

Exercise and Health: Examination of the Relationship between Gym Attendance, Mental Health, and Perceptions of Body Image

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Abstract

The present study examined the relationship between frequency of gym attendance, workout length, happiness, and perceptions of self-esteem, appearance, and the benefits of exercise. A total of 85 participants (48 females, 37 males) completed eight self-report measures, including the Rosenberg Self-Esteem Scale (Rosenberg, 1989), the Subjective Happiness Scale (Lyubomirsky & Lepper, 1999), the Appearance Anxiety Inventory (Veale et al., 2013), the Body Dysmorphic Disorder Questionnaire (Phillips, 2005), the Muscle Dysmorphic Disorder Inventory (Zeeck et al., 2018), the Exercise Benefits/Barriers scale (Sechrist et al., 1987), and two additional measures reporting weekly gym attendance and duration. Results showed that the frequency of weekly gym attendance and time spent in the gym had no relationship to Body Dysmorphic Disorder (BDD), Muscle Dysmorphia (MD), and appearance anxiety. Time spent in the gym had no relationship to BDD, MD, and appearance anxiety. However, both frequency of gym attendance and workout duration had a strong positive relationship to beneficial views of exercise and self-esteem. Lastly, happiness was found to have no relationship with the frequency of gym attendance but had a positive relationship with the amount of time spent at the gym. Overall, it was concluded that gym attendance in general helps to improve certain aspects of mental health, perhaps through creating a more positive self-perception and increased subjective happiness.

Keywords: mental health, self-esteem, appearance anxiety, gym, exercise

People may believe that exercising and going to the gym serves to promote positive health benefits for the exercising individual, whether it be an increase in physical strength, fat reduction, or an increase in muscle mass. Others may attend the gym to improve their mental and emotional stability. Studies confirm that any physical activity is

better than none, as a sedentary lifestyle has been linked to poorer health outcomes with an increased risk of other health-related problems (Lathia et al., 2017). Therefore, endeavors to increase physical activity seems to be an important goal for maintaining and increasing physical and mental health.

Interestingly, there may be a curvilinear relationship between body image and health outcomes. One might imagine that efforts toward maintaining or achieving fitness are positive up to a point. It could be that some individuals may never be satisfied with their achievements and may develop a distorted sense of one's ideal self.

Individuals who begin to experience problems involving their body image may develop Body Dysmorphic Disorder (BDD), classified under the Diagnostic and Statistical Manual of Mental Disorders (American Psychiatric Association, 2013) as a type of Obsessive-Compulsive disorder that involves the preoccupation with perceived flaws or defects within an individual's physical appearance. Individuals with BDD often perform repetitive behaviors based around their physical appearance, including excessive grooming, checking the mirror often, and conduct harmful mental acts such as comparing themselves in appearance to other individuals in the face of appearance concerns (American Psychiatric Association, 2013). A specifier of BDD, known as Muscle Dysmorphia (MD), in which an individual is preoccupied with the notion that their body is either too small or insufficiently muscular, and experiences feelings of inadequacy involving their musculature or physique (American Psychiatric Association, 2013). One study found that individuals with three to five years of experience in bodybuilding were more likely to have MD compared to individuals with zero to two years of experience (Harris et al., 2019).

These results suggest that while goals to increase physical appearance and functioning may be important to one's health, there may be a point at which these goals could turn to distortions in perceptions and can thus become harmful to one's health and mental functioning.

While research cannot make definitive claims as to what causes BDD, research has shown strong correlates with this affliction. First, self-esteem may be a contributing factor as it has been used to diagnose the presence of BDD. Previous research has shown that individuals with low self-esteem are

more likely to suffer from a more negative body image (Biby, 1998). Moreover, a meta-analysis of the relationship between BDD and self-esteem has shown consistent links between the two (i.e., those with more severe symptoms of BDD show severely lower self-esteem in general; Kuck et al., 2021). In addition to self-esteem, appearance anxiety is another symptom of those with BDD. Individuals who report high levels of appearance anxiety are also more likely to suffer from BDD (Jordan et al., 2022). Preoccupation and anxiety surrounding physical appearance seem to be inversely correlated to self-esteem, resulting in an increased risk of BDD manifestation (Corazza et al., 2019). Thus, while we do not know the causal links, self-esteem and appearance anxiety may be markers for identifying those with BDD and MD.

Happiness is defined as a general emotional state that can be characterized by positive feelings such as joy, satisfaction, fulfillment, and contentment (Sran et al., 2021). However, the amount of happiness gained from physical exercise is dependent on the type of exercise being conducted with different types of training affecting different networks within the brain (Sran et al., 2021). Research has shown that happier people tend to be more physically active compared to unhappier people (Lathia et al., 2017). Exercise and happiness may potentially coincide with each other and explain why people may choose to go to the gym, affecting the frequency of sessions and time spent while there.

It is theorized that the individual's view of how beneficial exercise is compared to their perceived barriers to exercising may affect their choice to exercise (Blake et al. 2017). Those who viewed exercise as less beneficial compared to the barriers preventing them from exercising were less likely to engage in exercising overall. (Blake et al. 2017). However, those with more favorable views of exercise report overall better physical and mental health (Gabal et al. 2020). It is assumed that those who view exercise as more favorable or beneficial will exercise or go to the gym more often

than those who do not. We may also assume those who participate in exercising by going to the gym do so because they believe it benefits them in terms of improving their mental health.

The purpose of the present study was to examine the relationship between gym attendance, BDD, and MD. Two hypotheses were posed. First, it was expected that frequency of gym attendance and time spent per session would be positively correlated to BDD, MD, appearance anxiety, and exercise benefit view. Second, it was expected that gym attendance and time spent per session would be negatively correlated to self-esteem and personal happiness.

Method

Participants

Eighty-five students (48 female, 37 male) from a southern California community college participated in the study. The average age of participants was 21.9.

Measures

Frequency of Gym Attendance Weekly.

Participants were asked how often they attended the gym weekly or every week. Participants recorded their responses by selecting the option that applied to them (1 = 1-2 days; 2 = 2-3 days; 3 = 3-4 days; 4 = 4-5 days; 5 = 5-6 days; 6 = 6-7 days; 7 = 7 days).

Time Spent in Gym. Participants were asked the length of time that they typically spent in the gym exercising. Participants recorded their responses by selecting the option that applied to them (1 = I do not attend the gym; 2 = 1 to 1 ½ hours; 3 = 1 ½ to 2 hours; 4 = 2 to 2 ½ hours; 5 = 2 ½ to 3 hours; 6 = 3 or more hours).

Self-Esteem. Self-esteem was measured by using the Rosenberg Self-Esteem Scale (Rosenberg, 1989). Participants recorded their ratings using a 7-point scale (1 = Strongly Disagree; 7 = Strongly Agree).

Happiness. Happiness was measured using the Subjective Happiness Scale (Lyubomirsky & Lepper, 1999). Participants recorded their ratings using a 7-point scale (1 = not a very happy person,

less happy, or not at all; 7 = a very happy person, or a great deal).

Appearance Anxiety. Participants' anxiety regarding their appearance was measured utilizing the Appearance Anxiety Inventory (Veale et al., 2013) adapted to a 7-point scale (1 = Not at All; 7 = All the Time) modified with an additional two questions for a total of 12 items versus 10 from the original inventory.

Body Dysmorphic Disorder. The presence of BDD was measured using the Body Dysmorphic Disorder Questionnaire (Phillips, 2005). The BDDQ is an 11 item self-report measure with participants recording their responses to questions (No or Yes), with higher scores indicating higher levels of BDD.

Viewing Exercise as Beneficial. Participants' view of the benefits of exercise was measured using twenty questions of the 43-item Exercise Benefits/Barriers scale (Sechrist et al., 1987). Participants recorded their ratings using a 7-point scale (1 = Strongly Disagree; 7 = Strongly Agree).

Muscle Dysmorphia. The presence of MD within participants was measured using the Muscle Dysmorphic Disorder Inventory (Zeeck et al., 2018). Participants recorded their ratings using a 7-point scale (1 = Strongly Disagree; 7 = Strongly Agree).

Procedure

Students from psychology courses were invited to participate in the present study for extra course credit. Participants accessed the survey through Sona Systems, an online tool that gives individual participation course credit while maintaining participants' anonymity. Once the participants accessed the survey, they first read an informed consent page that described the purpose of the study, the voluntary nature of their participation, their right to privacy, contact information, and potential risks or benefits. Individuals who gave consent to participate completed the questionnaire and were then debriefed.

Results

Both sets of hypotheses were analyzed utilizing Spearman's Correlation method. The first set of hypotheses were partially supported. There were no relationships found between frequency of gym attendance and BDD, $r(84) = -.14, p = ns$, MD, $r(84) = .04, p = ns$, or appearance anxiety, $r(84) = -.00, p = ns$. However, there was a strong positive relationship found between gym attendance and exercise benefit view, $r(84) = .66, p < .001$. Also, there were no relationships between time spent in the gym and BDD, $r(84) = .10, p = ns$, MD, $r(84) = .11, p = ns$, or appearance anxiety, $r(84) = -.01, p = ns$. However, there was a strong positive relationship between time spent in the gym and exercise benefit view; $r(84) = .56, p < .001$.

The second set of hypotheses was also partially supported. There was a moderate correlation between frequency of gym attendance and self-esteem, $r(84) = .30, p < .01$, but no relationship between frequency of gym attendance and happiness, $r(84) = .18, p = ns$. Also, time spent in the gym was positively related to both self-esteem, $r(84) = .24, p < .05$, and happiness $r(84) = .22, p < .05$.

Discussion

The results of the present study are partially consistent with findings in the recent literature (American Psychiatric Association, 2013; Harris et al., 2019). The most striking findings were that the frequency of gym attendance and time spent in the gym were positively related to exercise benefit view, self-esteem and/or happiness. This supports findings from current literature (see Biby, 1998; Kuck et al., 2021). However, no relationships were found between the frequency of gym attendance and time spent in the gym with more severe conditions such as BDD, MD, or appearance anxiety.

The failure to find relationships between frequency of gym attendance, time spent in the gym, BDD, MD, and appearance anxiety may reflect the mindset of a healthier group of individuals. That is, students who score high on the exercise benefit scale have a higher appreciation and positive view of exercising. Thus, it could be assumed that

individuals with a high frequency of gym attendance associate the gym with more positive feelings more often than that of negative feelings associated with BDD and MD. In a healthy group of individuals, frequency of gym attendance and time spent in the gym may be a means to a positive goal, such as pursuing physical and mental health goals. Perhaps to other individuals with a less healthy mindset (not participants included in the sample for this study), frequency of gym attendance and time spent in the gym may be a means to ward off preoccupations with flaws or defects in one's appearance. This is highlighted by the finding that individuals who attend the gym more often tend to have higher self-esteem, and those who spend more time in the gym report greater self-esteem and are generally happier.

With these findings come multiple implications. One implication is that just because an individual spends extensive amounts of time in a gym does not mean that the individual has a higher likelihood of developing BDD, MD, or appearance anxiety. These individuals are more likely to be happier, have higher self-esteem, and are more likely to view exercise as beneficial as opposed to detrimental. It is also implied that individuals who hold a more positive view of the benefits of exercise are less likely to suffer from BDD and MD while having less appearance anxiety. This information can enhance the current-day treatment of individuals suffering from BDD and MD by reframing their mindset to view exercise as more beneficial in pursuing positive health instead of warding off perceived imperfections or defects.

Though the benefits of this research are clear, they are not without notable limitations. First, the fact that college students are only a small sample of the population—that is, while college students in this sample reported lower rates of BDD or MD, they are not representative of the general population. Thus, future research may benefit from testing these relationships in samples with a more diverse population. A second limitation concerns the self-report nature of the data collection. While students

may correctly report their frequency of gym attendance and time spent during each session, they may be less likely to recognize in themselves their own symptoms relating to BDD, MD, low self-esteem, or appearance anxiety.

Overall, exercising in a gym seems to have some health benefits. Not only is one achieving better physical health with exercise, but it also appears that going to the gym provides mental health benefits (Gabal et al. 2020). It should be noted that this data provides no evidence for a relationship between gym attendance and time spent per session to both BDD and MD. However, there is evidence for a positive relationship between gym attendance and positive mental health factors, such as happiness and self-esteem being positively correlated to time spent per session. One could apply this knowledge to take the first steps towards bettering oneself physically and mentally through exercise and the gym without fear of developing symptoms of BDD and MD.

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