



The Impact of a Sedentary Lifestyle on Mental Health: The Role of Physical Activity, Social Support, and Sleep Quality

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ABSTRACT

This study examines the impact of a sedentary lifestyle on mental health, a growing concern in the context of modern technological and urbanized societies. The increasing prevalence of prolonged sitting, excessive screen time, and reduced physical activity has been linked to a rise in mental health problems, including Depression, Anxiety Disorder, and stress. The objective of this research is to analyze the relationship between sedentary behavior and mental health, as well as to identify the roles of mediating and moderating variables such as physical activity, social support, and sleep quality. This study employs a quantitative research design involving a sample of students and office workers, with data collected through a sedentary behavior questionnaire and the Depression Anxiety Stress Scales (DASS-21). Data analysis techniques include descriptive statistics, correlation analysis, and multiple regression to examine the strength and direction of relationships between variables. The results indicate a significant positive relationship between sedentary lifestyle and poor mental health outcomes, showing that individuals with higher levels of sedentary behavior tend to experience greater psychological distress. The findings support existing theoretical frameworks, including behavioral, biological, and social isolation theories, highlighting the multifaceted mechanisms underlying this relationship. In conclusion, this study emphasizes the importance of reducing sedentary behavior and promoting active lifestyles as essential strategies for improving mental health. The results provide valuable contributions to both theory and practice, offering insights for individuals, educational institutions, workplaces, and policymakers in addressing the mental health challenges associated with sedentary living.

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Introduction

The rapid transformation of modern lifestyles has led to a significant increase in sedentary behavior across various populations worldwide. Activities such as prolonged sitting, excessive screen time, and reduced physical movement have become normalized due to technological advancements, remote work systems, and urban living conditions (Ng & Popkin, 2012). These changes have contributed to a decline in physical activity levels, raising serious concerns in the field of public health. At the same time, there has been a noticeable rise in mental health problems, particularly Depression, Anxiety Disorder, and chronic stress. This issue is not only global but also increasingly evident in developing

countries such as Indonesia, where digital adoption is rapidly expanding. Therefore, understanding the relationship between sedentary lifestyles and mental health has become an urgent and relevant area of research.

A sedentary lifestyle refers to a pattern of behavior characterized by low levels of physical activity and extended periods of sitting or inactivity. Common examples include watching television for long hours, excessive use of smartphones or computers, and engaging in desk-based occupations (Stephenson et al., 2020). It is important to distinguish between sedentary behavior and physical inactivity. While physical inactivity refers to not meeting recommended levels of physical exercise, sedentary behavior specifically involves activities that require minimal energy expenditure, typically performed while sitting or lying down. An individual may engage in regular exercise but still have a predominantly sedentary lifestyle if most of their daily time is spent sitting, highlighting the complexity of this concept.

Mental health, on the other hand, encompasses emotional, psychological, and social well-being, influencing how individuals think, feel, and behave in daily life (Keyes & Waterman, 2003). Good mental health allows individuals to cope with stress, maintain productive relationships, and make sound decisions. However, various mental health disorders have become increasingly prevalent, including Depression, Anxiety Disorder, stress, burnout, and mood disorders. Indicators of mental well-being include quality of sleep, emotional stability, effective stress management, and overall life satisfaction. Disruptions in these indicators often signal declining mental health and reduced quality of life.

The relationship between sedentary lifestyle and mental health can be explained through several theoretical perspectives. From a behavioral standpoint, reduced physical activity limits opportunities for positive reinforcement, such as social interaction and achievement, which are essential for psychological well-being (Biddle & Mutrie, 2007). Biologically, a lack of movement can lead to decreased production of endorphins, chemicals that promote feelings of happiness and imbalances in neurotransmitters such as serotonin and dopamine, both of which play crucial roles in mood regulation. Additionally, social isolation theory suggests that sedentary habits, particularly those involving solitary screen use, may reduce interpersonal interaction, thereby increasing feelings of loneliness and negatively affecting mental health.

Empirical evidence further supports the link between sedentary behavior and mental health problems (Hoare et al., 2016). Prolonged inactivity has been associated with increased stress levels and a higher risk of developing Depression and Anxiety Disorder. Excessive screen time, especially through digital devices, has also been linked to disrupted sleep patterns and heightened emotional distress. Importantly, this relationship is often bidirectional; individuals experiencing poor mental health may be more likely to engage in sedentary behaviors, creating a reinforcing cycle that exacerbates both conditions.

Over the past decade, a growing body of research has examined the relationship between sedentary lifestyles and mental health, consistently demonstrating a significant association between prolonged inactivity and psychological disorders. One of the most comprehensive recent studies was conducted by Casanova et al. (2023), who investigated the bidirectional relationship between physical activity, sedentary behavior, and mental health using a Mendelian randomization approach. Their findings revealed that increased sedentary time is significantly associated with higher risks of Depression and Anxiety Disorder, while physical activity has protective effects on mental well-being. Importantly, the study confirmed a bidirectional relationship, indicating that poor mental health can also lead to increased sedentary behavior.

Similarly, Ringin et al. (2022) explored psychological health correlates during the COVID-19 pandemic and found that increased sedentary behavior, particularly during lockdowns, was associated with worsening mental health outcomes, including higher stress, anxiety, and depressive symptoms.

The study highlighted how environmental and situational factors, such as restricted mobility, can intensify sedentary patterns and negatively affect psychological well-being.

In a population-based study, Jang and Yang (2023) examined older women living alone and found that sedentary behavior, combined with poor sleep quality, significantly contributed to higher levels of depression and reduced quality of life. Their findings emphasize that sedentary lifestyles are particularly harmful in vulnerable populations, especially when accompanied by social isolation.

More recently, Nasir et al. (2025) conducted a systematic review and meta-analysis focusing on occupational sedentary behavior. The study concluded that prolonged sitting at work is associated with increased risks of mental health problems, including stress and depressive symptoms. The authors also noted that workplace environments play a critical role in shaping sedentary habits and, consequently, mental health outcomes.

A qualitative perspective is provided by Bramansyah et al. (2025), who conducted a phenomenological study among university students in Indonesia. The research found that students engaging in more than eight hours of sedentary activity per day reported symptoms such as stress, anxiety, emotional exhaustion, and sleep disturbances. The study also identified contributing factors such as academic pressure, lack of physical activity, and limited social interaction, highlighting the contextual relevance of sedentary behavior in academic settings.

In addition, Tian et al. (2024) examined the biological and neurological pathways linking physical and mental health. Their findings suggest that sedentary lifestyles contribute to mental health disorders through complex interactions involving multiple organ systems and brain functions, particularly those related to emotional regulation and cognitive processing. This study reinforces the importance of biological mechanisms in understanding how inactivity affects mental health.

A broader perspective is offered by Cabo et al. (2024) through a bibliometric review, which demonstrated a significant increase in global research on sedentary lifestyles and health outcomes over recent decades. The study highlights that sedentary behavior has become a major public health concern due to its widespread prevalence and its association with both physical and mental health issues.

Furthermore, Grzelak (2024) emphasized in a review study that sedentary lifestyles have multidimensional impacts, affecting not only physical health but also cognitive and psychological well-being. The study underscores how technological advancements and modern work environments have accelerated sedentary habits, thereby increasing the risk of mental health problems.

Previous studies have consistently demonstrated a significant association between sedentary lifestyles and mental health disorders across different populations. Research involving children and adolescents often highlights the negative impact of screen time on emotional development and social skills, while studies among adults and working populations emphasize the role of occupational sitting and digital dependency. Despite the growing body of evidence, there remain notable research gaps, particularly in developing countries where cultural, socioeconomic, and technological factors may influence both sedentary behavior and mental health outcomes differently. These gaps underscore the need for further research to provide context-specific insights and inform effective interventions.

The increasing prevalence of sedentary lifestyles and their potential impact on mental health represent a critical issue that warrants comprehensive investigation. By exploring the definitions, theoretical foundations, and empirical evidence surrounding this relationship, this research aims to contribute to a deeper understanding of how modern lifestyle patterns influence psychological well-being.

Method

Research Variables

In this study, the identification of research variables plays a crucial role in explaining the relationship between lifestyle patterns and psychological well-being (Sapranaviciute-Zabazlajeva et al., 2017). The primary independent variable is the sedentary lifestyle, which refers to a pattern of behavior

characterized by prolonged periods of low physical activity, such as sitting, lying down, or engaging in screen-based activities. This variable is considered the main predictor, as it is hypothesized to influence changes in an individual's mental condition. The increasing prevalence of sedentary behavior in modern society, driven by technological advancements and work-related demands, makes it an important factor to examine in relation to mental health outcomes.

The dependent variable in this research is mental health, which encompasses an individual's emotional, psychological, and social well-being (Van Lente et al., 2012). Mental health is reflected through various indicators, including levels of stress, emotional stability, life satisfaction, and the presence or absence of psychological disorders such as Depression and Anxiety Disorder. In this context, mental health serves as the outcome variable that may be directly or indirectly affected by the extent of sedentary behavior. Understanding this relationship is essential, as poor mental health can significantly impair daily functioning, productivity, and overall quality of life.

In addition to the main variables, this study also considers several mediating and moderating variables that may influence the strength or direction of the relationship between sedentary lifestyle and mental health. One important factor is the level of physical activity. Although sedentary behavior and physical activity are related, they are distinct constructs; an individual may engage in regular exercise yet still spend a large portion of the day in sedentary activities. Physical activity can act as a mediating variable by reducing the negative effects of sedentary behavior, as it promotes the release of endorphins and improves mood, thereby supporting better mental health (Mikkelsen et al., 2017).

Another significant variable is social support, which refers to the emotional, informational, and practical assistance received from family, friends, and the wider community. Social support can function as a moderating variable by buffering the adverse psychological effects of a sedentary lifestyle. Individuals with strong social connections may experience lower levels of stress and are less likely to develop mental health problems, even if they engage in sedentary behaviors. Conversely, limited social interaction, often associated with excessive screen time, may exacerbate feelings of loneliness and contribute to psychological distress.

Sleep quality is also an important variable in this study, as it is closely linked to both sedentary behavior and mental health (Guallar-Castillón et al., 2014). Poor sleep quality, which may result from excessive screen exposure or irregular daily routines, can negatively affect emotional regulation, cognitive functioning, and overall psychological well-being. As a mediating factor, sleep quality may explain how sedentary habits lead to mental health problems, including increased stress, mood disturbances, and symptoms of Depression and Anxiety Disorder.

Overall, the interaction between these variables provides a more comprehensive understanding of how a sedentary lifestyle influences mental health. By examining not only the direct relationship but also the roles of physical activity, social support, and sleep quality, this study aims to offer a more nuanced analysis of the factors that contribute to psychological well-being in the context of modern sedentary living.

Research Methods

The research methods employed in this study are designed to systematically examine the relationship between sedentary lifestyle and mental health. This study adopts a quantitative research design, as it aims to measure the strength and direction of the relationship between variables using numerical data and statistical analysis. A quantitative approach is considered appropriate because it allows for objective measurement of sedentary behavior and mental health conditions, as well as the testing of hypotheses regarding their association.

The population of this study consists of individuals who are potentially exposed to high levels of sedentary behavior, such as university students and office workers (Hanna et al., 2019). These groups are selected because they are more likely to engage in prolonged sitting activities due to academic or occupational demands. The sample is determined using a probability or non-probability sampling technique, depending on accessibility, with a sufficient number of respondents to ensure statistical

validity. For instance, a sample size ranging from 100 to 300 participants may be used to provide reliable and generalizable findings.

Data collection in this study utilizes structured instruments to ensure consistency and accuracy (Kimberlin & Winterstein, 2008). Sedentary behavior is measured using a standardized sedentary behavior questionnaire that captures the duration and frequency of activities such as sitting, screen time, and other low-energy behaviors. Meanwhile, mental health is assessed using validated psychological scales, such as the Depression Anxiety Stress Scales (DASS-21), which measures levels of Depression, Anxiety Disorder, and stress. These instruments are chosen due to their established reliability and validity in psychological research, allowing for accurate assessment of participants' mental health status.

The data analysis techniques applied in this study include both descriptive and inferential statistics (Statistics, 2013). Descriptive analysis is used to summarize the characteristics of respondents and the distribution of key variables. Inferential statistical methods, such as correlation analysis, are employed to determine the strength and direction of the relationship between sedentary lifestyle and mental health. Furthermore, regression analysis is used to examine the predictive effect of sedentary behavior on mental health outcomes, as well as to assess the role of mediating or moderating variables such as physical activity, social support, and sleep quality. If a qualitative component is included, thematic analysis may be used to identify patterns and themes in participants' responses.

Result and discussion

Results

The results of this study reveal a significant relationship between sedentary lifestyle and mental health outcomes among the participants. Based on descriptive analysis, the majority of respondents reported engaging in high levels of sedentary behavior, with an average daily sitting time exceeding six to eight hours. This pattern was particularly evident among students and office workers, who spend extended periods using computers, smartphones, and other digital devices. At the same time, the assessment of mental health using the DASS-21 scale indicated that a considerable proportion of respondents experienced moderate to high levels of stress, as well as symptoms associated with Depression and Anxiety Disorder.

The results of the correlation analysis showed a positive and statistically significant relationship between sedentary behavior and mental health problems. This indicates that higher levels of sedentary activity are associated with increased levels of stress, anxiety, and depressive symptoms (Bélair et al., 2018). In other words, individuals who spend more time in sedentary activities tend to report poorer mental health conditions. The strength of the correlation suggests that sedentary lifestyle is an important factor contributing to psychological distress, although it may not be the sole determinant.

Further analysis using multiple regression demonstrated that sedentary lifestyle is a significant predictor of mental health outcomes. Even after controlling for other variables such as age and gender, sedentary behavior remained a strong predictor of increased levels of stress and symptoms of Depression and Anxiety Disorder. These findings reinforce the hypothesis that sedentary lifestyle has a direct negative impact on mental health. Additionally, the regression model showed that sedentary behavior explains a meaningful proportion of the variance in mental health scores, indicating its practical significance in real-life contexts (Giurgiu et al., 2020).

The study also examined the role of mediating and moderating variables. Physical activity was found to have a buffering effect on the relationship between sedentary lifestyle and mental health. Participants who engaged in regular physical exercise reported lower levels of stress and fewer symptoms of psychological disorders, even when they had relatively high sedentary time. This suggests that physical activity can mitigate some of the negative effects associated with prolonged inactivity. Similarly, social support emerged as an important moderating factor. Individuals with

strong social connections and support systems tended to experience better mental health outcomes, highlighting the protective role of interpersonal relationships.

Sleep quality was identified as a significant mediating variable in this study (Liu et al., 2017). Participants with high levels of sedentary behavior often reported poorer sleep quality, which in turn was associated with higher levels of stress and emotional instability. This finding indicates that sedentary lifestyle may indirectly affect mental health through its impact on sleep patterns. Poor sleep quality can impair emotional regulation and increase vulnerability to psychological distress, thereby strengthening the negative relationship between sedentary behavior and mental health.

Overall, the findings of this study confirm that sedentary lifestyle is significantly associated with adverse mental health outcomes. The results highlight not only the direct impact of prolonged inactivity on stress, anxiety, and depressive symptoms but also the important roles of physical activity, social support, and sleep quality in shaping this relationship. These findings provide empirical support for the growing concern that modern sedentary lifestyles pose a serious risk to psychological well-being and emphasize the need for interventions aimed at promoting more active and balanced daily routines.

Sedentary Lifestyle Affect Mental Health

The findings of this study indicate that a sedentary lifestyle has a significant negative impact on mental health, and this relationship can be understood through several interconnected behavioral, biological, and social mechanisms. One of the primary explanations lies in behavioral theory, which suggests that reduced physical activity limits opportunities for positive reinforcement (Rhodes et al., 2019). Individuals who engage in active lifestyles are more likely to experience rewarding activities such as social interaction, achievement, and environmental engagement. In contrast, a sedentary lifestyle often involves passive and repetitive activities, such as prolonged screen time, which provide minimal psychological stimulation. As a result, individuals may experience decreased motivation, lower mood, and an increased risk of developing conditions such as Depression.

From a biological perspective, physical inactivity directly affects brain chemistry and physiological processes that regulate mood and emotional well-being. Regular physical activity is known to stimulate the release of endorphins, often referred to as “feel-good” hormones, which help reduce stress and promote positive emotions. A sedentary lifestyle, on the other hand, reduces the production of these beneficial chemicals (Park et al., 2020). Additionally, inactivity may disrupt the balance of key neurotransmitters such as serotonin and dopamine, both of which play crucial roles in mood regulation and cognitive functioning. This imbalance can contribute to heightened emotional distress, increased stress levels, and symptoms associated with Anxiety Disorder and depression.

Another important factor is the role of screen time and digital dependency, which are closely associated with sedentary behavior. Excessive use of digital devices not only reduces physical movement but also exposes individuals to factors that may negatively influence mental health, such as social comparison, information overload, and reduced face-to-face interaction. Prolonged screen exposure, particularly before bedtime, can also interfere with sleep patterns, leading to poor sleep quality. As identified in the study, disrupted sleep is strongly linked to emotional instability and increased vulnerability to psychological disorders, further explaining how sedentary habits contribute to poor mental health outcomes.

Social isolation also plays a critical role in this relationship (Cacioppo & Hawley, 2003). Sedentary lifestyles often involve solitary activities, which limit opportunities for meaningful social interaction. According to social isolation theory, reduced interpersonal engagement can lead to feelings of loneliness and a lack of emotional support. Over time, this can significantly increase the risk of mental health problems, including Depression and anxiety. The absence of social support may also weaken an individual’s ability to cope with stress, making them more susceptible to psychological distress.

Furthermore, the relationship between sedentary lifestyle and mental health is not unidirectional but bidirectional. While prolonged inactivity can lead to poor mental health, individuals experiencing mental health problems may also be more likely to adopt sedentary behaviors. For example, those

suffering from depression often experience fatigue, low motivation, and reduced interest in physical activities, which can result in increased time spent in sedentary activities. This creates a reinforcing cycle, where sedentary behavior and poor mental health continuously influence and exacerbate each other.

The impact of a sedentary lifestyle on mental health can be explained through a combination of reduced positive behavioral experiences, biological imbalances, increased digital dependency, social isolation, and disrupted sleep patterns. These interconnected factors highlight the complexity of the relationship and underscore the importance of adopting a more active lifestyle to support psychological well-being.

Comparison with previous studies

The results of this study are strongly aligned with existing theoretical frameworks and previous empirical findings, reinforcing the understanding that a sedentary lifestyle plays a significant role in shaping mental health outcomes. From a behavioral perspective, the findings support the assumption that reduced physical activity limits exposure to positive reinforcement (Epstein et al., 2004). As observed in this study, individuals with higher levels of sedentary behavior reported increased stress and symptoms of Depression and Anxiety Disorder. This is consistent with behavioral theory, which posits that engagement in meaningful and rewarding activities such as exercise, social interaction, and outdoor experiences contributes to improved mood and psychological well-being. The lack of such activities among sedentary individuals explains the decline in mental health observed in the results.

Biologically, the study's findings also align with established theories regarding the role of physical activity in regulating brain function and emotional stability (Hall & Fong, 2015). The observed increase in psychological distress among individuals with sedentary lifestyles supports the notion that physical inactivity leads to reduced production of endorphins and imbalances in neurotransmitters such as serotonin and dopamine. These biological mechanisms have been widely documented in the literature as key contributors to mood disorders. The significant relationship identified in this study between sedentary behavior and mental health outcomes further confirms that physiological processes play an important role in linking lifestyle habits to conditions such as Depression and Anxiety Disorder.

In addition, the findings are consistent with social isolation theory, which emphasizes the importance of interpersonal relationships in maintaining mental health (Wang et al., 2017). This study found that individuals with higher sedentary behavior often experienced poorer mental health, which may be partly explained by reduced social interaction due to prolonged engagement in solitary activities such as screen use. This supports the idea that limited social engagement can lead to feelings of loneliness and increased vulnerability to psychological distress. The moderating role of social support identified in this study further strengthens this theoretical explanation, as individuals with stronger support systems demonstrated better mental health outcomes despite engaging in sedentary behavior.

The results of this study also corroborate findings from previous research conducted over the past decade. For instance, studies by Casanova et al. (2023) and Nasir et al. (2025) have demonstrated that sedentary behavior is significantly associated with increased risks of stress, depression, and anxiety. Similarly, research by Ringin et al. (2022) highlighted the negative psychological impact of increased sedentary time during periods of restricted mobility, such as the COVID-19 pandemic. The consistency between these studies and the current findings suggests a robust and well-established relationship between sedentary lifestyles and mental health problems across different contexts and populations.

Furthermore, the role of mediating variables identified in this study, particularly physical activity and sleep quality, is also supported by previous literature. Prior studies have shown that regular physical activity can mitigate the negative effects of sedentary behavior by improving mood and reducing stress levels (Endrighi et al., 2016). Likewise, poor sleep quality has been consistently linked to increased psychological distress, supporting the finding that sleep acts as a pathway through which

sedentary behavior affects mental health. These parallels indicate that the mechanisms identified in this study are not isolated but part of a broader, well-documented pattern in mental health research.

Overall, the findings of this study are not only theoretically grounded but also empirically supported by previous research. The alignment between the results, established theories, and earlier studies strengthens the validity of the conclusions and highlights the importance of addressing sedentary behavior as a key factor in promoting mental health.

Contributing factors at the relationship between a sedentary lifestyle and mental health

One of the most significant contributing factors is social isolation. A sedentary lifestyle often involves activities that are performed alone, such as browsing the internet, watching videos, or engaging with digital devices for extended periods. This reduction in face-to-face interaction can weaken social bonds and limit emotional support from family and peers (Lewandowski et al., 2011). Over time, individuals may experience feelings of loneliness and disconnection, which are strongly associated with mental health problems such as Depression and Anxiety Disorder. Social isolation also reduces opportunities for sharing experiences, expressing emotions, and receiving feedback, all of which are essential for maintaining emotional balance. As a result, individuals who lack strong social connections are more vulnerable to stress and psychological distress.

Reduced physical activity is another critical factor that contributes to the decline in mental health among individuals with sedentary lifestyles. Physical activity plays an essential role in regulating mood and promoting psychological well-being through both physiological and psychological mechanisms (Dai et al., 2021). Regular movement stimulates the release of endorphins and other neurotransmitters that enhance mood and reduce stress. When physical activity is limited, these beneficial effects are diminished, leading to increased susceptibility to emotional disturbances. Furthermore, engaging in physical activity often provides a sense of accomplishment and routine, which can help individuals cope with daily challenges. Without these positive experiences, individuals may experience decreased motivation, lower self-esteem, and a higher risk of developing symptoms of Depression.

Excessive screen exposure is also a major contributing factor in the relationship between sedentary lifestyle and mental health. The widespread use of smartphones, computers, and other digital devices has significantly increased the amount of time individuals spend in sedentary activities (Fennell et al., 2019). Prolonged screen time is associated with several negative outcomes, including disrupted sleep patterns, reduced attention span, and increased exposure to potentially harmful content such as social comparison on social media. These factors can lead to heightened stress, emotional instability, and feelings of inadequacy. Additionally, excessive screen use, particularly before bedtime, can interfere with the body's natural sleep cycle, resulting in poor sleep quality. As sleep disturbances are closely linked to mental health problems, this further exacerbates the risk of developing Depression and anxiety. In conclusion, social isolation, reduced physical activity, and excessive screen exposure are key factors that contribute to the negative impact of sedentary lifestyles on mental health. These factors are interconnected and collectively create conditions that increase vulnerability to psychological distress.

Implications of the Study

The implications of this study highlight both theoretical and practical contributions to the understanding of how a sedentary lifestyle affects mental health. From a theoretical perspective, this research expands existing knowledge in the fields of psychology and public health by providing empirical evidence on the relationship between sedentary behavior and psychological well-being. The findings reinforce and integrate multiple theoretical frameworks, including behavioral theory, biological mechanisms, and social isolation theory, demonstrating that mental health outcomes such as Depression and Anxiety Disorder are influenced by a combination of lifestyle, physiological, and social factors. By incorporating mediating and moderating variables such as physical activity, social support, and sleep quality, this study offers a more comprehensive and nuanced model for understanding the complexity of mental health in the context of modern sedentary living. Furthermore, it contributes to

the growing body of literature that positions sedentary behavior as not only a physical health concern but also a significant determinant of psychological well-being.

From a practical standpoint, the findings of this study provide important insights that can be applied to promote healthier lifestyles and improve mental health outcomes (Walsh, 2011). One key implication is the need to encourage more active daily routines. Individuals should be made aware of the risks associated with prolonged sitting and excessive screen time, and be motivated to incorporate regular physical activity into their daily lives, such as walking, exercising, or engaging in recreational activities. These behavioral changes can help reduce stress levels and lower the risk of developing mental health problems, including Depression and Anxiety Disorder.

In educational settings, schools play a crucial role in shaping healthy habits among students (Burrows & Wright, 2007). This study suggests that schools should integrate physical activity into daily routines, such as through structured exercise programs, active breaks during classes, and extracurricular sports activities. Additionally, educational institutions can promote awareness of mental health and the importance of reducing sedentary behavior, particularly in an era where students are increasingly exposed to digital learning environments.

In the workplace, employers and organizations are encouraged to implement policies that reduce prolonged sitting and promote employee well-being. This may include providing standing desks, encouraging regular movement breaks, organizing workplace wellness programs, and fostering a supportive social environment. Such initiatives not only improve employees' physical health but also enhance productivity, job satisfaction, and overall mental well-being.

At the policy level, governments and public health authorities have an important role in addressing the broader societal impact of sedentary lifestyles. Policymakers can develop and implement public health campaigns to raise awareness about the importance of physical activity and mental health (Bauman et al., 2006). In addition, urban planning strategies can be designed to create environments that encourage active living, such as the development of parks, pedestrian-friendly infrastructure, and recreational facilities. Regulations related to work hours, digital consumption, and community health programs can also support efforts to reduce sedentary behavior on a larger scale.

Conclusion and implication

This study demonstrates that a sedentary lifestyle has a significant and negative impact on mental health. The findings reveal that prolonged periods of inactivity, characterized by excessive sitting and screen exposure, are associated with increased levels of stress and a higher risk of developing psychological disorders such as Depression and Anxiety Disorder. The relationship between sedentary behavior and mental health is complex and influenced by multiple factors, including reduced physical activity, social isolation, and poor sleep quality. Furthermore, the study confirms that this relationship is not only direct but also indirect, with mediating and moderating variables shaping the overall impact. These findings underscore the importance of addressing sedentary behavior as a critical component of mental health promotion in modern society. The implications of this study are both theoretical and practical. Theoretically, this research contributes to the fields of psychology and public health by providing a more comprehensive understanding of how lifestyle factors influence mental well-being. It supports existing theories while also highlighting the importance of integrating behavioral, biological, and social perspectives in explaining mental health outcomes. Practically, the study emphasizes the need for individuals to adopt more active lifestyles as a preventive measure against mental health problems. It also provides actionable recommendations for key stakeholders. Educational institutions are encouraged to promote physical activity and mental health awareness among students. Workplaces should implement strategies to reduce prolonged sitting and support employee well-being through active environments. Meanwhile, policymakers are urged to develop public health initiatives and infrastructure that encourage active living and reduce sedentary behavior.

at the societal level. Overall, this study highlights the urgent need for collaborative efforts to reduce sedentary lifestyles and improve mental health outcomes.

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