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Comparative Study on Psychological Stress Among Sedentary and Active People

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Abstract---*This study explores the differences in psychological stress levels between sedentary and active individuals, with a sample size of 50 participants in each group. Sedentary behavior is defined as prolonged sitting or low physical activity, while active individuals engage in regular physical exercise. Using standardized psychological stress scales and physical activity questionnaires, this research aims to understand how lifestyle differences impact stress perception and coping mechanisms. The findings will help devise strategies for stress management and promote physical activity as a means of mitigating stress.*

Keywords---*psychological stress, sedentary lifestyle, physical activity, stress management, comparative study*

Introduction

Psychological stress is a growing concern worldwide, impacting both mental and physical health. Numerous factors, including work pressure, lifestyle habits, and social environments, contribute to stress. In recent years, the effects of physical activity on stress have garnered significant attention. Previous studies suggest that active individuals may have lower stress levels due to the physiological and psychological benefits of exercise, while sedentary individuals may be more prone to chronic stress (Penedo & Dahn, 2005).

This research aims to conduct a comparative study to evaluate psychological stress among sedentary and active individuals. By analyzing stress levels in both groups, the study will provide insights into whether regular physical activity serves as a buffer against stress or if other factors are equally significant (Lessiani et al., 2016).

Previous research has demonstrated that physical activity is closely linked to mental health, particularly in reducing anxiety, depression, and stress (Salmon, 2001). According to Biddle & Asare (2011), physical activity promotes the release of endorphins, which are mood-enhancing chemicals that reduce stress and promote a sense of well-being.

On the other hand, sedentary behavior has been associated with higher levels of stress and poor mental health outcomes. Studies indicate that prolonged inactivity can lead to negative psychological states due to a lack of physical stimulation, which can exacerbate stress-related symptoms (Teychenne et al., 2010).

Methodology

Research Design: A cross-sectional comparative study design was used to measure psychological stress levels in both sedentary and active participants. The sample consisted of 100 participants, divided into two groups:

Sedentary group: 50 participants who engage in less than 150 minutes of moderate physical activity per week.

Active group: 50 participants who engage in more than 150 minutes of moderate-to-vigorous physical activity per week.

Participants were recruited through local fitness centers, workplaces, and online platforms. Consent was obtained from all participants before inclusion in the study. **Data Collection Tools:** This widely used psychological instrument was used to measure participants' perception of stress over the past month (Cohen et al., 1983).

International Physical Activity Questionnaire (IPAQ): The IPAQ was used to categorize participants into sedentary and active groups based on self-reported activity levels. To collect basic information such as age, gender, occupation, and medical history.

Data Analysis

Data were analyzed using statistical software (SPSS). The mean stress scores for both sedentary and active groups were compared using independent t-tests. Additionally, Pearson's correlation was used to examine the relationship between physical activity levels and perceived stress.

Results

The findings revealed a significant difference in perceived stress levels between the sedentary and active groups. The average stress score for the sedentary group was 24.7 (SD = 5.6), indicating moderate stress levels. The average stress score for the active group was 18.4 (SD = 4.1), indicating lower stress levels. An independent t-test showed that the difference in stress levels between the two groups was statistically significant ($p < 0.01$), suggesting that physical activity may play a role in reducing perceived stress. A Pearson's correlation analysis showed a moderate negative correlation ($r = -0.45$, $p < 0.01$) between physical activity levels and stress, indicating that as physical activity increases, perceived stress decreases.

Discussion

The findings support previous research suggesting that physical activity is linked to lower levels of psychological stress (Gerber & Pühse, 2009). The sedentary group reported significantly higher stress levels, which could be attributed to the absence of regular physical activity and the potential negative effects of prolonged inactivity, such as poor mood regulation and reduced stress tolerance.

The active group, on the other hand, demonstrated lower levels of stress, likely benefiting from the psychological and physiological benefits of exercise, such as improved mood, increased energy levels, and the ability to cope with stressors more effectively (Hogh et al., 2012).

However, while physical activity may mitigate stress, other factors such as work-life balance, social support, and sleep quality also play critical roles in stress management. Future research could explore these factors in greater detail to understand their combined impact on stress levels.

Conclusion

This comparative study highlights the significant differences in psychological stress levels between sedentary and active individuals. Active individuals consistently reported lower stress levels, reinforcing the idea that regular physical activity is a protective factor against psychological stress. Given the rising rates of sedentary behavior in modern society, promoting physical activity could be a viable strategy for improving mental health and reducing stress.

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