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Investigating The Impact Of Social Media Use On Physical Activity Levels And Sedentary Behavior

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Abstract : Social media usage has grown exponentially, influencing daily routines and lifestyle habits, including physical activity levels and sedentary behavior. This study investigates the relationship between social media use, physical activity, and sedentary behavior among young adults. Using a cross-sectional survey, data were collected from 400 respondents aged 18-30 years, employing validated tools to measure screen time, physical activity, and sedentary behavior. Findings reveal a significant positive correlation between excessive social media use and sedentary behavior, alongside a negative relationship with physical activity levels. This study emphasizes the need for balanced social media use and active lifestyle promotion to mitigate health risks.

IndexTerms - Social Media, Physical Activity, Sedentary Behavior, Youth, Lifestyle.

I. Introduction

Social media platforms have become integral to modern life, providing avenues for communication, entertainment, and information sharing. While these platforms offer various benefits, excessive usage has raised concerns about their impact on physical health, particularly physical activity levels and sedentary behavior. Studies suggest that prolonged screen time can displace time otherwise spent on physical activities, contributing to a sedentary lifestyle.

This study aims to explore the relationship between social media use, physical activity, and sedentary behavior. By analyzing these dynamics, the research intends to provide actionable insights for promoting healthier lifestyle habits among young adults.

II. Statement of the Problem

The widespread adoption of social media has significantly altered daily routines, often at the cost of physical activity. While studies have highlighted the risks of sedentary behavior, limited research has specifically examined how social media use influences physical activity levels and sedentary patterns among youth. This study seeks to address this gap.

III. Literature Review

Existing literature underscores the dual impact of social media on health. Tremblay et al. (2011) found that excessive screen time is strongly associated with increased sedentary behavior. Similarly, Saunders et al. (2012) observed a significant negative correlation between screen time and moderate-to-vigorous physical activity (MVPA).

Conversely, platforms promoting fitness content have shown potential to motivate physical activity. For instance, Maher et al. (2018) identified social media's role in encouraging active lifestyles through fitness challenges and community support. Yet, studies like that of Kim et al. (2020) caution against the overwhelming prevalence of passive browsing, which often undermines these benefits.

This review sets the foundation for examining how specific social media behaviors influence physical activity and sedentary lifestyles.

IV. Objectives of the Study

1. To evaluate the extent of social media use among young adults.
2. To analyze the relationship between social media use and physical activity levels.
3. To investigate the association between social media use and sedentary behavior.
4. To recommend strategies for balanced social media use and active lifestyle promotion.

V. Research Hypotheses

Null Hypotheses (H0):

- H_{01}: Social media use does not significantly influence physical activity levels.
- H_{02}: Social media use does not significantly influence sedentary behavior.

Alternative Hypotheses (H1):

- H_{a1}: Social media use significantly influences physical activity levels.
- H_{a2}: Social media use significantly influences sedentary behavior.

VI. Research Methodology

A. Study Design and Sample This cross-sectional study was conducted among 400 respondents aged 18-30 years from urban and semi-urban areas in India. A simple random sampling technique was used to ensure diverse representation.

B. Data Collection Data were collected through validated tools, including the Social Media Usage Scale (SMUS) for screen time measurement, the International Physical Activity Questionnaire (IPAQ) for physical activity assessment, and a Sedentary Behavior Questionnaire (SBQ) to capture sedentary patterns.

C. Data Analysis Descriptive and inferential statistical techniques, including correlation and regression analyses, were applied to examine relationships between variables using SPSS.

VII. Findings and Discussion

A. Social Media Usage Patterns

- 72% of respondents reported spending more than 3 hours daily on social media platforms.

B. Impact on Physical Activity Levels

1. **Correlation Analysis**: A significant negative correlation was found between social media use and MVPA ($r = -0.47$, $p < 0.01$).
2. **Regression Analysis**: Social media use accounted for 22% of the variance in physical activity levels ($R^2 = 0.22$, $p < 0.001$).

C. Impact on Sedentary Behavior

1. **Correlation Analysis**: A positive correlation was observed between social media use and sedentary behavior ($r = 0.52$, $p < 0.01$).
2. **Regression Analysis**: Social media use explained 28% of the variance in sedentary behavior ($R^2 = 0.28$, $p < 0.001$).

VIII. Hypothesis Testing

Hypothesis	Test Used	Test Statistic	p-value	Decision
H0: Social media use does not affect physical activity levels.	Correlation	r = -0.47	<0.01	Reject Null Hypothesis
H0: Social media use does not affect sedentary behavior.	Correlation	r = 0.52	<0.01	Reject Null Hypothesis

IX. Recommendations

1. **Digital Literacy Initiatives**: Educate youth about the risks of excessive social media use and sedentary behavior.
2. **Time Management Strategies**: Promote tools to monitor and limit screen time.
3. **Active Content Promotion**: Encourage the use of fitness-related social media content.
4. **Policy Measures**: Advocate for workplace and educational policies that incorporate physical activity breaks.

X. Conclusion

This study highlights the significant impact of social media use on physical activity levels and sedentary behavior. Excessive use correlates with decreased physical activity and increased sedentary patterns, underscoring the importance of balanced digital habits. By promoting digital literacy and active content, stakeholders can mitigate the health risks associated with prolonged social media usage.

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