassment. Shame. Frustrated. Disappointed. Helpless.

Table 6: Participant responses to the question “What effect does mirror gazing have on your relationships? Do you avoid social interactions due to distressing thoughts about your body?”

P1	occasionally, when I look at the mirror too much, I want compliments
P2	If I don’t like how I look one morning my day is affected
P3	Not much. Yes I do avoid social interactions.
P4	It has a beneficial impact on my relationships because i often find that others relate to a lot of the same insecurities and it helps me to realize that overly focusing on my body image is unhealthy and creates a kind of support between me and others. I do not avoid interactions but am still sometimes uncomfortable in certain situations. Specifically, ones where i have to take my shirt off. Swimming, "shirts vs skins" etc.
P5	I do not avoid relationships because of my body consciousness
P6	No not really
P7	If I have a bad week keeping up with my health and seeing repercussions of that it feels as though it affects my confidence but not to the extent where it makes that much of a difference anyways
P8	Sometimes I avoid social interactions due to the way I look
P9	No
P10	Not usually but sometimes
P11	It does not. I do not.

Table 7: Participant responses to the question "Are there any procedures that you follow to hide or mask these perceived defects?"

P1	I wear a jacket to cover my torso and pick at my acne often
P2	A hat if my hair is super messy
P3	I always use an excess of lotion to reduce dry appearance
P4	Currently no, but in the past i would wear baggier clothes and slouch my shoulders forward and suck my stomach in to try to appear less fat
P5	Where long clothes
P6	No
P7	Not anymore but I used to wear baggier clothes when I was younger because for some reason, I used to be fairly self-conscious back then
P8	Having to wear a mask due to covid helps, or wearing sweatshirts
P9	I wear sweatshirts
P10	I have had plastic surgery for cosmetic purposes only
P11	I wear hats to cover my hair if I can't get it to cooperate. I try to wear clothes that complement the parts of my body I'm proud of.

Table 8: Participant responses to the question “For what purpose do you use the front facing camera of your gadget?”

P1	none
P2	Because my face is flipped if I use the rear facing camera
P3	check hair
P4	Nothing out of the normal range. taking pictures with others and animals usually
P5	Taking pictures and to work as an impromptu mirror
P6	Hide my face
P7	Mainly for Snapchat or to use it as a mirror
P8	To take selfie’s on Snapchat, not very often though
P9	To take selfies
P10	Selfies that is all
P11	To send Snapchat streaks. To video call.

Table 9: Participant responses to the question “Do you find yourself analyzing your selfies after you have clicked them? Tell me more about that.”

P1	I usually don't take selfies
P2	Yeah I find myself disliking them the longer I look at them
P3	yes, I spend several minutes over analyzing myself
P4	Yes, I have a photo album on my phone. I often look at my pictures at the gym about once every other month to measure progress and evaluate how my body has changed over time
P5	No
P6	Yes, to see how I can make me look better
P7	Not really. I mainly use the selfie camera as a mirror so any analysis is superficial and in the moment
P8	Yes if they don’t look good I’ll take another
P9	No
P10	Yes for sure, and taking many to find prefer one
P11	Yes. I try to make sure I don't have double-chin. I try to make sure anything that makes it look like I'm fat is not in the picture.

Table 10: Participant responses to the question “Typically, what are your thoughts when you look at your own photos?”

P1	that I look weird
P2	I typically do not like them
P3	I have a lot of flaws
P4	typically, they are all about my physical appearance. the main one being weight. Sometimes its positive sometimes its negative
P5	“Do I really look like that?”
P6	Ehh
P7	I feel indifferent. While I do look bad in some photos and better in others, I for the most part have stopped caring about it all together
P8	I don’t like them or they’re just okay
P9	I think I look good
P10	Sometimes positive or negative depends on how I think I look or judge myself
P11	"Gross"/"Oh no"/"Why did I feel ok looking like that"/"I don't look to bad in this one"

Table 11: Participant responses to the question "Do you tend to compare your features with others? If so, what typically comes through your mind when you do?"

P1	my height and muscles I compare to other guys because I am a little short and not exactly lean
P2	I often compare the features I'm lacking and ignore the ones I have
P3	yes, that others are better than me
P4	I rarely compare my features to others. If so it is weight related and it is typically frustration because I feel i have been working out and trying to lose weight for a long time and I feel like i am not completely satisfied with my appearance and i feel as if others dont have to try to maintain a good physique
P5	Yes." I can be so much more."
P6	No
P7	Mainly with athletes that do the same sport as me and it's mainly as a sort of driving factor to make me work harder on certain things with my body
P8	Yes I look at others and compare my body composition to theirs or their face to mine
P9	No
P10	Yes my under eyes and lack of uniqueness
P11	Yes. Mostly definition in torso muscles. Fold lines on stomach when sitting.

The responses were coded and analyzed using the NVivo software. The software provided a set of tools that assisted in undertaking an analysis of qualitative data (Brandão, 2015). Using NVivo during the analysis of qualitative data helped in managing and organizing the data. The data was divided into closed codes and open codes. Closed codes were the demographic details of the participants (see Table 2). The open codes were the participant's responses to the questions related to their body image issues and mirror gazing behaviors.

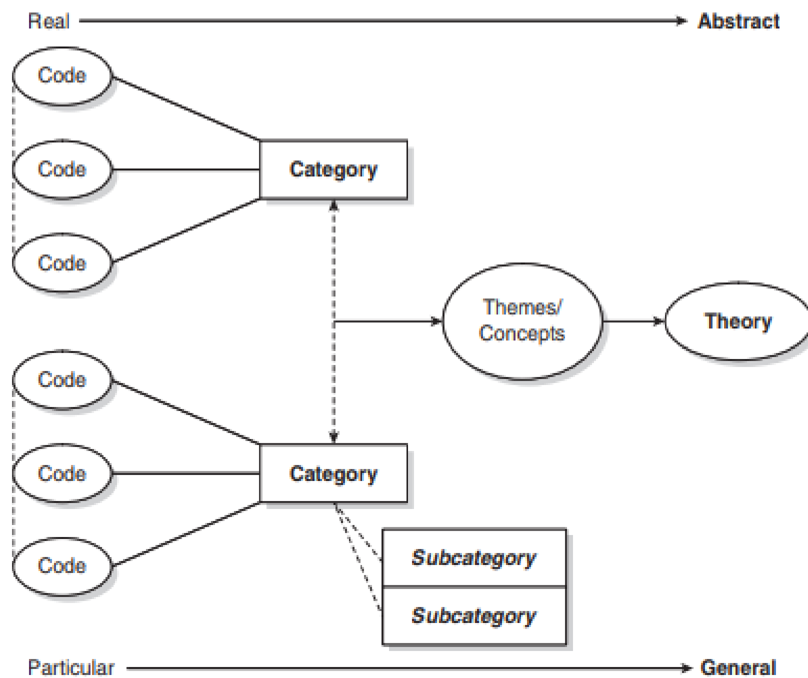
Codes were created using the structured format of the NVivo software. NVivo created basic codes using the most occurring words, emotions, and phrases (Brandão, 2015). However, these codes had to be sorted out and put in the correct category. For example, coding "I am embarrassed about my under-eye bags" was coded under a category named 'Body'. It can also be coded in different sub-codes such as 'emotions' and 'body consciousness'. The core function of coding involves examining the responses and labeling these with a word or short phrase that summarizes their content (Miles & Huberman, 1994).

After the coding process was completed, there were 67 codes created with 635 references. Initially obtained codes were name, appearance, body, body parts, camera, consciousness, effects of mirror gazing, emotions, feedback, hiding flaws, losing weight, muscles, pictures, reasons, and social interactions.

Codes are created to understand the phenomenon of the participants' perspectives and experiences. This theory of understanding an individual's experience is known as *Phenomenology* (Miles & Huberman, 1994). The phenomenological theory attempts to describe the world as experienced by the participants and discover the common meanings of a collective phenomenon (Starks & Trinidad, 2008).

The process of phenomenology involves understanding the data through a series of steps. It helps the researcher interact with the participant's personal experiences time and time again through the qualitative data (Miles & Huberman, 1994). As a result, there is a dynamic development of codes.

Figure 8: The step-by-step process of phenomenology theory



Note. Process of phenomenology theory by Henry Ford & Isis Hjorth, 2014. Copyright 2014 by Oxford Internet Institute.

The aim of this theory is to let the researcher and the reader feel that they have vicariously experienced the phenomenon under study and come to similar conclusions (Starks & Trinidad, 2008).

The next section consists of an explanation of the process of deriving themes from the codes and understanding their relationship with the research questions.

Chapter 4. Hypothesis Testing

Good research questions seek to improve knowledge on an important topic. The current study attempted to answer the following research questions: what is the prevalence of Muscle Dysmorphia (MD) symptomatology in male university students, are male university students studying at a university-level prone to mirror gazing behaviors, and what are the reasons for mirror gazing repetitively?

Research Question One

A total of 223 students filled out the Muscle Dysmorphia Questionnaire. Out of these 223 students, 29% of male students obtained a high score on the scale. The prevalence of MD symptomatology in male students at Western Kentucky University (WKU) who participated in part I of the study is approximately 29%. The obtained percentage is a rough estimate of the population and cannot be generalized as the sample representation is not empirically sound. However, it may be indicative of MD symptomatology being more prevalent than meets the eye. Hence, it may be stated that mirror gazing behaviors are prevalent in male university students; however, the prevalence rates and empirical evidence supporting it needs to be further investigated.

Research Question Two

Mirror-gazing is a commonly noticed compulsive behavior in BDD (Phillips, 2018). Approximately 80% to 90% of individuals diagnosed with BDD report problematic mirror use (Baldock, Anson, & Veale, 2012). Responses given by the participants in the part II of the study (See Tables 3 to 13) provided ample evidence of participants engaging in repetitive mirror-

gazing behaviors. Hence, the answer to the second research question is that male university students are prone to mirror gazing behaviors.

Research Question Three

P1 stated, “I mostly focus on my acne in the mirror, other than that I just find imperfections”. P6 reported that some of the reasons why he looks into the mirror are because he wants to see how his body shape is improving. As evidenced by these statements, the answer to the third research question can be that some of the reasons for mirror gazing behaviors range from obtaining feedback on one’s external appearance to scrutinizing ‘problem’ areas of their body. The common reasons for mirror gazing behaviors obtained after the content analysis of the participant responses were monitoring imperfections of the body parts, receiving visual feedback of the changes in their physicality, wearing baggy clothes to hide the perceived defects of their outward appearance, being sure of looking a certain way before going to a social event, and comparing one’s physique with others at the gym.

Process of Coding and obtaining themes

Central to qualitative analysis, coding reduces large amounts of qualitative data accessible for analysis (Linneberg & Korsgaard, 2019). Codes make is easy to understand personal experiences, as they can be placed in broad categories. The process of coding increases the quality of the analysis and findings (Linneberg & Korsgaard, 2019).

However, coding is an early form of analysis (Linneberg & Korsgaard, 2019). Linneberg and Korsgaard (2019) stated that codes need to be further filtered to obtain themes from the empirical material. The advantages of drawing themes from the data help reveal comprehensive and thorough insights into the experiences of the participants (Miles & Huberman, 1994).

Themes make the data easily accessible and retrievable. Coding and themes help us understand how the data systematically leads us toward the development of the theory (Linneberg & Korsgaard, 2019). Themes obtained after the content analysis of the data will be discussed in detail in the next section.

Themes

The current study attempted to understand the prevalence of mirror gazing behaviors in men. Four main themes emerged after the process of coding was complete. The themes obtained are reasons, feedback, self-consciousness, and pictures/photos. These themes will be explained in detail in this section.

Table 12: Showing primary codes, final codes, and the main themes of the current study.

Themes	Sub-themes	Final codes
Reasons	Social acceptability	social interactions, self-comparison, social comparisons
Feedback	Receiving visual cues about one's overt appearance	Emotional reactions, thoughts during/after mirror gazing
Self-Consciousness	Body image issues focus on perceived flaws	losing weight, faulty perception hiding flaws, body-consciousness, and comparing oneself with others on social media or at the gym.

Table 12: Continued

Themes	Sub-themes	Final codes
Camera	Pictures/photos/images	Critically analyzing one's images comparing images with others on social media, taking pictures, selfies, social media influence
Physicality	Body, Body parts	Body composition, body image appearance, physical appearance torso muscle, gaining muscle, muscles, muscle mass.

Reasons

Reasons for mirror gazing behaviors were often reported by all the participants, hence it was a clear theme that emerged from the data set. The primary reason the participants reported why they looked into the mirror was to get a visual representation of themselves. According to Riley (2001), excessive time spent in front of the mirror may be because some people try to change their internal body image. Riley (2001) also stated that trying to change one's perception of physical flaws might be regarded as a mental cosmetic surgery. These faulty body image perceptions were evidenced by phrases such as, "Check my hair, point out flaws"; "Allows me to see if I appear acceptable"; "to see if my face is breaking out or to make sure I look okay"; and

"see if clothes match and if hair is in place. Also, observe my body and flex to try to make myself look better."

There are a few positive reasons stated for looking into the mirror such as, "Mainly to keep myself in check for my own health and keeping me motivated to work out and stay healthy" and "because I'm so hot." Riley (2001) mentioned that some mirror gazing is done for functional reasons such as grooming. There were many social reasons stated by the participants, reasons that motivated them to mirror gaze. The social reasons are stated in the sub-themes.

Social

Social reasons given by the participants were many. A prominent code that had more than 100 references was that of comparing oneself with others in a social setting. The following are the codes that were obtained: social interaction, self-comparison, social comparison.

P4 reported, "It has a beneficial impact on my relationships because I often find that others relate to a lot of the same insecurities, and it helps me to realize that overly focusing on my body image is unhealthy and creates a kind of support between me and others. I do not avoid interactions but am still sometimes uncomfortable in certain situations. Specifically, ones where I have to take my shirt off". P4 is not confident to interact with people socially as he indulges in self-comparison as evidenced by his other statement, "I rarely compare my features to others. If so, it is weight-related and it is typically frustration because I feel I have been working out and trying to lose weight for a long time and I feel like I am not completely satisfied with my appearance and I feel as if others don't have to try to maintain a good physique". P8 also said, "Sometimes I avoid social interactions due to the way I look." He reported that he tends to compare himself with others. He indicated, "Yes I look at others and compare my body composition to theirs or their face to mine." These participants' responses provide evidence that

social constructs have an influence on one's body image.

Feedback

Looking into the mirror is instant feedback of one's outward appearance (Veale, 2004). BDD patients pay attention to an unstable internal body image, which further drives the need to mirror gaze (Veale, 2004). P4 maintained throughout his survey that he uses the mirror to get feedback on how much his body is changing and progressing. He said, "I look into the mirror mainly to keep myself in check for my own health and keeping me motivated to work out and stay healthy." On the other hand, P2 experiences negative feedback from the mirror. He stated, "If I don't like how I look one morning my day is affected." Riley (2001) mentioned individuals with BDD were more likely to use the mirror if they were feeling depressed. Hence, emotions were included as a sub-theme in the feedback section.

Emotions: Emotions are deeply connected to a negative body image as evidenced by the responses given by all the participants. The most common emotions felt by the participants were disappointment, sadness, anger, and shame (See table 6). There are certain positive emotions mentioned as well. P9 is the only participant who mentioned feeling happy when he looks at himself in the mirror. Riley (2001) stated that the emotional reactions after looking into the mirror are both positive and negative.

Thoughts during/after mirror-gazing: In a study done by Koran et al (2008) out of the 2,048 BDD module respondents 42.3% of respondents stated that thinking about appearance interfered "almost always" or "often" with doing things with friends, dating, work, etc. Thoughts are a powerful driving force for indulging in compulsive mirror-gazing behaviors. P4 reported, "I have a strange love-hate relationship with the mirror. Some days I look at my appearance negatively and focus on what I dislike, or think could be better. Other days I look in the mirror and focus on

how far I have come in terms of losing weight, working out, and being healthy. It depends on the mindset I have before looking in the mirror."

Self-consciousness

Shame and guilt are self-evaluating emotions which eventually lead to self-consciousness (Fuchs, 2002). This finding can be noticed in P11's responses. He reported, "My unfortunate reality. I'm not unhealthily overweight, but I have some pudge (fat) that I could stand to shed. Looking into a mirror just reminds me of how lazy I am and the effects it has on my body." The theme of self-consciousness was obtained by final codes such as losing weight, faulty perception, and hiding flaws.

Losing weight: Recent research suggested that dissatisfaction with weight continues to remain substantial among young men over four decades, researchers reported that weight dissatisfaction is up to 60% to 80% of college-going young adult males (Murray et al., 2020). The trends in losing weight have changed but the preoccupation with losing weight remains stable (Murray et al., 2020). P4 expressed his concern about weight issues. He reported, "Weight is a big one, followed by muscle mass and definition. Some days I feel I am overweight while others I feel as if I am scrawny or weak." He stated, "my thoughts about my photos are all about my physical appearance. the main one being weight." Murray et al. (2020) indicated that faulty perception and dissatisfaction with one's body weight are prospective predictors of body image concerns, eating disorders, maladaptive weight control behaviors, and social impairments.

Faulty perceptions: A study demonstrated that males, like females, are also vulnerable to low body esteem (Obeid et al., 2018). Men tend to formulate a negative body image when they rely on an external view of an ideal body image. Faulty self-perception makes it hard to achieve an unattainable masculine beauty ideal that they think others have but they don't (Obeid et al.,

2018). Men tend to set an ideal image in their minds as a personal standard thus contributing to lower body esteem (Obeid et al., 2018). P1 stated, “my height and muscles, I compare to other guys because I am a little short and not exactly lean.” P3 tends to compare himself with others because “others are better than me.” P4 reported he has these thoughts when he looks into the mirror, “I have a strange love-hate relationship with the mirror. Some days I look at my appearance negatively and focus on what I dislike, or think could be better. Other days I look in the mirror and focus on how far I have come in terms of losing weight/ working out and being healthy. It depends on the mindset I have before looking in the mirror.”

Hiding flaws: A prominent function of mirror gazing behaviors is hiding perceived flaws. This is supported by a statement made by P1. He said, “I wear a jacket to cover my torso.” Others stated that they like to wear a hat to mask the appearance of their hair. Commons answers were wearing “baggy” or “long” clothes to hide Common body shape (See Table 8). P10 said he has had plastic surgery for cosmetic purposes only. This may give rise to another issue of being preoccupied with one perceived flaw and the urge to correct their physical appearance.

Physicality

The theme of physicality included the sub-themes of body composition, body image, appearance, physical appearance, and body parts. The final codes obtained were torso muscle, gaining muscle, muscles, and muscle mass. All these sub-themes and final codes were directly related to a preoccupation with their external appearance.

Literature suggests that men perceive an ideal body composition and shape as muscular (Ridgeway et al, 2005). Men want to gain muscle in different areas of their body instead of losing fat; hence, body composition is important to men with MD (Ridgeway et al., 2005). Men report wanting to gain muscle in areas from the waist up as in their arms, chest, and shoulders. P1 reported, “I feel like I have too much fat on my chest and stomach,”. P4 said, “Weight is a big one, followed by muscle

mass and definition. Some days I feel i am overweight while others I feel as if I am scrawny or weak. P10 stated that, “I have under eye bags.” P11 said, “Short in height. Inadequate penis length. Low strength. Muscles could be better defined.”

However, any part of the body may be involved in the preoccupation of external appearance such as skin, hair, or facial features—eyes, eyelids, nose, lips or mouth, jaw, or chin (Ridgeway et al., 2005). The preoccupation is often centered around flaws on the face, asymmetry, body features thought to be out of proportion, being too puny, incipient baldness, having excess fat around the stomach, acne, wrinkles, scars, and complains with complexion (Ridgeway et al., 2005). The nature of the preoccupation may change over time, and this may explain why the individual’s focus may shift to another area of the body (Veale, 2004).

MD is a serious disorder, and the current study has come across serious thoughts about how the participants perceive themselves. Perceived flaws of one’s external appearance may damage the self-esteem of an individual and may lead to serious emotional consequences (Veale, 2004). The purpose of the current study was to gather evidence for the predisposition to MD in male students via mirror-gazing behaviors. The next section will discuss in detail the implications of this study, further research, and limitations.

Chapter 5. Discussion

The purpose of the study was to understand the reason behind mirror-gazing behaviors. Osman et al. (2004) stated that mirror gazing behaviors are one of the main symptoms of body image issues. In a study conducted by Lechner et al. (2019), the researchers found out 7.1% of males in a university student population suffered from MD. During part I of the current study, a total of 415 male students filled out a questionnaire on MD. A total of 42 students were found to

score between 104 and 163. These 42 students scored more than two standard deviations from the mean, indicating that there is a substantial number of male students predisposed to MD.

The current study attempted to create an awareness in young American males about the positive relationship between repetitive mirror checking behaviors and the proneness to develop MD. The discussion session will include the participants' reasons behind mirror-gazing behaviors, their effects on their self-esteem, and the influence sexual orientation and ethnicity have on mirror-gazing behaviors.

Mirror gazing and self-esteem

The findings of research conducted by Bjornsson et, al. (2010) suggested that mirror gazing behaviors influence the self-esteem of individuals. In the present study, P3 stated that looking into the mirror sometimes decreases his self-esteem. Previous findings suggest that young American men report or display substantial body dissatisfaction, and this dissatisfaction is associated with mental conditions such as depression, eating disorders, increased use of performance-enhancing substances, and low self-esteem (Olivardia et al., 2004). In search of the ideal body, men are opting to use steroids, laxatives, overuse caffeine, overworking their bodies at the gym, using an array of skin and hair products, and trying out stringent diet routines (Daley, 2015). Research suggests that 33% of men who seek plastic surgery may suffer from BDD; they become obsessed with defects in their appearance (Daley, 2015).

Reasons for Mirror Gazing Behaviors

Recruiting participants to talk about their body image issues and mirror gazing behaviors was difficult, as many participants refused to participate in an interview. Research suggests that men are reluctant to discuss their body image concerns openly with another person (Ridgeway &

Tylka, 2005). Men often believe that concerns related to physicality are women's issues and fear that they will be judged negatively if they talk about their body image issues (Ridgeway & Tylka, 2005). As a part of this study, the in-person interviews were replaced with open-ended surveys. The surveys included the same questions as the interviews. A noteworthy observation was made after this change was imposed. When the participants were given open-ended questionnaires, they appeared to reply honestly about their concerns. P10 responded, "I was more comfortable to write my responses down as they remain private, and also the video recording was making me uncomfortable." A research experiment found that men may accurately disclose their perceptions when they were not being video recorded, when their responses were kept anonymous, and when they were given the choice to share their thoughts privately (Ridgeway & Tylka, 2005). Researchers stated that this data collection method is the least likely to produce socially desirable responses (Ridgeway & Tylka, 2005).

The participant responses obtained via the open-ended survey were put through content analysis using the NVivo software. Four main themes emerged regarding reasons for repetitive mirror checking behaviors. The themes are physicality, social comparison, feedback about their appearance, and hiding perceived defects.

Physicality

It was hypothesized in the current study that men will engage in repetitive mirror checking behaviors because they are displeased with their physical appearance. This hypothesis was supported by the participant responses and research studies that will be discussed in this section.

Body image may be defined as an individual's internal representation of their outer physical appearance (Anson, 2011). Men with body image issues can be distressed about virtually any aspect of their physicality (Phillips et al., 1991). Men's complaints of their bodies include the size, shape, or symmetry of facial features; skin blemishes; fat on the chest; thinning hair or excessive body hair; structure of their teeth, and size of their genitals. When it comes to physicality, men are more focused on gaining muscle as muscularity is portrayed as a male body ideal in the media (Daley, 2015).

Veale and Riley (2001) stated that individuals with BDD concerns (versus healthy control participants) were more likely to check their image in a mirror as a means of feedback of their appearance. They stated that this repetitive behavior theoretically fuels and maintains their symptoms of BDD. Veale and Riley (2001) compared mirror checking to a never-ending feedback loop. Compulsive actions or rituals such as repeated mirror-gazing behaviors are put into action after an anxiety-provoking obsessive thought is triggered. There is a significant and momentary decrease the one's anxiety after the rituals are performed. Engaging in mirror-gazing rituals ensures a high likelihood that obsessions will be re-experienced. This vicious cycle is known as the feedback loop, in which compulsive behavior maintains the obsessions.

Clinicians treating OCD may have a differential diagnosis of obsessive-compulsive disorder (OCD) while treating BDD or MD.

The findings of Veale & Riley (2004) is supported by the participant's responses in the current study. For example, P1 stated, "I look into the mirror frequently to check my hair and ache." He also stated, "I feel either pride when I'm dressed well but mostly shame when I look into the mirror." P5 reported he looks into the mirror frequently because "it allows me to see if I appear acceptable." He later stated feeling mostly disappointed when he looks at this physical

appearance in a reflective surface. The above participant responses suggest that there appears to be the feedback loop that Veale & Riley (2004) stated theoretically fuels and maintains the symptoms of BDD.

Emotional Reasoning

Veale (2001) revealed that one of the reasons to indulge in mirror-gazing behaviors is that these actions help individuals reduce anxiety caused due to their perceived defects. Theory suggests that mirror rituals are expected to enhance anxiety as they reinforce distorted beliefs about one's appearance (Body Dysmorphic Disorder Foundation, 2018). To reduce the anxiety induced by looking into the mirror, an individual engages in anxiety-reducing rituals such as repetitive mirror checking (Body Dysmorphic Disorder Foundation, 2018). Mirror gazing is one of the most frequently reported compulsive behaviors in BDD (Baldock et al., 2012). The study conducted by Baldock et al., (2012) found that mirror-gazing behaviors overlap with many other compulsive actions such as grooming and camouflaging. These findings can be related to the participant responses of the current study. The participants reported hiding the shape of their body by wearing baggy clothes, spending time grooming, and looking a certain way before going out. P3 stated his emotions were "upset, sad, sometimes happy". P4 reported feeling content, shame, pride, confidence, disgust when he sees himself in the mirror. P5 reported that he feels disappointed after looking at himself in a reflective surface. P6 and P8 reported feeling sad when they gaze into the mirror. P11 reported feeling "embarrassment, shame, frustrated, disappointed, helpless." As evidenced by the research studies and the participant responses to the research question, it appears that mirror gazing behaviors induce mostly negative emotions.

About 80 to 90% of individuals with BDD report problematic mirror use (Osman et al., 2004). Mirror use may cause clinically significant distress and dysfunction and is also one of the

most prominent key maintenance symptoms in cognitive-behavioral models of body image disorders (Baldock et al., 2012). The purpose of the current study was to create awareness towards these behaviors that are aimed at making an individual chase the "I look just right" belief.

Social Comparison

It was hypothesized in the current study that various social constructs will influence mirror-gazing behaviors in men. Social media platforms are a major source of self-comparison (Diedrichs & Slater, 2017). Applications such as Facebook, Instagram, and Snapchat present a combination of media and peer interaction elements. The interaction facilities provided by these platforms make them a potent environment for arousing body image concerns in people, especially the youth (Dunne, 2010). These have visually enticing settings aimed at encouraging users to portray an idealized version of themselves (Diedrichs & Slater, 2017). The influence of peers is an important source of social comparison as the interactive interface provides individuals with instant and numerous images and videos of peers. This visual of others and their perceived perfect images leads to self-comparison resulting in negative self-evaluations (Diedrichs & Slater, 2017). Viewing these applications means that young people are observing, engaging in, and receiving appearance-related talk and feedback constantly throughout the day (Dunne, 2010). The feedback is not only from peers but also from celebrities with perfect bodies. Positive and negative feedback reinforces the importance placed on one's appearance (Diedrichs & Slater, 2017). Several research studies provide evidence that overall time spent on Facebook is positively correlated to body image concerns and disordered eating in young women (Diedrichs & Slater, 2017).

One of the trends on Instagram catered to being fit and looking attractive. This trend consists of images and messages that are aimed at motivating people to exercise and pursue a healthier lifestyle (Dunne, 2010). However, the research has shown that these images and videos of men having "perfect bodies" promotes an unrealistic body shape of being tall, lean, toned, and perfectly proportioned. These videos and images may consist of guilt-inducing messages that stigmatize weight and body fat (Dunne, 2010). These advertisements also emphasize dieting and restrictive eating (Dunne, 2010). A recent experimental study showed that women who were briefly exposed to "fit" images of peers and celebrities were found to have increased body dissatisfaction and negative mood compared to women who were exposed to appearance-neutral (travel) images (Diedrichs & Slater, 2017).

Unfortunately, there is a dearth of research studies undertaken to study the effect of social media comparison and MD. However, it is not surprising that men focus on gaining muscle are influenced by the male body ideal portrayed in the media (Dunne, 2010). The ideal male image portrayed by celebrities and sports stars in Western media is typically a lean and muscular physique, and most likely plays a role in the development of MD (Phillipou & Castle, 2015). The presentation of muscular images has indeed been found to result in a greater discrepancy between ideal and perceived muscularity in males. Lorenzen et, al. (2004) stated that people are sent an overwhelming number of stereotypical images of attractiveness daily. These images are sourced from magazines, movies, billboards, television, and other electronic and print media. Lorenzen et al., (2004) indicated that ideal body types are often unrealistic for most individuals to obtain. Researchers stated that constant exposure to these images can make individuals more sensitive and conscious about their own physical appearance (Lorenzen et al., 2004). The study

also stated that these idealistic pictures can make individuals draw comparisons between their own bodies and unrealistic media images of thinness and/or muscularity (Lorenzen et al., 2004).

Attention has also been drawn to the often-exaggerated muscular physiques depicted in comic strips such as Superman and male-gendered toys such as GI Joe (Phillipou & Castle, 2015). Participants were asked if they tend to compare their features with anyone else. To that effect, P2 reported, “I often compare the features I’m lacking and ignore the ones I have”. P7 said, “I compare my features mainly with athletes that do the same sport as me and it’s mainly as a sort of driving factor to make me work harder on certain things with my body.”

Body Image and Ethnicity

Body image is a multi-dimensional construct, and it needs to be understood in a holistic manner (Mental Health Foundation, 2019). The article suggests that body image and ethnicity are linked because people from various ethnicities relate to different body ideals (Mental Health Foundation, 2019). Research suggests that faulty perceptions about body image may not always fall into the categories of body size, shape, and weight; they may also include skin tone, hair texture, and facial features (Mental Health Foundation, 2019). Different ethnicities have different skin tones and facial features and hence the current study included the ethnicity of the participants. Research indicates that dissatisfaction with physical appearance is more pronounced in first-world or affluent countries than in developing countries (Mental Health Foundation, 2019). A developing country is defined as an emerging market emerging that has a lower gross domestic product (GDP) than developed countries (English Oxford Dictionaries, 2018). People living in prosperous countries lead a lifestyle more characterized by individualism and consumption as opposed to developing countries that adopt collectivism (Mental Health Foundation, 2019). In these countries, individuals may experience high societal pressures to

conform to the ideal body due to having greater access to body-centered information and practices (Mental Health Foundation, 2019).

P7 reported that he follows Islam as his religion. His views about his body image were more perfectionistic and feedback oriented. He reported, “I am an athlete and want my body to be fit, I look into the mirror to monitor my progress.” He also reported that he feels happy and satisfied most of the time when he looks into the mirror. His thoughts may be explained by understanding some of the Islamic values and principles. Islam encourages modesty and simplicity with respect to physical appearance. Hence, it focuses more on plainness in one’s attire (Jalees & De Run, 2014). These Islamic rules are much stricter for females than males (Jalees & De Run, 2014). There is a lack of research in the realm of religion and MD. A vast portion of research on body satisfaction has been focused on Caucasian women (DeBraganza & Hausenblas, 2010). This skewed sample representation may have resulted in a lack of information about body satisfaction in men and other ethnic groups (DeBraganza & Hausenblas, 2010).

The review and analysis of available studies and the participant responses, it can be stated that social constructs influence mirror-gazing behaviors in men.

Sexual Orientation and MD

A study conducted by Frederick and Essayli (2016) indicated that 45% of gay men were not satisfied with their muscularity. It was hypothesized in the current study that homosexual men will be at a higher risk than heterosexual men for developing poor body image. Frederick and Essayli (2016) studied completed surveys assessing different aspects of body image of 111,958 heterosexual men and 4,398 homosexual men across five studies. Their meta-analysis concluded that gay men reported more dissatisfaction with their physical appearance than their

heterosexual counterparts (Frederick & Essayli, 2016). The study also concluded that gay men were more prone to experience objectification, social comparison, and pressure from media to look attractive. The study concluded that gay men were more likely and susceptible to choose cosmetic surgeries, use diet pills, and avoid sex due to body dissatisfaction (Frederick & Essayli, 2016).

In the current study, P8 indicated his sexual orientation to be homosexual. When asked if he compares himself to others he reported, "Yes I look at others and compare my body composition to theirs or their face to mine." He also mentioned that "sometimes I avoid social interactions due to the way I look". Looking at the currently available literature and the self-comparison statements reported by P8, one may state that there is a need to study the clinical implications of body dissatisfaction in homosexual men.

Feedback about Their Appearance

Body image influences the emotional responses people have while viewing themselves in a mirror (Griffen et al., 2018). Muscle-oriented body comparison is among the more frequent body-checking strategies of young men (with the most frequent being mirror checking) and is highly correlated with appearance intolerance and drive for muscularity. Upward comparisons seem to predict negative responses to muscular-body stimuli (Waldorf et al, 2019).

Hiding Perceived Defects

Various kinds of body checking behaviors are common, such as inspecting the defect in the mirror, performing grooming rituals, comparing one's appearance to other people, and asking others for reassurance (Rosen et al., 1995). Most patients with BDD engage in some avoidance of social situations they believe might call attention to their appearance. A small portion

becomes housebound (Phillips et al.,1993). However, most patients are capable of at least limited social and vocational functioning, using ways to avoid full exposure of their appearance in public by wearing clothes, grooming, or contorting body posture and movements in such a way as to hide the defect. Men have been found to wear baggy clothes either to appear bigger than their size or to hide their perceived defects (Murray et al., 2020).

Physique protection is defined as hiding one's physique from others and is considered a core characteristic of muscle dysmorphia (Baghurst et al., 2014). This behavior is motivated by wanting to conceal one's perceived defects (Baghurst et al., 2014). It suggests that males with higher levels of characteristics associated with MD choose to cover up more than men without a predisposition to MD. Men with MD tend to indulge in covering behaviors at the gym because they are suspicious about their physiques being evaluated by others (Baghurst et al., 2014).

Although physique protection is generally included in the disorder's diagnostic criteria, empirical literature supporting its inclusion is lacking (Baghurst et al., 2014). Thus, the automatic inclusion of physique protection as a characteristic of MD may be premature. Individuals concerned about an aspect of their physique may attempt to hide it from appraisal by others because they find it distressing (Baghurst et al., 2014). Thus, direct assessment of clothing choices is important, particularly in a situation where physiques might be evaluated, such as a gym setting (Baghurst et al., 2014).

The participants of the current study were asked "are there any procedures that you follow to hide or mask these perceived defects?" P1 said, "I wear a jacket to cover my torso and pick at my acne often." P3 reported, "I always use an excess of lotion to reduce the dry appearance." P4 stated that he currently has no hiding behaviors, but in the past, he wore baggy clothes, slouched his shoulders forward, and sucked his stomach in to try to appear less fat. P8

said, “having to wear a mask due to covid helps or wearing sweatshirts.” P11 stated, “I wear hats to cover my hair if I can't get it to cooperate. I try to wear clothes that complement the parts of my body I'm proud of.” These participant responses provide evidence for physique protection to be a characteristic of MD and BDD.

This section discussed various social constructs such as social pressures, religious and ethnic orientation, sexual orientation, seeking social approval for one’s appearance, and hiding perceived physical defects in social situations. As evidenced by the participant responses, the hypothesis ‘mirror-gazing behaviors in men are influenced by various social constructs’ was accepted.

Chapter 6. Clinical Implications of the Study

Given the strong fear of negative evaluation and the frequent presence of ideas of reference, individuals with BDD, social phobia, and delusional disorder might be particularly sensitive to facial and emotional expressions (Buhlmann et al., 2006). For instance, they may interpret a person’s facial expression as disapproving when it is neutral. Therefore, the ability to recognize facial expressions may play a role in the maintenance of fear of negative self-evaluations (Buhlmann et al., 2006). The research indicated that two concepts were central to fear about one’s appearance namely poor insight and ideas of reference. Buhlmann et al., (2006) concluded that individuals with body image issues misinterpret others’ emotional expressions as negative which makes them perceive themselves as socially undesirable. One of the implications of this study is to create an awareness of avoidance behaviors by individuals with MD. Avoidance of social situations or self-isolation may be of the symptoms in the clinical history of an individual. If the clinician or family member finds this as one of the prominent symptoms, then it would be safe to screen the client for MD.

Individuals with MD experience severe anxiety related to their appearance which may cause them to have impaired occupational and social functioning (Tod et al., 2016). They tend to participate in unsafe health behaviors, such as the use of physique-enhancing drugs, restrictive diets, compulsive mirror-gazing behaviors, excessive exercising routines, etc. (Tod et al., 2016).

The findings of the above-mentioned studies may be supported by participant responses from the current study. P4 reported, "I look into the mirror frequently at the gym to be sure my form is correct. To see if I'm making progress in terms of losing weight and gaining muscles mass/definition." P7 said, "I look into the mirror frequently to mainly to keep myself in check for my own health and keeping me motivated to work out and stay healthy." Another clinical implication of this study is to propagate the importance of understanding MD via sub-clinical behaviors. Behaviors such as going to the gym, following rigorous diets, eating healthy, clicking several images of oneself, looking into the mirror, adding filters to images to look more attractive, and comparing images of oneself on social media are considered as "normal" by society (Body Dysmorphic Disorder Foundation, 2018). The current study strived to imply that a sub-clinical symptom such as mirror-gazing behavior may become clinically significant.

Body image has been traditionally considered an issue for girls and women only (Veale, 2004). This is despite scientific research showing that between 30% and 70% of boys and young men experience body image concerns from a young age (Beren et al., 1996). Research studies have implicated social pressures influence men to conform to ideas about masculinity portrayed by the media (Vandereycken, 2011). Boys and young men might be reluctant to admit to themselves and others that they are experiencing body image concerns (Vandereycken, 2011). The current study put forth the importance of studying demographic features being related to

mirror-gazing behaviors and eventually MD. The influence of one's religious, sexual, and socio-economic orientation may lead to clinical features of MD.

Awareness is the first step in remediating MD symptoms. After one has recognized that they or their loved one is experiencing behaviors related to MD they can approach a mental health clinic near them. Finding a therapist that has expertise in treating BDD or MD will be a great fit for them. They may also approach a psychiatrist in their county or city to evaluate the early signs of body image concerns. Treatment research on MD is still limited. However, serotonin reuptake inhibitors (SRIs) and cognitive-behavioral therapy (CBT) are currently the treatments of choice (Phillips, 2004). A combination of the two has proven to show some evidence in treating MD (Phillips, 2004). One may also approach the counseling center on a university campus as they have the resources to help students with body image issues. If the individual is experiencing suicidal thoughts due to body image concerns, then going to the closet emergency department and receiving a higher level of care is strongly recommended. BDD Foundation has started an email support service for anyone affected by BDD, or anyone who is concerned that they, their friends, or family may have BDD or a related disorder. The email is support@bddfoundation.org

Chapter 7. Limitations

The current study employed the convenience sampling method to collect data for the first half of the study. Undergraduate students were chosen to fill out a questionnaire on MD. This randomly selected sample was recruited through a platform named Study Board which is used by the Psychology Department of WKU to recruit research participants. The young adult male participants received a course credit for filling out the MD questionnaire. The convenience sampling method was employed because it was time-saving and inexpensive (Etikan et al.,

2016). This sampling method needs to fulfill certain criteria to be defined as convenience sampling. The criteria must consist of easy accessibility, geographical proximity, availability at a given time, or the willingness to participate for the purpose of the study (Etikan et al., 2016). The disadvantages of using the convenience sampling method are that the researcher does not know how well a sample will represent the population regarding the phenomenon under research. This method is also prone to selection bias and other sampling errors that reduce the credibility and external validity of the data (Etikan et al., 2016).

The participants who scored high on the MD questionnaire were recruited for the qualitative part of the study. A limitation of this study was changing the data collection method. Interviews were scheduled to get an in-depth understanding of the reasons and emotions behind the mirror gazing behaviors of the participants. These in-person interviews had to be canceled due to the Covid-19 pandemic. This methodology for obtaining qualitative data had to be changed to an open-ended survey with the same questions as the interview. The disadvantage of making this change owing to the social distancing protocols the of Covid-19 pandemic was that facial and body language cues that could have been obtained in a face-to-face interview were missing. However, an advantage was that the participants appeared to be more comfortable writing about their vulnerabilities and body image concerns. P4 mentioned, " An interview was making me nervous, the video recording was scary and I wouldn't have been able to say so much about myself." He also stated, "filling out this survey helped me write things that I have not told anyone before, it made me feel lighter.".

Recruiting participants for the qualitative part of the study was done via purposive sampling. The purposive sampling technique is the deliberate process to choose participants due to the qualities they possess (Etikan et al., 2016). In this method, the researcher decides what

information needs to be obtained and starts looking for people who can and are willing to provide the data based on their knowledge or experience (Etikan et al., 2016). One of the limitations of this technique is that the researcher assumes the willingness of the participants to open up about their insecurities, and their ability to communicate experiences effectively. In the current study, many participants withdrew from filling out the open-ended survey as they were not comfortable about sharing their body image concerns. It took approximately six months to collect completed surveys from the current participants. Another disadvantage of purposive sampling is that the participants may be vulnerable to providing socially desirable responses (Etikan et al., 2016). Purposive sampling has a margin of error; however, it is a small margin as it is a non-random and focused technique (Etikan et al., 2016).

The current study faced another limitation, which was using a self-report method for obtaining data. Using self-report is the easiest, fastest, and most inexpensive way to collect data. However, it is likely to be subject to social desirability bias (Etikan et al., 2016). Self-reported responses entail several threats to validity such as lack of accuracy in articulation, ability to recall experiences, and desire of respondents to be viewed positively (Etikan et al., 2016). This may be related to the current study participants as they did admit they were apprehensive that their privacy may be violated if their personal details were shared with anyone. The researcher included the confidentiality clause in the informed consent with the express purpose of making the participants feel safe. The validity of the responses may be defined as the degree to which a participants' self-report is congruent with an objective criterion (Robbins et al., 2009).

Chapter 8. Future studies

Over the past half-century, the pressures of looking a certain way have been strongly prevalent (Muller et al., 2004). The media continues to distort the "normal body image" into an

"ideal body image" (Vandereycken, 2011). Thus, future studies need to better solicit participants who reveal as much about their physical appearance as possible. Various research studies have employed qualitative analysis to understand the concept of MD. However, future studies could look at a better triangulation strategy and include quantitative measures as well. For example, the understanding reasons behind mirror-gazing behaviors needs an in-depth analysis of the thinking patterns and emotional reactions of the men experiencing body image issues. However, this data could have been supported by statistical analysis obtained via psychometric methods. Unfortunately, there are no standardized surveys to measure the effects of mirror-gazing behaviors. Future research can look at formulating psychometric tools for measuring repetitive mirror checking behaviors and physique protection rituals.

A study identified a group of males that regularly train with weights seeking to improve their physique. This group was not concerned about their physiques when working out with weights, they were particularly aware of their upper body appearance in the reflective surfaces around them (Baghurst et al., 2014). Future investigations should extend the findings of the current research to clinical populations. It is important for groups that may be small in size, but highly prone to social withdrawal, isolation, and potential pathology, sometimes even including suicidal tendencies.

Media is propagating ideal muscular male images, and this may cause an increase in body dissatisfaction in men hence predisposing them to body image disorders (Fawkner & McMurray, 2002). A study aimed at understanding men's perceptions of these media images and the possible psychological and behavioral influences it has on their psyche. The participants consisted of 34 Australian men belonging to diverse orientations and dimensions. The dimensions were age, exercise, and sexual orientation (Fawkner & McMurray, 2002). The study concluded exercisers

and homosexual men's behaviors and thinking patterns were influenced negatively by self-comparison with these idealized images (Fawkner & McMurray, 2002). The current study looked at different demographic details with relation to MD such as religious orientation, sexual orientation, socio-economic status, and educational background. Further research examining the correlation between these dimensions and body dissatisfaction is highly suggested.

There has been a vast increase in the use of cameras in the present times Veale et al., (2016). 'Self-focus' is rising, which can make the general population more susceptible to developing BDD tendencies. A study conducted by Veale et al., (2016) indicated that 85% of mirror checkers spent at least one hour in front of the mirror (long session) and had numerous 15 minutes (short session) phases per day. They checked their appearances in various reflective surfaces like car mirrors, windows of shops on the street, a variety of silverware, and television screens. Only 30% of controls, participants not diagnosed with BDD, reported a long session without checking in a variety of reflective surfaces, and 67% of BDD patients avoided mirrors in public places with poor lighting (Veale et al., 2016). Future studies warrant an investigation of how much time spent in front of all reflective surfaces makes the mirror-gazing behavior clinically significant.

The usage of front cameras is rapidly increasing in the general population, and so is the urge to repetitively look at one's appearance again and again (Cohen et al., 2018). The impulse to look into the mirror and become self-focused are indicators of finding imagined defects in one's appearance (Cohen et al., 2018). Future studies may be dedicated to investigating the role of images, selfies, and image-enhancing filters in triggering body image issues in men.

Chapter 9. Conclusion

Because a lion's share of research on body esteem has been conducted on women, the impact of appearance-related interpersonal feedback on men's body image is not well understood. The current study attempted to throw light on sensitive issues pertaining to muscularity, mirror-gazing behaviors, excessive grooming, and hiding perceived flaws. Through this study, the researcher aimed at spreading awareness about repetitive behaviors that are easily observed by friends and family. These behaviors need to be reported and clinically examined to check if an individual has a predisposition to MD and BDD. These mental health issues have complex origins, but it is difficult to ignore the correlation between their popularity and the growing pressure on men to look a certain way.

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Appendices

Appendix A

IRB Approval

You are being asked to participate in a project conducted through Western Kentucky University (and -- if applicable -- any other cooperating institution). The University requires that you give your signed agreement to participate in this project.

You must be 18 years old or older to participate in this research study.

The investigator will explain to you in detail the purpose of the project, the procedures to be used, and the potential benefits and possible risks of participation. You may ask any questions you have to help you understand the project. A basic explanation of the project is written below. Please read this explanation and discuss with the researcher any questions you may have.

If you then decide to participate in the project, please sign this form in the presence of the person who explained the project to you. You should be given a copy of this form to keep.

1. **Nature and Purpose of the Project:**
2. **Explanation of Procedures:** (include approximate amount of time requested of the participant)
3. **Discomfort and Risks:**
4. **Benefits:**
5. **Confidentiality:**
6. **Refusal/Withdrawal:** Refusal to participate in this study will have no effect on any future services you may be entitled to from the University. Anyone who agrees to participate in this study is free to withdraw from the study at any time with no penalty.

You understand also that it is not possible to identify all potential risks in an experimental procedure, and you believe that reasonable safeguards have been taken to minimize both the known and potential but unknown risks.

____ ________________

Signature of Participant Date

____ ________________

Witness Date

- I agree to the audio/video recording of the research. ***(Initial here)*** __________

THE DATED APPROVAL ON THIS CONSENT FORM INDICATES THAT
THIS PROJECT HAS BEEN REVIEWED AND APPROVED BY THE WESTERN KENTUCKY UNIVERSITY
INSTITUTIONAL REVIEW BOARD

Paul Mooney, Human Protections Administrator TELEPHONE: (270) 745-2129

Appendix B (Including an informal one)

SAMPLE INFORMED CONSENT DOCUMENT

Only WKU IRB stamped and approved forms are to be used with participants

Project Title: ____

Investigator: ____

(include name, department and method of contact)

Appendix C

Muscle Dysmorphia Questionnaire

Instructions: Please respond to each of the following statements. Circle the response choice that best describes you.

	Strongly Disagree	Somewhat Disagree	Slightly Disagree	Slightly Agree	Somewhat Agree	Strongly Agree
1. When I see my reflection in the mirror or a window, I feel badly about my body size or shape	1	2	3	4	5	6
2. Working out causes problems in my job	1	2	3	4	5	6
3. I eat specific foods at specific times throughout the day in order to gain muscle mass	1	2	3	4	5	6
4. When I see muscular men, it makes me feel badly about my body shape or size	1	2	3	4	5	6
5. I am inclined to continue to work out when I am sick	1	2	3	4	5	6
6. I am ashamed of my body shape or size	1	2	3	4	5	6
7. I have difficulty maintaining relationships because of thoughts about my body	1	2	3	4	5	6
8. I am inclined to continue to work out when I am injured	1	2	3	4	5	6
9. I have difficulty maintaining relationships because of thoughts of working out	1	2	3	4	5	6
10. I believe bad things happen in my life when I do not have a specific level of muscularity	1	2	3	4	5	6
11. Working out causes problems in my romantic relationships	1	2	3	4	5	6

*12. I believe I am more muscular than others	1	2	3	4	5	6
13. I feel badly when I do not get to work out	1	2	3	4	5	6
14. I eat by myself	1	2	3	4	5	6
15. I am willing to continue to work out against doctor's orders	1	2	3	4	5	6
*16. I am willing to participate in activities that require wearing swimsuits	1	2	3	4	5	6
17. I do not believe I am as muscular as others	1	2	3	4	5	6
	Strongly Disagree	Somewhat Disagree	Slightly Disagree	Slightl y Agree	Somewhat Agree	Strongly Agree
18. I want to be more muscular than I currently am	1	2	3	4	5	6
19. I think I look better when I have large muscles	1	2	3	4	5	6
20. Working out causes problems in my friendships	1	2	3	4	5	6
*21. I am muscular enough	1	2	3	4	5	6
22. If I could increase my muscle mass, I would	1	2	3	4	5	6
23. I have difficulty focusing on schoolwork because of thoughts about my body	1	2	3	4	5	6
24. I am not muscular enough	1	2	3	4	5	6
25. Others feel that I am way too focused on my body shape or size	1	2	3	4	5	6
26. I have difficulty focusing on schoolwork because of thoughts of working out	1	2	3	4	5	6
27. I feel insecure about my body	1	2	3	4	5	6
28. I use legal or illegal						

supplements (creatine or anabolic steroids) to help develop my muscles	1	2	3	4	5	6
29. I am inclined to participate in activities that require minimal clothing	1	2	3	4	5	6
30. The less clothing I wear, the more anxious I become	1	2	3	4	5	6
31. I eat a large amount of protein in order to increase my muscularity	1	2	3	4	5	6
32. I feel anxious when I deviate from my diet	1	2	3	4	5	6
33. I believe bad things happen to me when I do not keep my workout schedule	1	2	3	4	5	6
34. I feel anxious when I miss a workout	1	2	3	4	5	6

Scoring: Items with an asterisk (*) in front of them should be reverse scored. Items for the individual subscales are as follows:

Body Anxiety: Items 16, 29, & 30
Compulsivity: Items 13, 32, & 34
Illusory Correlations: Items 10 & 33 (NEW FACTOR)
Inadequacy: Items 1, 4, 6, 25, & 27
Inappropriate Eating: Items 3, 14, 28, & 31 (NEW FACTOR)
Increased Muscularity: Items 18, 19, & 22
Muscularity Drive: Items 12, 17, 21, & 24
Persistence: Items 5, 8, 15
Preoccupation: Items 7, 9, 23, & 26
Social Sacrifice: Items 2, 11, & 20

Appendix D

Prototype for Open-ended survey

Set A:

Demographic Information:

Name:

Age:

Sex:

Educational Qualification:

Ethnicity:

Religious orientation:

Sexual Orientation:

Relationship status:

Socio-economic status: Upper, Middle, Lower

Set B:

1. Tell me about the concerns you have with your body?
2. If you had to describe what the mirror means to you, what would you say?
3. What are some of the reasons you look into the mirror frequently?
4. What are some of the emotions you feel when you look at yourself in the mirror?
5. What effect does mirror-gazing have on your relationships? Do you avoid social interactions due to distressing thoughts about your body?

6. Are there any procedures that you follow to hide or mask these perceived defects?
7. For what purpose do you use the front facing camera of your gadget?
8. Do you find yourself analyzing your selfies after you have clicked them? Tell me more about that.
9. Typically, what are your thoughts when you look at your own photos?
10. Do you tend to compare your features with others? If so, what typically comes through your mind when you do?

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