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Impact of the Gym on Stress and Self-esteem in Young Adults

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Abstract: The present study explores the relationship between regular gym attendance, perceived stress, and self-esteem among young adults. With growing awareness of mental health, physical exercise has increasingly been recognized not only for its physiological benefits but also for its positive psychological effects. This study aimed to examine whether individuals who go to the gym regularly exhibit lower levels of perceived stress and higher levels of self-esteem. A total of 90 participants aged between 18 and 29 years were selected using purposive sampling. Data was collected using two standardized psychological tools: the Perceived Stress Scale (PSS) and the Rosenberg Self-Esteem Scale (RSE). The research design was quantitative, comparative, and cross-sectional. Results revealed a significant negative correlation between regular gym attendance and stress levels, as well as a significant positive correlation between gym attendance and self-esteem. The findings suggest that regular physical activity is associated with better mental well-being, highlighting the potential role of exercise in reducing stress and enhancing self-worth. These results contribute to the growing body of literature emphasizing the psychological benefits of consistent gym participation and underscore the importance of promoting physical activity as part of mental health interventions for young adults.

Keywords: *Perceived Stress, Self-Esteem, Gym-Goers, Physical Activity, Mental Health, Young Adults*

1. Introduction

The word gym originates from gymnasium, a facility designed for physical training, exercise, and health maintenance. Gyms provide structured environments for activities like resistance training, cardiovascular workouts, and flexibility exercises, often supported by expert trainers. Beyond physical fitness, regular gym attendance offers substantial mental health benefits by enhancing cardiovascular strength, flexibility, muscle tone, and joint health, and helping manage chronic conditions such as obesity, hypertension, and diabetes. Crucially, exercise positively influences mental health. Physical activity at the gym triggers the release of endorphins and reduces cortisol, the stress hormone, thereby lowering stress and promoting better sleep, cognitive function, and emotional regulation. Regular workouts also improve self-image and self-esteem, key aspects of psychological well-being. Gyms also contribute to improved discipline, time management, and a sense of community through group interactions.

Stress is a physical and psychological reaction to perceived demands or threats. While short-term stress (eustress) can be motivating, chronic stress (distress) negatively affects multiple body systems: it can raise blood pressure, weaken the immune system, disrupt hormonal balance, and impair digestion and brain function. Stress is particularly concerning for young adults, who often face academic, financial, and social pressures. Prolonged stress can result in anxiety, depression, sleep disturbances, and cognitive decline.

Self-esteem refers to a person's subjective evaluation of their own worth and is deeply tied to mental health. High self-esteem fosters emotional stability, resilience, and optimism, while low self-esteem is associated with insecurity, anxiety, and depression. It can be influenced by early life experiences, body image, societal expectations, and social comparisons. Physiologically, individuals with low self-esteem tend to exhibit heightened stress responses, including elevated cortisol, disrupted sleep, and poor immune function.

The relationship between stress and self-esteem is cyclical and dynamic. High self-esteem acts as a buffer against stress, enabling individuals to approach challenges with confidence and use adaptive coping strategies like problem-solving and seeking social support. Conversely, low self-esteem amplifies perceived stress, promotes maladaptive behaviors (e.g., avoidance or rumination), and contributes to emotional instability. Over time, chronic stress can erode self-worth, creating a feedback loop that impairs mental and physical health.

In today's digital era, societal ideals and social media portrayals often distort young adults' perceptions of their bodies and lifestyles, leading to dissatisfaction and reduced

self-esteem. The gym, however, offers a constructive space for both physical transformation and psychological empowerment. Regular gym-goers often experience improved body image, a sense of accomplishment, and enhanced emotional resilience.

Theoretical frameworks underpinning this study include Lazarus and Folkman's Transactional Model of Stress (1984), which explains stress as an imbalance between perceived demands and coping resources, and Bandura's Self-Efficacy Theory (1997), which highlights the role of belief in one's capabilities. Regular gym attendance may enhance self-efficacy, thereby increasing resilience and self-esteem while lowering stress.

Empirical studies support this connection. Regehr et al. (2013) found that exercise reduced stress and anxiety among college students. Sharma et al. (2006) showed improvements in young women's self-esteem and body image through physical activity. Although many studies link physical activity to psychological well-being, fewer have explored structured gym attendance specifically. This study seeks to bridge that gap by focusing on how regular gym participation influences stress and self-esteem in young adults, a group especially vulnerable to psychological challenges due to transitional life phases and identity development.

2. Review Of Literature

Aumer and Vögele (2025) explored the anxiety-reducing effects of physical activity among adolescents and young adults. The study found that engaging in regular physical activity led to significant reductions in anxiety symptoms. These findings support the role of exercise as an effective non-pharmacological strategy for managing anxiety. The study emphasized the need to integrate physical activity into daily routines for improved mental well-being.

Mahindru, Patil, and Agrawal (2023) emphasized its effectiveness in reducing symptoms of depression, anxiety, and stress. The study highlighted the psychological and physiological ways in which regular exercise improves mood, cognitive function, and emotional resilience. Indirect benefits included enhanced sleep quality and increased social interaction. The findings of this study show that physical activity can be used as a comprehensive and accessible strategy for improving mental health. It supports the inclusion of exercise in preventive and therapeutic mental health interventions.

Alnawwar et al. (2023) conducted a systematic review to examine the impact of physical activity on sleep quality and sleep disorders. The study found that regular physical activity significantly improved overall sleep quality, reduced sleep latency, and mitigated symptoms of common sleep disorders such as insomnia. These improvements were observed across various age groups and types of exercise. The research focuses on the connection between mental and physical health. It supports incorporating exercise into lifestyle interventions aimed at enhancing sleep and psychological well-being.

Neumann et al. (2022) investigated how physical fitness influences resilience to modern life stress, emphasizing the mediating role of general self-efficacy. Their findings demonstrated that individuals with higher levels of physical fitness were better equipped to cope with stress, largely due to enhanced self-efficacy. The study highlights the psychological benefits of physical fitness beyond physical health, suggesting that improving fitness can bolster inner resources against stress. This research provides valuable insight into the interplay between physiological and psychological factors in stress resilience. It reinforces the relevance of fitness-based interventions in promoting mental well-being.

Rodrigues et al. (2022) examined the emotional and psychological outcomes of exercise, focusing on its associations with positive and negative affect, life satisfaction, self-esteem, and vitality. The study found that regular physical activity was strongly linked to increased positive affect, higher life satisfaction, and greater self-esteem and vitality, while reducing negative emotions. These results highlight the mood-enhancing and psychologically empowering effects of exercise. By addressing both emotional and cognitive dimensions of well-being, the study supports the integration of exercise into daily life for improved mental health. It demonstrates conclusively that physical activity contributes to overall psychological well-being.

3. Methodology

3.1 Aim

To explore the relationship between regular gym attendance, perceived stress levels, and self-esteem among young adults.

3.2 Research Objectives

- a) To assess levels of perceived stress in individuals who go to the gym regularly.
- b) To assess levels of self-esteem in individuals who go to the gym regularly.
- c) To contribute to existing literature on how physical activity influences emotional

well-being and self-perception.

3.3 Hypothesis

1. There is a positive relationship between regular gym attendance and self-esteem — individuals who go to the gym regularly are likely to have higher self-esteem.
2. There is a negative relationship between regular gym attendance and perceived stress — individuals who go to the gym regularly are likely to experience lower stress levels.

3.4 Variables

Independent Variable: Gym Attendance: Whether the participant goes to the gym regularly or not (measured as a binary yes/no response).

Dependent Variables: Perceived Stress: Measured using the Perceived Stress Scale (PSS), Self-Esteem: Measured using the Rosenberg Self-Esteem Scale (RSE).

3.5 Research Design

Type of Study: Quantitative

Design: Correlational and cross-sectional

Approach: The study explores the relationship between two psychological variables (stress and self-esteem) within a single population (gym-goers) at a single point in time.

3.6 Sample

Sample Size: The sample consists of 100 young adults aged 18 to 29 years.

Sampling Method: Convenience sampling will be used to recruit participants from university campuses, social media, and community spaces.

Inclusion Criteria

- a) Young adults aged 18-29 years.
- b) Willingness to participate in the study and provide informed consent.

3.7 Measures

Perceived Stress Scale (PSS): A 10-item scale developed by Cohen et al. (1983) to measure the level of stress an individual has perceived in the past month. It uses a 5-point Likert scale ranging from “Never” to “Very Often,” with higher scores indicating greater stress.

Rosenberg Self-Esteem Scale (RSE): A 10-item scale developed by Rosenberg (1965) to assess global self-esteem. It uses a 4-point Likert scale ranging from "Strongly Agree" to "Strongly Disagree," with higher scores indicating higher self-esteem.

Gym Attendance Question: A single question, "Do you go to the gym regularly?"

with a binary yes/no response. This will classify participants into two groups: regular gym-goers and non-gym-goers.

3.8 Procedure

Recruitment: Participants will be recruited via online platforms (social media, university bulletin boards) and will be provided with an informed consent form explaining the purpose, confidentiality, and voluntary nature of the study.

Data collection: Participants will be directed to an online survey (Google Form or similar), where they will fill out: Demographic information (age, gender, etc.), Gym attendance question: "Do you go to the gym regularly?" (Yes/No). Perceived Stress Scale (PSS), Rosenberg Self-Esteem Scale (RSE).

Debriefing: After completing the survey, participants will be provided with a debriefing explaining the purpose of the study and how their data will be used. They will also be given contact information for mental health resources if necessary.

Confidentiality: The responses will be anonymous, and personal identifiers will not be collected."

4. Result

Table 1: *Descriptive statistics*

	N	Mean	Std. Deviation	Std. Error Mean
Perceived Stress	100	17.22	3.871	0.387
Self esteem	100	22.73	2.637	0.264

Table 2: *Pearson correlation of Perceived Stress and Self-esteem in gym-going people*

		Perceived Stress	Self esteem
Perceived Stress	Pearson Correlation	1	-.303**
Self esteem	Pearson Correlation	-.303**	1

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

The present study aimed to explore the relationship between regular gym attendance, perceived stress levels, and self-esteem among young adults. Data was collected from 100 participants aged between 18 and 29 years, using the Perceived Stress Scale (PSS) and the Rosenberg Self-Esteem Scale (RSE), along with a gym attendance yes/no question.

Table 1 provides descriptive statistics for perceived stress and self-esteem. The mean score for perceived stress was 17.22 (SD = 3.87), indicating a moderate level of stress in the sample. Meanwhile, the mean score for self-esteem was 22.71 (SD = 2.64), suggesting moderately high self-esteem among participants. **Table 2** presents the Pearson correlation coefficient between perceived stress and self-esteem among participants who attend the gym regularly. The correlation coefficient was found to be ($r = -0.303$), which is statistically significant at the $p < 0.01$ level (2-tailed). This indicates a moderate negative correlation between perceived stress and self-esteem. In other words, individuals with higher perceived stress tend to report lower self-esteem, and vice versa. Thus, the results point towards a meaningful relationship between psychological well-being factors (stress and self-esteem) among young adults who engage in regular gym attendance.

5. Discussion of Results

The study explored the relationship between regular gym attendance, perceived stress, and self-esteem in young adults aged 18–29. Results supported both hypotheses: regular gym-goers reported higher self-esteem and lower perceived stress. These findings align with existing research suggesting that physical activity boosts self-perception, self-efficacy, body image, and emotional resilience. Biological and psychological mechanisms, such as reduced cortisol, increased endorphins, and better coping—contribute to stress reduction. Social interactions at the gym also support mental well-being. However, the moderate correlation suggests that other factors (e.g., academic pressure, personality, culture) also influence outcomes. The study's limitations include its binary measure of gym attendance and cross-sectional design, limiting causal conclusions. Future research should consider more detailed activity metrics, longitudinal methods, and cultural differences. Overall, the findings highlight gym participation as a valuable, though not exclusive, component of psychological well-being interventions for young adults.

5.1 Limitations

Self-Reported Data: The study relied on self-reported questionnaires (Perceived Stress Scale and Rosenberg Self-Esteem Scale). This introduces the potential for social desirability bias, where participants may have provided answers they believed were socially acceptable rather than their true feelings. Participants may also misinterpret or misunderstand certain items, affecting the accuracy of responses.

Binary Measure of Gym Attendance: Gym attendance was assessed using a simple yes/no question. This binary response does not capture important aspects like frequency,

intensity, or duration of exercise, which are crucial for understanding how specific patterns of gym activity affect stress and self-esteem. A more detailed measure would provide more precise insights.

Limited Sample Diversity: The sample consisted of 90 young adults aged 18–29 years. The findings may not be generalizable to other age groups (e.g., adolescents, middle-aged adults, or older populations). The sample may also lack diversity in terms of socioeconomic status, ethnicity, and geographic background, which can affect how gym attendance impacts stress and self-esteem.

Cross-Sectional Design: The study employed a cross-sectional design, meaning data were collected at one point in time. This limits the ability to establish causal relationships between gym attendance and stress/self-esteem. It cannot be determined whether attending the gym reduces stress and increases self-esteem, or if those with lower stress and higher self-esteem are more likely to engage in regular gym activity.

Uncontrolled Confounding Variables: The study did not account for other potential factors that could influence stress levels and self-esteem, such as: Socioeconomic status, dietary habits, sleep quality, work/school stress, or mental health conditions. These confounders could have impacted the results and weakened the internal validity of the findings.

Limited Methodology in Assessing Physical Activity: The study only used one question to assess gym attendance, but exercise type (e.g., strength training vs. cardio), motivation, and personal fitness goals were not considered. Future studies should measure physical activity in more detail (e.g., exercise logs, fitness trackers) to provide a more comprehensive understanding of exercise's impact.

5.2 Future Implications

Future research can build upon this study in several important ways:

Longitudinal Research: Conducting longitudinal studies would allow researchers to track changes in perceived stress and self-esteem over time, establishing a clearer cause-effect relationship.

Detailed Gym Attendance Measures: Future studies should include more detailed questions regarding frequency (times per week), duration (minutes per session), and type of exercise (cardio, strength training, etc.) to better understand the specific elements of physical activity that influence emotional well-being.

Diverse Populations: Expanding the sample to include different age

groups, cultural backgrounds, or people with specific physical or psychological conditions would enhance the applicability of the findings.

Intervention Studies: Designing interventions where non-gym-goers are encouraged to start regular gym routines could provide stronger causal evidence of the benefits observed.

Broader Well-being Measures: Including additional psychological variables like anxiety, depression, life satisfaction, and resilience could provide a more comprehensive picture of the effects of regular physical activity.

6. Conclusion

This study investigated the relationship between regular gym attendance, perceived stress, and self-esteem among young adults. The results indicated that individuals who attend the gym regularly tend to experience lower levels of stress and report higher self-esteem. These findings reinforce the idea that physical activity serves as a protective factor for mental health and psychological well-being in emerging adulthood. Regular gym engagement not only promotes physical health but also cultivates positive psychological outcomes, including a stronger self-concept and improved ability to cope with stress. Thus, incorporating physical activity into daily routines can be an effective non-pharmacological strategy for managing stress and fostering self-worth in young adults. Overall, the study concludes that promoting regular exercise habits among young adults could serve as a preventive and supportive strategy for enhancing mental health.

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