

Social Physique Anxiety and Motivations to Exercise

Audrey Lyle

Belmont University Department of Psychology

Abstract

The benefits of exercise are clear; they include better overall health, better mood, and less stress (Schultchen et. al., 2019). However, exercise motivations vary (Pate, 1995). Some of these motivations include: health and fitness benefits, social/emotional benefits, weight management, stress management, enjoyment, and appearance (Dacey, 2008). When exercising, many are exposed to an environment of comparison, which has been shown to foster social physique anxiety (Chen, Ku, & Wang, 2012), defined as the “feeling of distress associated with the perceived evaluation of one's physical self” (Frederick & Morrison, 1996). Exercise behavior has been found to change in people with higher levels of social physique anxiety, which may indicate that it affects exercise motivation (Lantz & Hardy. 1997). This study sought to analyze the correlation between social physique anxiety and exercise motivation, measured by the Amended Exercise Motivation Inventory-2 and the Social Physique Anxiety Scale. It was hypothesized that social physique anxiety would be negatively correlated with the exercise motivations of enjoyment, health and fitness, social/emotional benefits, and stress management; and positively correlated with the exercise motivations of appearance and weight management. Results indicated that those with extrinsic non-self-determined exercise motivations had a very significant positive relationship with Social Physique Anxiety and that those with extrinsic self-determined and intrinsic exercise motivations have a weaker relationship with Social Physique Anxiety. The results of this study have key implications for public health and exercise, and the prevention of social physique anxiety by integrating healthy exercise motivations. The results of this study should be considered in public health, specifically in curriculum for exercise to reduce susceptibility to social physique anxiety and integrate healthy exercise motivations.

Social Physique Anxiety and Motivations to Exercise

Exercise is an activity that has shifted from a recommended healthy behavior to a marginalized and stigmatized social tool that is used to attain social acceptance through exercise intensity, frequency, and body image comparison. The industry of physical fitness grossed roughly 32 billion dollars as of 2020, and this number is steadily rising (Gough, 2021). This industry has a chokehold on the body-conscious of the world, creating unhealthy relationships with exercise and with physique comparison. With too much of an emphasis on developing our ideal physique, we can fall into feelings of distress about your body, or social physique anxiety (Frederick & Morrison, 1996). It is now more important than ever with the prevalence of fitness influencers and health content everywhere you look, to be able to balance a healthy relationship with exercise (Sabiston et. al, 2007). The health and fitness industry is integrated within our culture whether we like it or not, however the influence that it carries is up to us to acknowledge (Gough, 2021). Exercise is also a fantastic outlet for many people, and it has been shown that we can use exercise to reduce stress and to make ourselves healthier (Schultchen et. al., 2019). The reduction of stress is a main exercise motivation that many people have, alongside aesthetics focused goals. Because of the cultural influence of exercise on our lives, it is important to understand these reasons behind why we subject ourselves to physical challenges.

Although the health and fitness industry can be overwhelming due to its sheer scope, it is critical to understand the many benefits that we can achieve through movement. Exercise is a natural way to relieve stress and anxiety, and to improve overall health, when conducted in healthy amounts (Schultchen et. al., 2019). Research has continually shown that exercise is a nonnegotiable when it comes to maintaining both mental and physical health, as shown by an excerpt from a 2006 exercise focused study: "...regular exercise is cross-sectionally associated

with lower neuroticism, anxiety and depression and higher extraversion and sensation seeking in the population” (De Moor et. al, 2006). These connections are important to consider, as many people who think about exercise truthfully focus on the training of the body and not of the mind. The psychological benefits of exercise are a great motivator for those who do not know aesthetically what they need to do to achieve their goals. Exercise is a very versatile tool that can be applied to whatever an individual needs, and there are many forms of exercise which work well for different people (Crawford & Eklund, 1994). These many methods allow for more individuals to find a method of exercising that works best for them, to achieve the recommendation that “Every US adult should accumulate 30 minutes or more of moderate-intensity physical activity on most, preferably all, days of the week” (Pate, 1995). This small commitment of 30 minutes gives the same mental and physical benefits that most people seek, however it is also important to find a reason to keep exercising, to create a goal and drive success. The research on exercise and wellness had demonstrated that exercise is beneficial, however for some people this is not enough to get them up off the couch and to the gym. There are various motivations that people use to propel them towards their fitness goals.

Although exercising is difficult for many people and thus degree of physical difficulty differs greatly, many people venture to the gym for similar reasons: to improve health, to reach a goal appearance, or for some psychological benefit (ie. Increased happiness or decreased anxiety). Research has shown that the reason we exercise determines how healthy our relationship with exercise is (De Moor et. al, 2006). There are countless reasons why people exercise, however some of the more widely studied reasons include Weight Management, Appearance, Health and Fitness, Social/Emotional Benefits, Stress Management and Enjoyment. These exercise motivations have been found to be internally consistent and have good

discriminant validity, meaning that they are all different enough to be considered separate entities and that this differentiation is consistent (Markland & Ingledew, 2014). These particular motivations to exercise are also more applicable to our participant pool of college students, which is a population that has been studied in conjunction to these exercise motivations in the past (Crawford & Eklund, 1994). These exercise motivations are critical to research, because they can have a massive impact on the relationship between the individual and their exercise routine. In cultivating a good relationship with exercise, one can decrease anxiety, depression, and stress (De Moor et. al, 2006). Regardless of the motivation to exercise there are many benefits of being physically active which help improve life quality, mental and physical health, and goal setting skills. Some of the motivations that we use to exercise create great healthy habits, and others are shown to cultivate an unhealthy relationship with exercise and body image, including the possibility of developing social physique anxiety.

The field of psychological research has not yet had the time to catch up to our rapidly progressing, digitized world. As we scroll through social media and judge those that appear based on their appearance, constructs like social physique anxiety rush rapidly to the forefront of our thoughts. Social physique anxiety can be defined as a “Feeling of distress associated with the perceived evaluation of one's physical self” (Fredrick & Morrison, 1996). Social physique anxiety is an important mental health concern, especially with the prevalence of social media and body comparison (Crawford & Eklund, 1994). There has not been a large amount of research on this topic in the modern era, however the research that has been conducted has a very poignant narrative. Social physique anxiety has been found to effect motivation to exercise (Hart, Leary & Rejeski, 1989). Literature has also shown that exercise behavior changes in people with social physique anxiety, however not much research has been conducted on the relationship between

these variables (Lantz & Hardy, 1997). A 2012 study also found that cultural factors are a mitigating factor for social physique anxiety (Chen, Ku, & Wang, 2012). The relationship between Social Physique Anxiety and exercise motivation should continue to be examined, as the literature comparing these constructs is not substantial. As shown by the previous research, social physique anxiety and motivation to exercise are both critical topics of study, however there is a gap in the research regarding the connection between these two variables.

There are many reasons that we as humans are motivated to exercise, as shown by the previously discussed literature, however in our modern era of social media comparison it is essential that we draw connections between these motivations and psychological constructs like social physique anxiety. There is an undeniable connection between social physique anxiety and motivation to exercise (Sicilia et. al, 2014). This relationship must be explored further in connection with exercise setting and exercise motivation, as “SPA was negatively associated with favorability of the setting emphasizing the physique and was positively related to favorability of the setting de-emphasizing the physique” (Crawford & Eklund, 1994). This relation has not been studied in conjunction with exercise motivation, and there is a gap in the research. The variables of Social Physique Anxiety and exercise motivation have not been studied in our sample population of college students. Because of the lack of research drawing conclusions about these variables in conjunction, we will be studying this connection to determine whether certain motivations to exercise are related to social physique anxiety, or vice versa.

After examination of the library of research regarding social physique anxiety and motivation to exercise, we decided to take a correlational approach to our study design in order to identify the nature of the relationship between these variables, as well as to see if exercise frequency was a mitigating factor on this relationship. Our research was created based on

previous research and to test our hypotheses. There have been studies whose “purpose was to relate social physique anxiety to participants' attitudes toward exercise, adherence behaviors, participation motivation, personality variables, and emotional attitude toward exercise”, however they were conducted in 1996, and modern applications of this research are yet to be produced (Frederick & Morrison, 1996). We formulated our study designs based on previous work with these two variables together as well as work on both motivations to exercise and social physique anxiety that was conducted separately. Exercise behavior has been found to be significantly related to Social Physique Anxiety, and exercise frequency has been shown to be an important factor to consider (Chen, Ku, & Wang, 2012), (Lemyre, Roberts, & Stray-Gundersen, 2007). It has also been shown “Research on exercise participation motives has indicated that more intrinsic motives are linked to more positive exercise outcomes.” (Sibley, Hancock, & Berman, 2013). These trends have been demonstrated in the past, however there is not a significant sample of results from the modern era.

Based on this previous literature, we hypothesized that social physique anxiety would be positively correlated with materialistic goals of exercise (appearance and weight management) and would be negatively correlated with extrinsic self-determined and intrinsic goals of exercise (anxiety/depression reduction, stress management, enjoyment). We also predict that exercise frequency is negatively correlated with materialistic goals of exercise and positively correlated with intrinsic goals for movement. We designed our study to allow participants to convey their own goals of exercise, as well as their degree of social physique anxiety and exercise frequency in order to test these hypotheses to the fullest extent and to develop the breadth of research on these connections.

Method

Participants

For this study participants were recruited via SONA recruiting systems. We solicited participants from a pool of 300 students of psychology at Belmont University who were enrolled in Introduction to Psychology. 60 participants were selected to complete our study. Our participants were 75% Caucasian, 6.7% Hispanic-American, 1.7% each of African American, Asian, and Middle Eastern, and 13.3% Other/Interracial. The age range of our sample was 18-22 years old. Our participants were 71.7% female, 25% male, 1.7% other, and 1.7% prefer not to say. Participants signed up to receive 1 class credit for their Introduction to Psychology class at Belmont University for their participation in our study.

Procedure

Participants signed up for participation in the study via SONA recruitment systems. Then they were given a link to Qualtrics where they will consent to participation. Next, participants completed the Amended Exercise Motivation Inventory-2 followed by the Social Physique Anxiety Scale. Participants completed the study by providing demographics and completing the Saltin-Grimby Physical Activity Scale (SGPAS). Finally, participants will be directed to a separate Qualtrics survey that is not connected to their data in order to provide their name for course credit and be debriefed regarding the purpose of the study.

Materials

The primary questionnaire used in our research was the Amended Exercise Motivation Inventory-2 (EMI-2). This scale measures participant's personal reasons for why they choose to exercise, or if they are not physically active, what reasons they would see themselves using to exercise. This scale is an edited version of the EMI-2, which originally contained 51 items. We

chose to use an amended version of this scale to retain the attention of our participant pool and focus on exercise motivations that were most relevant to these participants as college students. The exercise motivations evaluated using this scale were Weight Management, Appearance, Health and Fitness, Social/Emotional Benefits, Stress Management and Enjoyment. The EMI-2 consists of 37 questions on a 0-5 Likert scale (Dacey, 2008). Participants rate items on a scale of zero to five, indicating how true each statement is for them, with zero meaning not true for me at all, and five meaning very true of me. A sample item that is characteristic of this questionnaire is item 18, with a reason for exercise as “To have fun being active with other people”. Higher scores indicate a higher level of motivation.

The next measure we utilized for our study was the Social Physique Anxiety Scale. This scale measures the degree to which one may feel social pressure or anxiety regarding the status of their physique. Physique can be defined by the form or structure of one’s body including muscle and fat proportions and size (Hart, Leary, & Rejeski, 1989). We utilized this scale to determine if our participants feel pressure by society to maintain their physique, and if so, how severe is that degree of social stress. There are 12 items on this scale in which participants use a one to five Likert scale to describe how characteristic a certain item is of their own behavior. A selection of 1 would indicate ‘not at all characteristic of me’, 2 would mean ‘slightly characteristic of me’, 3 would refer to ‘moderately characteristic of me’, 4 would indicate ‘very characteristic of me’, and an answer of 5 would mean ‘extremely characteristic of me’. A good sample selection for this scale would be item number six: “Unattractive features of my physique or figure make me nervous in certain social settings.” (Hart, Leary, & Rejeski, 1989). To determine scoring on this scale, items 1, 2, 5, 8, and 11 were reverse-scored, and total scores

range from 12 to 60. Higher scores on this scale indicate higher levels of Social Physique Anxiety.

The Saltin-Grimby Physical Activity Scale (SGPAS) is a one item scale which asks participants to rate their level of physical activity on a scale from 1 to 4, with 1 referring to 'physically inactive' and 4 referring to 'regular hard training for a competitive sports'. Number 2 on the scale refers to 'light physical activity' while 3 is equivalent to 'regular physical activity and training'. We integrated the SGPAS into our demographics form in a single response question, in order to avoid priming if this line of questioning was introduced prior to other participant responses. The result of this scale gives a rough estimate of the amount of physical activity our participants complete in an average week, with 1 being the lowest score and 4 being the highest. Participants gave their responses to the SGPAS in the demographics form after completing the bulk of the study in order to reducing priming biases.

Results

After collecting our data via Qualtrics, we compiled, cleaned, and analyzed our data using both Google Excel and SPSS systems. We reverse scored the necessary items on the EMI-2 after cleaning and compiling our data. Following the cleaning of our data, we conducted Cronbach's alpha measures on our materials. For the Amended Exercise Motivation Inventory-2, we found that questions evaluating each exercise motivation were highly valid ($\alpha = 0.81-0.92$). We also found the Social Physique Anxiety Scale to be highly reliable ($\alpha = 0.937$). In conducting correlational analyses of exercise motivations and Social Physique Anxiety, we found that both extrinsic non-self determined exercise motivations of Weight Management and Appearance have a significant positive correlation with Social Physique Anxiety, finding $r(60) = 0.65, p = 0.002$ and $r(60) = 0.48, p = 0.05$ respectively. We found no relationship between the exercise motivations of

Health and Fitness and Stress Management and Social Physique Anxiety, finding $r(60) = .05$, $p = .86$ and $r(60) = .01$, $p = .97$ respectively. For the extrinsic self-determined exercise motivations of Social/Emotional Benefits and Enjoyment, we found slightly significant values indicating a slightly correlational relationship between these exercise motivations and Social Physique Anxiety. In running correlations between the exercise motivation of Social/Emotional Benefits and Social Physique Anxiety, we found a positive trend line indicated by $r(60) = .29$, $p = .25$. We also found a promising trend line in analyses between the exercise motivation Enjoyment and Social Physique Anxiety; however, this relationship was negative as shown by our results of $r(60) = -.28$, $p = .28$. Although the correlation coefficient and p-values for these exercise motivations are lower, it is important to consider that they are still valid results. We also found in our administration of the Saltin-Grimby Physical Activity Scale that 16.7% of participants were physically inactive, 31.7% did some light physical activity, 31.7% did regular physical activity and 20% did regular hard training for competitive sports.

Discussion

Based on our results, we can conclude that three of our hypotheses were supported. We found that Social Physique Anxiety has an extremely significant positive correlation with both extrinsic, non-self-determined exercise motivations of Appearance and Weight Management. We also found a slightly significant relationship between the intrinsic exercise motivation of Enjoyment and Social Physique Anxiety, which supported our hypothesis. We determined that Social Physique Anxiety had a slight positive correlation with the exercise motivation of Social/Emotional Benefits, which did not support our hypothesis that Social Physique Anxiety would have a negative correlation with the exercise motivation of Social/Emotional Benefits, however it was a slightly significant result. There was no significant relationship found between

exercise motivations of Health and Fitness and Stress Management and Social Physique Anxiety. We can determine based on these results that those with extrinsic, non-self-determined exercise motivations are more likely to have higher levels of Social Physique Anxiety. However, extrinsic self-determined exercise motivations do not have a conclusive relationship with Social Physique Anxiety. We found through our results that those who intrinsic exercise motivations would be more likely to have lower levels of Social Physique Anxiety, which is supported by the literature.

Previous literature supports the results of our study, as we found a slight negative correlation for our sole intrinsic motivation, and other scholars have shown intrinsic motivations lead to positive relationships with exercise and further adherence to an exercise schedule (Ryan et. al., 1997). This finding is also directly supported by another 2006 study that found social physique anxiety has a negative relationship with the exercise motivation of enjoyment (Gillison, Standage, & Skevington, 2006). Although we did not find significant results for all our exercise motivations, the literature shows extrinsic exercise motivations, regardless of whether they are self-determined, are correlated with increased levels of social physique anxiety (Ersöz, 2016). This is highly interesting, as both extrinsic non-self-determined exercise motivations had a positive relationship, and the one extrinsic self-determined exercise motivation that we found significant results for also had a slightly positive trendline. However, these results may have been impacted or altered by a multitude of factors.

One of the most critical limitations of our study is the demographics of our sample. Our participant pool was only 60 individuals, and thus our data was easily skewed by one or a few data points that may have differed from the trends of their peers. Of this group of 60 individuals, the majority was Caucasian females, with our sample consisting of 75% Caucasian and 71.7% female participants. This is important to consider for a multitude of reasons, however primarily

the literature asserts that extrinsic exercise motivations are more common in females than in males (Egli, Bland, Melton & Czech, 2011). This would support the fact that our most conclusive findings were with extrinsic motivations, considering the majority of our sample would likely relate with those exercise motivations more than our sole intrinsic motivation of Enjoyment. We also failed to consider a critical variable in Social Physique Anxiety, social media. The prevalence of the Caucasian female population and the standards of beauty these women's bodies are held to perpetuate the narrative of physique comparison. Regardless of demographic information, about 90% of adults ages 18-29 use social media (Goodyear et. al, 2021). This group of adults is the same age range as our sample pool, and thus the important influence that social media could have on our participants should have been considered. Research has also shown that social media interventions can influence physical activity levels and diet (Goodyear et.al, 2021). Another limitation of our work was derived from the topics of the study itself including body image and exercise. These topics can be triggering, and it further research it would be important to notify participants of this possible trigger. Finally, it is critical to consider the role of human error as a limitation, both in the scope of data analysis and error on the part of the research team, and error in reference to the verifiability and truth of participant responses. These limitations should be addressed with study replication or other research on this topic.

There are many different directions in which the results of this study can be applied. Our results could be used to help many different populations to find healthy exercise motivations and reduce their risk of developing Social Physique Anxiety. Specifically, individuals with body dysmorphia or eating disorders would drastically benefit from this research. Another way that these findings can be applied is in education regarding the dangers of physique comparison, as social media has numbed many to the critical nature of our society. I believe one of the most

critical applications is within the early classroom setting. Developing curriculum to create healthy habits for exercise early, as well as to educate children about the dangers of physique comparison. The exercise motivation of enjoyment and other intrinsic motivations should be further examined to determine how they reduce levels of social physique anxiety. (Ryan et. al., 1997); (Gillison, Standage, & Skevington, 2006). Based on the extreme significance of our results and the applications of our findings, we can conclude that by using extrinsic exercise motivations, we are placing ourselves at risk to increase levels of social physique anxiety. We can also conclude that we can reduce levels of social physique anxiety and increase likelihood of a healthy relationship with physical activity by finding intrinsic exercise motivations.

References

- Chen, L.-J., Ku, P.-W., & Wang, J.-M. (2012). Exercise behavior and social physique anxiety among adolescents. *Sports & Exercise Research, 14*(1).
<https://doi.org/10.5297/ser.1401.007>
- Crawford, S., & Eklund, R. C. (1994). Social physique anxiety, reasons for exercise, and attitudes toward exercise settings. *Journal of Sport and Exercise Psychology, 16*(1), 70–82. <https://doi.org/10.1123/jsep.16.1.70>
- Dacey, M. (2008). Older adults' intrinsic and extrinsic motivation toward physical activity. *American Journal of Health Behavior, 32*(6). <https://doi.org/10.5993/ajhb.32.6.2>
- De Moor, M. H. M., Beem, A. L., Stubbe, J. H., Boomsma, D. I., & De Geus, E. J. C. (2006). Regular exercise, anxiety, depression and personality: A population-based study. *Preventive Medicine, 42*(4), 273–279. <https://doi.org/10.1016/j.ypmed.2005.12.002>
- Frederick, C. M., & Morrison, C. S. (1996). Social physique anxiety: Personality constructs, motivations, exercise attitudes, and behaviors. *Perceptual and Motor Skills, 82*(3), 963–972. <https://doi.org/10.2466/pms.1996.82.3.963>
- Gough, C. (2021, January 28). *US Fitness/Health Club Market Size 2021*. Statista. Retrieved February 27, 2022, from <https://www.statista.com/statistics/605223/us-fitness-health-club-market-size-2007-2021/#:~:text=In%202020%2C%20the%20market%20size,billion%20U.S.%20dollars%20in%202021.>

- Hart, E. A., Leary, M. R., & Rejeski, W. J. (1989). The measurement of social physique anxiety. *Journal of Sport & Exercise Psychology, 11*(1), 94–104.
- Lantz, C. D. & Hardy, C. J. (1997) Social physique anxiety and perceived exercise behavior. *Journal of Sport Behavior, 20*(1), 83.
- Lemyre, P.-N., Roberts, G. C., & Stray-Gundersen, J. (2007). Motivation, overtraining, and burnout: Can self-determined motivation predict overtraining and burnout in elite athletes? *European Journal of Sport Science, 7*(2), 115–126.
<https://doi.org/10.1080/17461390701302607>
- Markland, D., & Ingledew, D. K. (2014). Exercise Motivations Inventory-2. *PsycTESTS Dataset*.
<https://doi.org/10.1037/t39084-000>
- Pate, R. R. (1995). Physical activity and public health. *JAMA, 273*(5), 402.
<https://doi.org/10.1001/jama.1995.03520290054029>
- Ryan, R. M., Frederick, C. M., Lepes, D., Rubio, N., & Sheldon, K. M. (1997). Intrinsic Motivation and Exercise Adherence. *International Journal of Sports Psychology*.
- Sabiston, C. M., Sedgwick, W. A., Crocker, P. R., Kowalski, K. C., & Mack, D. E. (2007). Social physique anxiety in adolescence: An exploration of influences, coping strategies, and Health Behaviors. *Journal of Adolescent Research, 22*(1), 78–101.
<https://doi.org/10.1177/0743558406294628>
- Schultchen, D., Reichenberger, J., Mittl, T., Weh, T. R., Smyth, J. M., Blechert, J., & Pollatos, O. (2019). Bidirectional relationship of stress and affect with physical activity and

healthy eating. *British Journal of Health Psychology*, 24(2), 315–333.

<https://doi.org/10.1111/bjhp.12355>

Sibley, B. A., Hancock, L., & Bergman, S. M. (2013). University Students' Exercise Behavioral Regulation, motives, and Physical Fitness. *Perceptual and Motor Skills*, 116(1), 322–339.

<https://doi.org/10.2466/06.10.pms.116.1.322-339>

Sicilia, A., Sáenz-Alvarez, P., González-Cutre, D., & Ferriz, R. (2014). Exercise motivation and social physique anxiety in adolescents. *Psychologica Belgica*, 54(1), 111–129.

<https://doi.org/10.5334/pb.ai>