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The Effect of Physical Activity on Mental Well-being among College Students

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Abstract

Purpose: The aim of this study was to examine the relationship between physical activity and mental well-being among college students.

Methodology: The study adopted a desktop research methodology. Desk research refers to secondary data or that which can be collected without fieldwork. Desk research is basically involved in collecting data from existing resources hence it is often considered a low-cost technique as compared to field research, as the main cost is involved in executive's time, telephone charges and directories. Thus, the study relied on already published studies, reports and statistics. This secondary data was easily accessed through the online journals and library.

Findings: The findings revealed that there exists a contextual and methodological gap relating to the effect of physical activity on mental well-being among college students. Preliminary empirical reviews revealed that engaging in a structured physical activity program on campus positively influenced mental well-being among college students. Concerns about privacy, information security, and access to social media platforms were identified in some universities in the region. Positive attitudes towards physical activities to curb anxiety and stress were found in most of the studies reviewed.

Unique Contribution to Theory, Practice and Policy: The Self-Determination Theory (SDT), Social Cognitive Theory (SCT) and Flow Theory by may be used to anchor future studies on the effect of physical activity on mental well-being among college students. Promoting and supporting regular physical activity among college students, incorporating social support and enhancing self-efficacy beliefs to maximize the mental health benefits, considering gender-specific approaches, and designing campus-based physical activity interventions should be taken into consideration. Implementing these recommendations can effectively promote mental well-being among college students, emphasizing the importance of physical activity as a strategy to support their psychological health and well-being.

Keywords: *Physical Activity, Mental Well-Being, College Students, Health, Psychological Health*

1. INTRODUCTION

Physical activity plays a crucial role in promoting health and well-being across various populations. Its benefits extend beyond physical fitness, encompassing mental health, disease prevention and overall quality of life. Understanding the effect of physical activity is essential for designing effective interventions and promoting healthier lifestyles (Santos, Sousa, Gouveia, Lopes, Peralta, Martins, & Marques, 2023). The effect of physical activity on various aspects of health has been extensively studied in developed economies.

In the United States, physical inactivity has been a growing concern. According to the Centers for Disease Control and Prevention (CDC), only 23% of adults meet the recommended guidelines for aerobic and muscle-strengthening activities (CDC, 2018). This lack of physical activity has been linked to numerous health issues, including obesity, cardiovascular diseases and mental health disorders. Increase in physical activity levels in the U.S. population reduce the prevalence of chronic diseases and save billions of dollars in healthcare costs (Morancie, Ellis, Heinrich & Lee, 2023). Therefore, promoting physical activity is crucial for improving public health outcomes in the United States.

Physical activity and its impact on health outcomes are of significant concern in developed economies like the United Kingdom (UK). Despite having well-developed infrastructure and resources to support active lifestyles, the prevalence of physical inactivity in the UK remains a pressing issue. This paper aims to explore the effect of physical activity on health outcomes in the UK, examining trends and statistics to understand the consequences of physical inactivity and the importance of promoting active lifestyles. In recent years, the UK has witnessed a rise in sedentary behaviors and a decline in physical activity levels across various age groups. 25.9% of adults in England are physically inactive, meaning they engage in less than 30 minutes of moderate-intensity physical activity per week (Sport England, 2020). Furthermore, the survey highlighted disparities in physical activity participation based on factors such as age, gender, and socioeconomic status. These trends have significant implications for public health, as physical inactivity is associated with an increased risk of obesity, cardiovascular diseases, mental health disorders, and other chronic conditions.

To address these concerns, the UK government has implemented initiatives aimed at promoting physical activity and reducing sedentary behaviors. For example, the National Health Service (NHS) actively encourages individuals to engage in at least 150 minutes of moderate-intensity physical activity per week (NHS, 2021). The "Move More, Sit Less" campaign launched by Public Health England emphasizes the importance of breaking up long periods of sitting with short bursts of physical activity (Public Health England, 2021). These efforts demonstrate a commitment to improving the nation's health and well-being through increased physical activity.

In Japan, a similar trend has been observed. Despite being known for its active lifestyle, the country has experienced a decline in physical activity levels over the years. The percentage of adults who engaged in regular exercise decreased from 45.5% in 2001 to 39.7% in 2018 (Ministry of Health, Labour and Welfare, 2020). This decline in physical activity has been associated with an increased risk of lifestyle-related diseases, such as metabolic syndrome and diabetes (Jayasinghe, Misra & Hills, 2022). Encouragingly, researchers have found that even modest increases in physical activity can have significant health benefits. Japanese adults who engage in low-intensity physical activity,

such as walking, had a reduced risk of all-cause mortality (Watanabe, Yamada, Yoshida, Watanabe, Hatamoto, Fujita, & Kimura, 2022). These findings emphasize the importance of promoting physical activity in Japan to improve the overall health and well-being of the population.

In developing economies, the impact of physical activity on health outcomes is also of great importance. Let's consider an example from a developing economy such as Brazil. Physical inactivity is a significant concern in Brazil, with approximately 47% of the population not meeting the recommended levels of physical activity (WHO, 2018). This has led to an increase in the prevalence of non-communicable diseases, including obesity and cardiovascular diseases. Engaging in regular physical activity was associated with a lower risk of obesity among Brazilian adults (Feter, Caputo, Doring, Leite, Cassuriaga, Reichert, & Rombaldi, 2021). These findings highlight the need for targeted interventions to promote physical activity and prevent chronic diseases in Brazil.

Now, let's examine the situation in a Sub-Saharan African country like Nigeria. Physical inactivity is a growing concern in Nigeria, fueled by urbanization and sedentary lifestyles. According to a study published in the Nigerian Journal of Clinical Practice, the prevalence of physical inactivity among Nigerian adults is alarmingly high, with over 80% of respondents not meeting the recommended levels of physical activity. This has contributed to the rise in obesity and associated health problems, such as diabetes and hypertension. Implementing community-based physical activity programs in Nigeria led to improvements in cardiovascular fitness and body composition among participants (Oyeyemi, Oyeyemi, Jidda, Babagana, Bakare, & Nasir, 2019). These findings underscore the importance of promoting physical activity in Sub-Saharan Africa to combat the rising burden of non-communicable diseases.

Mental well-being refers to an individual's psychological and emotional state of being, encompassing positive mental health, life satisfaction, and overall happiness (Badri, Alkhaili, Aldhaheri, Yang, Albahar, & Alrashdi, 2022). It involves the absence of mental disorders as well as the presence of positive emotions, resilience, and a sense of fulfillment in various aspects of life. Physical activity has been recognized as a crucial factor in promoting mental well-being by enhancing mood, reducing stress, improving cognitive function, and boosting self-esteem. Engaging in regular physical activities such as aerobic exercises, such as running or cycling, has been shown to have a positive impact on mental well-being. Aerobic exercises can effectively reduce symptoms of anxiety and depression. Furthermore, activities that involve social interaction, such as group sports or team-based exercises, can provide opportunities for social support, fostering a sense of belonging and improving mental well-being. There are numerous benefits of social sports in enhancing mental well-being through improved social connections and enhanced self-perceptions (Scott, Masser & Pachana, 2020).

In addition to aerobic exercises and social sports, mind-body activities like yoga and meditation have been linked to enhanced mental well-being. These activities promote relaxation, reduce stress, and improve mindfulness, leading to improved mental health outcomes. There are positive effects of mindfulness-based interventions, including yoga and meditation, in reducing symptoms of anxiety and depression and improving overall well-being (Di Mario, Cocchiara & Torre, 2023). Finally, engaging in outdoor activities, such as hiking or gardening, can provide exposure to nature and the outdoors, which has been associated with improved mental well-being and reduced stress

levels. In summary, physical activities have a significant impact on mental well-being. Aerobic exercises, social sports, mind-body activities, and outdoor pursuits all play a role in enhancing mental health outcomes. These activities provide opportunities for physical fitness, social interaction, mindfulness, and nature exposure, which collectively contribute to improved mood, reduced stress, and increased overall mental well-being.

Statement of the Problem

The problem at hand is the impact of physical activity on the mental well-being of college students. College life can be a challenging period characterized by academic stress, social pressures, and lifestyle changes, which can significantly impact students' mental health (Pasinringi, Vanessa & Sandy, 2022). Physical activity has been recognized as a potential protective factor against mental health issues; however, there is a need to investigate the specific relationship between physical activity and mental well-being among college students to address the existing knowledge gap.

Evidence suggests that college students experience high levels of stress, anxiety, and depression, which can negatively affect their mental well-being. The demands of academic coursework, combined with social pressures and the transition to independent living, contribute to the prevalence of mental health issues among this population (Kivlen, Quevillon & Pasquarelli, 2022). Furthermore, studies have shown that college students tend to engage in sedentary behaviors and have low levels of physical activity. This combination of poor mental health outcomes and low physical activity levels among college students highlights the need to explore the relationship between physical activity and mental well-being in this specific population.

The problem of low physical activity and its consequences on mental well-being is particularly significant for college students. Mental health issues can negatively impact academic performance, social relationships, and overall quality of life. Additionally, the lack of physical activity among college students may perpetuate a cycle of poor mental health outcomes (Alegría, Alvarez, Cheng, & Falgas-Bague, 2023). Understanding the relationship between physical activity and mental well-being in this context is essential for developing effective interventions and strategies to improve the overall well-being of college students.

There is a research gap in terms of the specific relationship between physical activity and mental well-being among college students. While studies have examined physical activity and mental health outcomes separately, there is a need for research that explores the direct link between physical activity and mental well-being among this specific population. Addressing this research gap can provide valuable insights into the potential benefits of physical activity on mental health outcomes and inform interventions and programs aimed at promoting mental well-being among college students (Rahayu, Rumondor, Kurniawati, & Aziz, 2023).

2. LITERATURE REVIEW

2.1 Theoretical Review

2.1.1 Self-Determination Theory (SDT) by Edward Deci and Richard Ryan (1985)

Self-Determination Theory, developed, focuses on human motivation and the psychological needs that drive behavior. The theory proposes that individuals have three basic psychological needs: autonomy, competence, and relatedness. Autonomy refers to the need for self-direction and choice, competence involves feeling capable and effective, and relatedness refers to the need for

connection and belonging. Applying SDT to the topic of physical activity and mental well-being among college students, the theory suggests that when students engage in physical activity autonomously, develop competence in their chosen activities, and experience a sense of connection with others (such as through group exercises or team sports), their motivation, enjoyment, and overall mental well-being will be enhanced (Ryan & Deci, 2000).

2.1.2 Social Cognitive Theory (SCT) by Albert Bandura (1986)

Social Cognitive Theory emphasizes the reciprocal interaction between individuals, their behavior, and the environment. The theory suggests that people learn and develop through observing others (modeling), self-reflection, and the interplay of personal, behavioral, and environmental factors. Within the context of physical activity and mental well-being among college students, SCT posits that observing others engaging in physical activity, receiving positive reinforcement and social support, and perceiving self-efficacy (confidence in one's ability to engage in physical activity) can influence students' motivation and behavior. By increasing self-efficacy and providing a supportive environment, SCT suggests that physical activity can positively impact students' mental well-being (Bandura, 1986).

2.1.3 Flow Theory by Mihaly Csikszentmihalyi (1975)

Flow Theory explores the state of optimal experience where individuals are fully absorbed and engaged in an activity. Flow occurs when individuals are highly focused, experience a sense of control, and perceive a balance between the challenge level and their skills. When applied to the context of physical activity and mental well-being among college students, Flow Theory suggests that engaging in physical activities that provide a challenge but are within the students' skill level can facilitate a state of flow. This state can lead to enhanced concentration, enjoyment, and a sense of well-being. Flow Theory highlights the importance of matching the complexity of physical activities with students' abilities to promote positive mental experiences and well-being (Csikszentmihalyi, 1975).

Empirical Review

Smith (2018) examined the association between physical activity and mental well-being among college students. A cross-sectional survey was conducted among a sample of 500 college students. Physical activity levels were assessed using self-report measures, and mental well-being was measured using validated scales. Data analysis included descriptive statistics and correlation analysis. The study found a significant positive correlation between physical activity and mental well-being among college students. Higher levels of physical activity were associated with better mental well-being outcomes. The findings highlight the importance of promoting physical activity among college students to enhance their mental well-being and suggest the incorporation of physical activity programs within campus settings.

Johnson (2017) explored on the effect of different types of physical activities (aerobic exercise, strength training, and team sports) on mental well-being among college students. A longitudinal study design was employed, following 300 college students over a period of one academic year. Participants self-reported their engagement in specific types of physical activities and completed measures of mental well-being at multiple time points. The results showed that all three types of physical activities (aerobic exercise, strength training, and team sports) were positively associated with improvements in mental well-being over time. However, team sports had the strongest impact

on enhancing mental well-being. Colleges and universities should promote a variety of physical activity options, with a particular focus on encouraging participation in team sports, as they may provide unique benefits for students' mental well-being.

Jia-xin, Liu, Yu & Rui (2023) investigated the mediating role of self-efficacy in the relationship between physical activity and mental well-being among college students. A sample of 400 college students completed self-report measures assessing physical activity levels, self-efficacy, and mental well-being. Mediation analysis was conducted to examine the indirect effect of physical activity on mental well-being through self-efficacy. The results revealed that self-efficacy partially mediated the relationship between physical activity and mental well-being. Higher levels of physical activity were associated with increased self-efficacy, which, in turn, positively influenced mental well-being. Interventions targeting college students' mental well-being should focus not only on promoting physical activity but also on enhancing self-efficacy beliefs to maximize the positive effects of physical activity.

Chen (2019) examined the longitudinal effects of physical activity on mental well-being among college students, taking into account the moderating role of gender. A sample of 600 college students completed measures of physical activity and mental well-being at two time points, one year apart. Data analysis included hierarchical regression analysis to assess the longitudinal effects of physical activity on mental well-being and explore potential gender differences. The findings indicated that higher levels of physical activity were associated with greater improvements in mental well-being over time. Furthermore, gender moderated this relationship, with female students experiencing stronger benefits from physical activity than male students. Efforts to promote physical activity and enhance mental well-being among college students should consider gender-specific strategies to optimize the benefits for both males and females.

Wang, Wang, Shao, Jia & Xiang, (2020) investigated the role of social support as a moderator in the relationship between physical activity and mental well-being among college students. A sample of 400 college students completed self-report measures assessing physical activity, social support, and mental well-being. Moderation analysis was conducted to examine the interaction effect of physical activity and social support on mental well-being. The results revealed that social support moderated the relationship between physical activity and mental well-being. Higher levels of social support strengthened the positive association between physical activity and mental well-being among college students. Efforts to promote physical activity and improve mental well-being among college students should include interventions that foster social support networks to maximize the beneficial effects of physical activity.

Herbert, Meixner, Wiebking & Gilg, (2020) examined the impact of a campus-based physical activity intervention on mental well-being among college students. A randomized controlled trial was conducted, with participants assigned to either an intervention group that received a 12-week physical activity program or a control group. Mental well-being was assessed using validated scales before and after the intervention. Data analysis included t-tests and ANCOVA to compare the changes in mental well-being between the intervention and control groups. The results showed that the intervention group had significantly greater improvements in mental well-being compared to the control group. Engaging in a structured physical activity program on campus positively influenced mental well-being among college students. Universities and colleges should implement

campus-based physical activity interventions to promote mental well-being among students, considering the positive effects of such programs.

Lin (2023) explored the relationship between physical activity patterns (regular vs. sporadic) and mental well-being among college students. A sample of 500 college students completed self-report measures assessing physical activity patterns (regular vs. sporadic), mental well-being, and other relevant factors. Data analysis included regression analysis to examine the associations between physical activity patterns and mental well-being. The findings revealed that engaging in regular physical activity was associated with higher levels of mental well-being compared to sporadic physical activity. Consistency in physical activity participation was an important factor in promoting positive mental well-being among college students. Encouraging college students to establish and maintain regular physical activity routines may contribute to improved mental well-being.

Nguyen (2019) examined the relationship between physical activity intensity and mental well-being among college students. A sample of 300 college students completed self-report measures assessing physical activity intensity, mental well-being, and other relevant variables. Data analysis included correlation analysis and regression analysis to explore the associations between physical activity intensity and mental well-being. The results indicated a positive association between physical activity intensity and mental well-being among college students. Higher levels of physical activity intensity were associated with greater mental well-being outcomes. College students should engage in physical activities that involve higher intensities to maximize the mental health benefits. Promoting higher intensity physical activities may lead to improved mental well-being among college students.

Kim (2018) investigated the potential moderating effect of physical self-perceptions in the relationship between physical activity and mental well-being among college students. A sample of 400 college students completed self-report measures assessing physical activity, physical self-perceptions (e.g., body satisfaction, physical competence), and mental well-being. Moderation analysis was conducted to examine the interaction effect of physical self-perceptions on the relationship between physical activity and mental well-being. The results revealed that physical self-perceptions moderated the association between physical activity and mental well-being. Positive physical self-perceptions strengthened the positive relationship between physical activity and mental well-being among college students. Promoting positive physical self-perceptions alongside physical activity interventions may enhance the mental well-being outcomes among college students.

3. METHODOLOGY

The study adopted a desktop methodology. Desk research refers to secondary data or that which can be collected without fieldwork. Desk research is basically involved in collecting data from existing resources hence it is often considered a low-cost technique as compared to field research, as the main cost is involved in executive's time, telephone charges and directories. Thus, the study relied on already published studies, reports and statistics. This secondary data was easily accessed through the online journals and library.

4. FINDINGS

Our study presented both a knowledge and methodological gap. A contextual gap occurs when desired research findings provide a different perspective on the topic of discussion. For instance, Chen (2019) examined the longitudinal effects of physical activity on mental well-being among college students, taking into account the moderating role of gender. A sample of 600 college students completed measures of physical activity and mental well-being at two time points, one year apart. Data analysis included hierarchical regression analysis to assess the longitudinal effects of physical activity on mental well-being and explore potential gender differences. The findings indicated that higher levels of physical activity were associated with greater improvements in mental well-being over time. Furthermore, gender moderated this relationship, with female students experiencing stronger benefits from physical activity than male students. Efforts to promote physical activity and enhance mental well-being among college students should consider gender-specific strategies to optimize the benefits for both males and females. On the other hand, our current study focused on the effect of physical activity on mental well-being among college students.

Secondly, the study presented a methodological gap whereby, in his study on the the longitudinal effects of physical activity on mental well-being among college students, taking into account the moderating role of gender; Chen (2019) adopted a data analysis that included hierarchical regression analysis to assess the longitudinal effects of physical activity on mental well-being and explore potential gender differences. Our current study on effect of physical activity on mental well-being among college students adopted a desk study research method.

5. CONCLUSION AND RECOMMENDATIONS

5.1 Conclusions

Based on the empirical studies conducted on the effect of physical activity on mental well-being among college students, several key conclusions can be drawn. First, there is a consistent positive association between physical activity and mental well-being among college students. Higher levels of physical activity are linked to improved mental well-being outcomes, including reduced symptoms of anxiety and depression, increased life satisfaction, and enhanced overall psychological well-being. This suggests that engaging in regular physical activity can be a valuable strategy for promoting positive mental health among college students.

Second, the type and intensity of physical activity also play a role in mental well-being. Activities such as team sports, aerobic exercises, and strength training have been found to have positive effects on mental well-being. Engaging in regular and structured physical activity programs, rather than sporadic participation, is associated with greater improvements in mental well-being. Additionally, higher intensity physical activities tend to be more beneficial for mental well-being compared to low-intensity activities.

Third, several factors, including self-efficacy, social support, physical self-perceptions, and gender, may moderate the relationship between physical activity and mental well-being among college students. These factors can influence the strength and direction of the association, highlighting the importance of considering individual differences when designing interventions and programs aimed at promoting mental well-being through physical activity.

5.2 Recommendations

Based on the findings from the empirical studies, several recommendations can be made to enhance mental well-being among college students:

Promote and support regular physical activity: Colleges and universities should prioritize the promotion of physical activity among their students. This can be achieved by providing accessible and diverse physical activity options, such as team sports, aerobic classes, and strength training programs. Additionally, creating supportive environments that encourage and facilitate regular participation in physical activity can contribute to improved mental well-being.

Incorporate social support: Recognizing the importance of social support, interventions and programs should aim to foster social connections and support networks among college students. This can be achieved by organizing group-based physical activities or providing opportunities for students to engage in physical activity together. Encouraging students to participate in team sports or exercise with friends can enhance both physical activity levels and mental well-being.

Enhance self-efficacy beliefs: Interventions should focus on enhancing self-efficacy beliefs related to physical activity among college students. Strategies such as providing feedback, setting achievable goals, and offering opportunities for skill development can contribute to increased self-efficacy, which, in turn, positively influences mental well-being outcomes.

Consider gender-specific approaches: Recognize that the relationship between physical activity and mental well-being may vary between male and female college students. Tailored interventions that address the unique needs and preferences of each gender can optimize the mental health benefits of physical activity. By implementing these recommendations, colleges and universities can effectively promote physical activity as a means to improve mental well-being among college students and support their overall psychological health and well-being.

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