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RESEARCH ARTICLE

The Mediating Role of Sleeping Status Between Life Management and General Health Among Young Adults Among Students

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ABSTRACT

The general health of a student can be influenced by their life management, and it is definitely related to sleep state. However, worldwide statistics reported a decline in sleep status and a rise in poor physical health, such as obesity, and mental health, such as depression. The study conducted an analysis of the covariates of sleeping status and their effects on general health using ICPSR's big datasets (>90,000 respondents, 42 datasets). By merging, cleaning, and transforming two datasets, correlation and mediation analysis between general health and various factors will be performed. Using SPSS, variables related to the management of life details, as well as variables related to physical and mental health, can be analyzed. In the mediation analysis of Macro PROCESS, the findings indicate that sleeping status has a positive impact on general health and significantly reduces the rate of failure. The significance of this study lies in its contribution to the management of the development of predictive models for the life and sleep patterns of young adults. These models have the potential to improve their overall health and well-being, while also ensuring educational quality and promoting a healthier society. Therefore, it raises concerns and urgency to ensure a successful life management among adults without compromising their sleeping status and overall health.

INTRODUCTION

Health plays a very important role within humans, including the young adult, which can prevent unwanted diseases and diseases. Taking good care of yourself can help you do things successfully and smoothly in your life. This study aims to conduct studies on how life management can affect the health of young adults in the US. There are many factors in life management that can affect health, including physical activity, sleep status, studies, and how regularly they perform body checkups. There is an intimate connection between life management and general health. Therefore, the objective of this study will be research on the management of life that affects the health of young adults. It is necessary and crucial to research in detail the factors of life management that affect the status of human health, which can be classified as physical and mental health.

A study is conducted to examine the impact of strenuous activity on sleep quality and general health [1]. It suggests that poor sleep quality is associated with decreased physical activity, which is crucial to maintaining overall physical and functional health. This study contributes to the already existing literature that highlights the importance of sleep in maintaining overall well-being in this study. It emphasizes that reducing strenuous activities can improve sleep quality and overall health, which has significant implications for healthcare professionals and policymakers concerned with promoting healthy aging and improving quality of life [1].

This research aims to help psychologists diagnose depression by identifying the relationship between feeling depressed and general health. Symptoms such as alterations in appetite and sleep patterns, decreased concentration, feelings of restlessness, worthlessness, guilt or hopelessness, anxiety, self-harm, and loss of energy or indecisiveness were observed, or suicidal thoughts are explored to help diagnose depression accurately. This research provides a comprehensive overview of depression disease, its causes, and treatment options. It is a valuable resource for psychologists, patients with depression, and newly graduated psychologists [2].

Referring to the few articles read, emotional intelligence is essential where academic performance is affected. The reason behind all this problem is its direct and indirect impact on improving academic performance and the ability to establish interpersonal relationships. According to research using confidence in learning emotions connected with learning strategies. Additionally, from a relational point of view, emotional intelligence and how it relates to daily life are very important for both individual and society [3][4].

Over the past few decades, the circulation of blood pressure in the population has undergone changes, with the average and various ranks generally changing at the same rate. The specific causes of this change are unknown, but factors such as salt intake, alcohol use, smoking rates, fruit and vegetables, central heating, and advances in the early stages of childhood and adolescent nutrition may contribute. In high-income countries, adolescent blood pressure also declines, demonstrating the long-term effects of these population-wide variables. A 14-question multiple choice questionnaire was used to assess knowledge of hypertension characteristics and symptoms [5] [6].

1.1 Problem Statement

People are having issues that affect their general health; nowadays more and more people are obese every year, whether they are under 18 years old, years old or over 18 and whether they are male or female. Data suggest that the percentage has increased in years 6, from 9.9% in 2019 to 21% in 2020, [7] while the second data from 14.9% in 1993 to 28.7% in 2017 are for adults [7], both statistics show that the occurrence of obesity is getting more serious. There are many reasons for obesity, but lack of exercise is one of the main reasons. In addition to that, not only will the elderly suffer from high blood pressure, but young people will also start to suffer from three highs, such as high blood pressure, cholesterol, and diabetes. More and more young people suffer from three hypers early. Statistics prove that in 2001, almost 7.6 million people died from high blood pressure worldwide [8]. Some of the causes of high blood pressure in these young people are lack of nutrition in their diet.

Another concern the study discovers is that sleeping status is becoming more and more concerning lately due to the workload and stress people face, such as students, employees. Without good sleep quality, everyone cannot work efficiently, causing their productivity to decrease. In addition, a study also shows that strenuous activities will also affect your sleep quality because it will make your body become hyperactive and unable to fall asleep. As a result, it is necessary to examine the cause-and-effect connection between inadequate sleep quality and mental well-being and investigate the effectiveness of interventions designed to improve sleep quality in mitigating mental health problems. According to the 2018 Am Life International Sdn Bhd survey, approximately 46% of the respondents reported experiencing instances of awakening at midnight. Furthermore, 32% of the respondents expressed feeling fatigued upon awakening in the morning, while 31% reported experiencing daytime sleepiness. These findings indicate that a significant proportion of the population experiences disturbances in their sleep patterns, resulting in consequences that impact their daytime function [9].

Depression is a widespread mental health problem that affects millions of people around the world. Although everyone feels sad or low from time to time, depression is a more persistent and serious ailment that can significantly impact an individual's overall state of being. Depression can manifest in various ways, including feelings of hopelessness, worthlessness, guilt, and sadness. In addition, it has the potential to cause physical manifestations such as exhaustion, altered eating habits, and changes in sleep patterns. There are various factors that can cause depression, including genetic predisposition, life events, trauma, and stress. It is a treatable condition, and various treatments are available, including psychotherapy, medication, and lifestyle changes. However, many people with depression do not receive adequate treatment, which can lead to long-term consequences. Therefore,

identifying the symptoms and manifestations of depression is critical to obtaining the necessary help for successful depression management [10] [11].

There is a growing interest in understanding how academic pressure and stress impact emotional experiences and overall health among students. A study in the US found that university students who experienced higher levels of academic stress reported higher levels of anxiety, depression, and physical symptoms such as headaches and fatigue [12] [13]. In addition, poor sleep quality was found to be prevalent among US students, and a study reporting that more than 70% of students experienced sleep disturbances [14]. Other research has shown that these mental health, depression, and anxiety problems are mostly prevalent among university students, with approximately one in three students reporting experiencing such issues [15]. These findings suggest that academic pressure and stress may have negative effects on student emotional experiences and overall health, including disturbances during sleep and mental health problems. Universities must provide adequate support and resources to address these challenges and promote the well-being of students.

2.0 LITERATURE REVIEW

Regular sports can improve a person's health, including improved physical health, psychosocial development, and personal growth [16] [17]. However, a sedentary lifestyle has become common, leading to an increase in obesity worldwide, which is a major cause of diseases [18] such as high blood pressure and cholesterol. To solve this problem, walking has been proposed as an effective form of physical activity, particularly for sedentary people, and achieving the recommended levels of physical activity by walking should be a high priority for researchers studying physical activity [19]. Thus, while sports can have both positive and negative effects on health, incorporating walking as part of a physical activity intervention can help mitigate the negative health effects of a sedentary lifestyle and promote positive health outcomes. Next, we discuss how sport will affect mental health. Exercise can increase blood in the brain, which can reduce stress and depression [20]. Additionally, participating in sports can help reduce pain and promote feelings of pleasure [21].

Sleep problems have become increasingly prevalent among the general population, with many experiencing symptoms of insomnia, sleepiness, and obstructive apnea during sleep and end up with depression and obesity [1] [22]. While there is research that indicates that physical activity can improve sleep quality, it is important to consider the intensity of exercise, as excessive activity can result in increased excitement and reduced sleep quality [22] [23]. This, in turn, can affect physical and mental health, since both play a vital role in daily life and can influence performance and productivity in one day [24]. Mental health issues are also widespread, affecting approximately 17% of adults [25] [26]. Regarding sleeping status, physical and mental health are one of the critical health concerns that impact individuals and society as a whole. While physical and mental health difficulties contributed due to sleep problems, current evidence suggests that poor sleep quality can actually contribute to the onset and recurrence of physical and mental health problems [26] [27]. Therefore, it is essential to address these issues to maintain overall health and well-being.

The role of modern environments in the increase in depression has been extensively debated [28]. A widely prevalent and severe medical condition is depression, also known as major depressive disorder, which has adverse effects on an individual's emotions, cognition, and behavior. Depressive conditions have the potential to cause incapacitation, untimely mortality, and deep distress for both patients and their loved ones [2]. It is crucial to identify symptoms of depression early when they can still be effectively treated, as this can even help save the patient's life. However, depression can be treated effectively. This condition causes individuals experiencing a sense of melancholy and reduced interest in activities they once enjoyed, causing emotional and physical obstacles that hinder their functioning at work and home.

The emotional health of an individual can be significantly impacted by academic performance. Researchers have focused on figuring out how elements such as motivation, learning techniques, and success in school impact student achievement. Compared to students in other academic disciplines, medical students can employ different learning strategies [5]. Extracurricular activities are common for university students, especially near the end of the semester or during internships, and this can lead to emotional stress as they plan to balance their studies with responsibilities to their families and jobs. The quality of early learning and emotional control of a child can also be impacted by the

connection between learners and their teachers [6]. Success in the demanding academic setting requires the ability to multitask and have emotional intelligence [29]. Students who experience cyberbullying may experience severe psychological impacts that last for years [3]. During MCO, students attending online classes may be at increased risk of depression than those taking physical classes [4].

According to the article read, high blood pressure, also known as hypertension, the rate of suffering from high blood pressure is increasing from 17.7% to 18.2% due to people today experiencing the stress of living culture. According to a researcher in the professional field, the control of diabetes and hypertension is an issue as it may affect employee performance. According to the research findings, female respondents between the ages of 18 and 39 were found to be more prevalent than males. Furthermore, more than 60% of the respondents were under 30 years of age and lived in urban areas, while Malaysians constituted the largest ethnic group in both surveys [30] [31]. To address arterial hypertension (AH) and achieve optimal blood pressure levels while reducing the risk of heart attacks, non-medical lifestyle modifications such as healthy eating, regular exercise, reduced alcohol consumption, and smoking cessation can be effective interventions [32]. The possible impact on the increase in hypertension includes high depression, high anxiety, poor sleep quality, and especially lack of physical exercise [33]. Lack of awareness of suffering hypertension, education playing an essential role because it may guide humans to their body conditions, and lifestyle recommendations have a great effect on both disease management and general health.

2.1 Conceptual Framework

Based on the literature review carried out in the previous sections, this study proposed a conceptual framework, as shown in Figure 1.

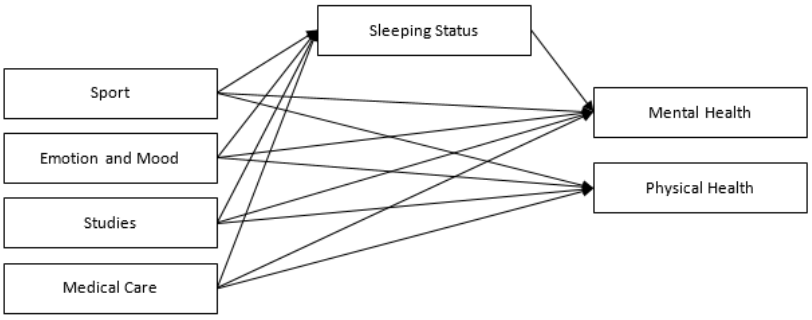

Figure 1: Conceptual framework of this research study.

Research Hypothesis

H1: Sport correlates negatively with Mental Health.

H2: Sleeping Status mediates the relationship between Sport and Mental Health.

H3: Emotion and Mood correlates positively with Mental Health.

H4: Sleeping Status mediates the relationship between Emotionand mood and Mental Health.

H5: Studies correlate negatively with Mental Health.

H6: Sleeping Status mediates the relationship between Studies and Mental Health.

H7: Medical care correlates negatively with Mental Health.

H8: Sleeping Status mediates the relationship between medical care and Mental Health.

H9: Sport correlates negatively with Physical Health.

H10: Sleeping Status mediates the relationship between Sport and Physical Health.

H11: Emotion and Mood correlate positively with Physical Health.

H12: Sleeping Status mediates the relationship between Emotion and mood and Physical Health.

H13: Studies correlate negatively with Physical Health.

H14: Sleeping Status mediates the relationship between Studies and Physical Health.

H15: Medical care correlates negatively with Physical Health.

H16: Sleeping Status mediates the relationship between medical care and Physical Health.

3.0 RESEARCH METHODOLOGY

The Interuniversity Consortium for Political and Social Research (ICPSR) is an organization based at the University of Michigan that is dedicated to collecting, organizing, safeguarding, and distributing social science information for research purposes. Its vast archive of social science data comprises diverse data sets, including survey data, census data, and other information related to social, economic, and political events. Researchers can access these data sets through ICPSR's online data archive, which contains thousands of data sets from various parts of the world. ICPSR also provides training and support to researchers using its data sets, including online courses, workshops, and consultation services.

The study used data from Wave III of DS8 - In Home Data, which was processed, merged, and cleaned using SPSS software. The resulting data set contained 3517 cases, as shown in Table 1. The process of cleaning the merged datasets was adopted from Ting et al. (2019) [49]. In cases where there are more than 10 variables, missing data will be removed and variables with more than 30% missing values of more than 30% will also be removed. After data cleansing, the data set will consist of 2473 cases. Missing values for different variables will be replaced by specific considerations. For example, the missing value for the GPA attribute will be replaced with the mean value, and the missing value for the ever-adopted variable will be replaced with "0," indicating no adoption by the participant.

Table 1: Variables Reference after cleaning DS8 - Wave III: In-Home Questionnaire, Public Use Sample.

Category	Variable ID	Questionnaire Items
Physical Health	H3ID22 - Ever DX w/high blood pressure	Have you ever been diagnosed with high blood pressure or hypertension?
	H3GH1 - How is general health	In general, how is your health?
	H3ID6 - Limit: Bending, kneeling, stooping	Does your health limit you in any of these activities? If so, are you limited a little or a lot? Bending, kneeling, or stooping
	H3ID13- Ever been DX with asthma	Have you ever been diagnosed with asthma?
	H3ID7- Limit: Walking more than a mile	Does your health limit you in any of these activities? If so, are you limited a little or a lot? Walking more than a mile
	H3ID1 - Limit: Vigorous activities	Does your health limit you in any of these activities? If so, are you limited a little or a lot? Vigorous activities, such as running, lifting heavy objects, participating in strenuous sports
Mental Health	H3SP9 - Past 7 days were depressed	You were depressed during the past seven days.
	H3GH1 - How is General Health	In general, how is your health?
Emotion and Mood	H3SP10 - Past 7 days too tired to do things	You were too tired to do things, during the past seven days.
	H3SP12 - Past 7 days were sad	You were sad, during the past seven days.
	H3SP7 - Past 7 days felt as good as oth	You felt that you were just as good as other people, during the past seven days.
	H3SP2 – Past 12 months often cried a lot	In the past 12 months, how often have you cried a lot?

	H3SP1- Past 12 months often laughed a lot	In the past 12 months, how often have you laughed a lot?
Sports	H3DA12 – Gymnastics/ weight/ lift/ strength	In the past seven days, how many times did you participate in gymnastics, weight lifting, or strength training?
	H3DA10 – Play a strenuous sport	In the past seven days, how many times did you participate in strenuous team sports such as football, soccer, basketball, lacrosse, rugby, field hockey, or ice hockey?
Sleeping Status	H3GH15 – Past 7 days fall asleep	In the past seven days, how often did you fall asleep when you should have been awake (for example, during class or at work)?
	H3GH16- Past 7 days how often took nap	In the past seven days, how often did you take a nap?
Studies	EAOGPAC- Cumulative GPA across all years	Overall GPA for all courses taken in each year (EAOGPA1-6) and cumulatively (EAOGPAC).
Medical Care	H3GH20 – Vitamins or minerals last month	In the last month, have you taken any vitamins or minerals?

Data Analysis

In this research, IBM SPSS 23.0 is used for data analysis and PROCESS MACRO 4.2 is utilized for mediation analysis. In addition, descriptive statistics were calculated, and Pearson correlation was used to determine the correlations among various metrics. To assess indirect effects in the mediation models, the macro-PROCESS was employed, and a bootstrapping was performed using 5000 bootstrap resamples. The presence of a significant indirect effect was determined by the confidence intervals that did not include zero, indicating mediation.

4.0 RESULT AND DISCUSSION

This section discusses correlation and mediation results according to hypotheses. Correlation results are shown in Table 2, while Table 3 shows the mediation results.

Table 2. Scale means, standard deviations, reliability coefficients, and correlations (N=3517)

Variable	M	SD	1	2	3	4	5	6
1.PH	2.5945	1.55354						
2.MH	2.2499	1.13799	0.668***					
3.SS	0.8900	0.96562	0.81***	0.94***				
4.EM	7.8612	1.69992	0.98***	0.191***	0.152***			
5.SD	2.6828	0.75722	-0.106***	-0.144***	-0.37*	0.054**		
6.MC	0.4393	0.49637	0.014	-0.044**	0.028	0.074***	0.104***	
7.SP	1.4680	2.48507	-0.002	-0.024	0.000	0.009	-0.004	-0.001

Note: PH = Physical Health; MH = Mental Health; SS = Sleeping Status ; EM = Emotion and Mood ; SD = Studies; MC = Medical Care; SP = Sport ; *p < 0.05 ; **p < 0.01 ; ***p < 0.001.

Table 3. Direct and Indirect effect of IV, M, and DV.

IV	M	DV	Significance(P)	Direct Effect	Indirect Effect (95% CI)
EM	SS	PH	0.0000	0.0799*	0.0094 (0.0041, 0.0155)
EM	SS	MH	0.0000	0.1211*	0.0068 (0.0027, 0.0113)
SD	SS	PH	0.0000	-0.2114*	-0.0059 (-0.0127, -0.0005)
SD	SS	MH	0.0000	-0.2109*	-0.0050 (-0.0109, -0.0005)
MC	SS	PH	0.4130	0.0362*	0.0070 (-0.0014, 0.0170)
MC	SS	MH	0.0093	-0.1067*	0.0061 (-0.0012, 0.0144)
SP	SS	PH	0.1597	-0.0011*	0.0000(-0.0018, 0.0017)
SP	SS	MH	0.9195	-0.0108*	0.000(-0.0014, 0.0016)

Note: PH = Physical Health; MH = Mental Health; SS = Sleeping Status; EM = Emotion and Mood; SD = Studies; MC = Medical Care; SP = Sport

Results based on 5000 bootstrap samples; CI bias-corrected 95% confidence interval corrected for CI bias for indirect effects. *$p < 0.05$.

H1: Sport correlates negatively with Mental Health.

Based on Table 2, there is a negative correlation (-0.024) between sport and mental health. However, this result is not significant and therefore H1 is rejected. Compared to the research conducted by Purcell et al., 2020 [34], this result is a contrast to their research. However, someone may consider the fact that sports can affect mental health in a good or bad way, doing it strenuously will affect mental health in a bad way because everyone's body will feel physically tired and eventually cause the productivity of mental health productivity to decrease while if someone does it moderately, it will help people release stress and make people physically and mentally healthy, improving their productivity. The data set reveals a negative correlation between sports and mental health, indicated by a direct effect of -0.0108 (Table 3), implying that the student's mental health is positive or negatively by his level of physical activity. This facilitates the need for students to know limits during exercise, and the youth regarding the negative effects of strenuous sports on mental health to raise awareness and establish a limit for not overdoing it during exercise.

H2: Sleeping Status mediates the relationship between Sport and Mental Health.

Based on the mediation analysis performed in Table 3, the indirect effect of the mediating effects of sleep status on the negative correlation between sport and mental health is 0.000, 95% CI = [-0.0014, 0.0016]. Compared to the research conducted by André et al. 2020 [35], this result is similar to their research. Therefore, sleeping status generally does not mediate the relationship between sport and mental health; therefore, H2 is rejected. However, someone may consider the fact that when their sleeping status is not good, their mental health will be negatively affected and may end up lacking motivation to exercise because their body will be more likely to rest rather than move around. Based on this situation, it shows that its sleep status is important and mediates its mental health and motivation to exercise.

H3: Emotion and Mood correlates positively with Mental Health.

According to Table 2, the significance of the positive correlation (0.1211) between emotion and mental health is significant ($p = 0.0000$); therefore, H3 is accepted. This could be because emotion and mood can affect the mental health of young adults. In this dataset, emotion and mood are observed to correlate positively with mental health with a direct effect of 0.1211, which means that emotion and mood improve accordingly with the mental health of young adults. Mood is a more general and long-lasting state of mind that can also have an impact on mental health. For example, if

someone experiences prolonged feelings of sadness, hopelessness, or lethargy, it can be indicative of depression. Compared to the research conducted by Melissa et al., 2021 [36], this result is similar to their research. Similarly, if someone experiences prolonged feelings of anxiety, irritability, or restlessness, it can be indicative of an anxiety disorder. It is important to acknowledge and address people's emotions and moods, as unaddressed negative emotions and moods can contribute to the development of mental health problems. Seeking professional help and support, practicing self-care and self-compassion, and participating in activities that promote positive emotions can help improve mental health.

H4: Sleeping Status mediates the relationship between Emotion and Mood and Mental Health.

Based on the mediation analysis performed in Table 3, the indirect effect of the mediating effects of sleep status on the negative correlation between emotion and mood and mental health is 0.0068, 95% CI = [0.0027, 0.0113]. Therefore, sleeping status in general mediates the relationship between emotion and mood and mental health, and therefore H4 is accepted. This may be because emotional and mood issues may affect a person's mental health. Emotions and mood can significantly affect mental health. Compared to the research conducted by Front. Psychiatry, 2021 [37], this result is similar to their research. There is a strong and complex relationship between sleep, emotions, mood, and mental health. Research suggests that sleep plays a crucial role in the regulation of human emotions, mood, and general mental health. It is safe to say that sleep status plays a crucial role in mediating the relationship between emotion, mood, and mental health. It is essential to prioritize good sleep habits as a way to maintain emotional and mental well-being.

H5: Studies correlate positively with Mental Health.

According to Table 2, the significance of the negative correlation (-0.2109) between mental health and studies is significant (p = 0.0000), and therefore H5 is accepted. This may be due to the fact that mental health problems may also positively affect some young adult studies while negatively affecting some other young adult studies based on the difference in type, severity, pathological presentation, environment, and support provided for mental health problems that are not investigated in this study. Compared to the research by Bert Garssen, 2020 [38], this result is similar to their research. Studying can provide a sense of achievement and boost self-esteem when one achieves good grades or accomplishes academic goals. Learning can also provide a sense of purpose and increase feelings of satisfaction and happiness. It is crucial to maintain a balance between studying and taking care of one's mental health. This may involve taking breaks, participating in stress-reducing activities such as mindfulness and exercise, seeking the help of friends and family, and seeking professional help if required. It is crucial to remember that academic success should not come at the cost of one's mental health.

H6: Sleeping Status mediates the relationship between Studies and Mental Health.

Based on the mediation analysis performed in Table 3, the indirect effect of the mediating effects of sleep status on the negative correlation between emotion and mood and mental health is -0.0050, 95% CI = [-0.0109, -0.0005]. Therefore, sleeping status in general mediates the relationship between studies and mental health, and therefore H6 is accepted. Sleep is crucial for people's physical and mental health, and inadequate sleep can lead to various mental health problems such as anxiety and depression. Compared to the research conducted by Shun-Yi Cheng, 2019 [39], this result is similar to their research. When someone is studying, they often must sacrifice sleep to meet deadlines and complete assignments. This can lead to lack of sleep or poor sleep quality, which can exacerbate mental health issues such as stress, anxiety, and depression. Additionally, lack of sleep can affect cognitive function, making it harder to concentrate and learn, which can increase academic pressure and cause more stress. Therefore, it is essential to maintain a balance between studying and sleeping to promote good mental health. This can include setting a regular sleep schedule, creating a sleep-friendly environment, avoiding caffeine and electronics before bed, and engaging in stress-reducing activities such as exercise and mindfulness to help promote better sleep.

H7: Medical care correlates negatively with Mental Health.

According to Table 2, the significance of the negative correlation (-0.1067) of medical care and mental health is significant (p=0.0093) and therefore H7 is accepted. Compelling evidence suggests that

healthcare care may cause harm to people affected by mental illness. It is because when someone has been diagnosed with a mental illness, they need medicine to help them recover from their illness, and they should face up to their illness. Compared to the research conducted by Xin, 2020 [40], this result is similar to their research. Medical care can have positive and negative effects on mental health outcomes, depending on the type and quality of care received. It is important to note that, while medical care can have negative impacts on mental health outcomes, it can also be a crucial aspect of treatment and support for people with mental health conditions. Therefore, it is important to prioritize appropriate and high-quality medical care that takes into account the individual's mental health needs and preferences. This can include seeking out mental health specialists and participating in shared decision-making with healthcare providers.

H8: Sleeping Status mediates the relationship between medical care and Mental Health.

Based on the mediation analysis performed in Table 3, the indirect effect of the mediating effects of sleeping status on the negative correlation between medical care and mental health is 0.0061, 95% CI = [-0.0012,0.0144]. Therefore, the state of sleeping in general mediates the relationship between medical care and mental health, so H8 is accepted. Sleeping status may not necessarily mediate the relationship between medical care and mental health. Medical care can refer to various types of treatments, such as medication, therapy, or hospitalization, aimed at improving mental health conditions. Compared to the research conducted by Leodoro (2020) [41], this result is similar to their research. Although sleep can affect mental health, it is not the only factor that contributes to mental health problems. Medical care is designed to address specific mental health problems and provide support and treatment to manage symptoms and improve general mental health. Medical care can include a variety of interventions such as medication, therapy, counseling, or hospitalization. Therefore, while sleep is essential for good mental health, it may not always mediate the relationship between medical care and mental health. Medical care can be an effective way to manage mental health conditions and improve overall well-being, regardless of sleep status.

H9: Sport correlates negatively with Physical Health.

According to Table 2, the negative correlation (-.0011) of substance abuse and academic performance is significant (p=.1597) and therefore H9 is rejected. Compared to the research conducted by Lae-Guen et al. (2022) [42], this result is a contrast to their research. However, someone may consider the fact that sports may affect physical health in both good and bad ways, exercising in a strenuous way will affect physical health in a bad way because the human body will feel tired physically and eventually will cause the productivity to decline, whereas if someone does it moderately, it will help release stress and contribute physically healthy, which will improve the productivity. The data set shows a negative correlation between sports and mental health, with a significant direct effect of -.0011 (Table 3), indicating that the student's level of physical activity is a crucial factor in either enhancing or deteriorating their physical health. This facilitates the need for the knowledge of students about the limits during exercise and of youth about the positive and negative effects of strenuous sports on physical health in order to raise their awareness and set a limit for not overdoing it during exercise.

H10: Sleeping Status mediates the relationship between Sport and Physical Health.

Based on the mediation analysis performed in Table 3, the indirect effect of the mediating effects of sleep status on the positive correlation between sport and physical health is, .000, 95% CI = [-.0018, .0017]. Therefore, sleeping status generally does not mediate the relationship between sport and mental health; therefore, H10 is rejected. Compared to the research conducted by Lin Li (2021) [43], this result is a contrast to their research. However, someone may consider the fact that when the sleeping status of a person is not good, his/her physical health will not be in his/her best condition to exercise and may end up getting more tired after exercising, may not be able to be aware of surroundings as usual due to tiredness, and may end up getting injured accidentally. Based on this situation, it proves that human sleep status is important and mediates their physical health and sport.

H11: Emotion and Mood correlate positively with Physical Health.

According to Table 2, the positive correlation (.0.0799) between emotion and mental health is significant (p =.0000), therefore, H11 is accepted. Compared to the research conducted by Jorge et

al., 2019 [44], this result is similar to their research. This could be because emotion and mood can affect the physical health of young adults. It is observed that in this dataset, emotion and mood are positively correlated with mental health with a direct effect of 0.0799, which means that emotion and mood improve accordingly with the physical health of the young adult. Emotions and mood can positively correlate with physical health in various ways. Positive emotions and mood can promote physical health by reducing stress levels, increasing the immune system, and improving overall well-being. Therefore, positive emotional state and mood can be positively correlated with physical health outcomes by reducing stress levels, strengthening the immune system, and promoting healthy behaviors. It is important to prioritize emotional well-being and engage in practices that promote positive emotions and mood to improve physical health outcomes.

12: Sleeping Status mediates the relationship between Emotion and Mood and Physical Health.

Based on the mediation analysis performed in Table 3, the indirect effect of the mediating effects of sleep status on the negative correlation between emotion and mood and mental health is 0.0094, 95% CI = [0.0041, 0.0155]. Therefore, sleeping status in general mediates the relationship between emotion and mood and physical health, and therefore H12 is accepted. Compared to the research conducted by Liang et al., 2022 [45], this result is like their research. This may be because emotional and mood problems may affect a person's physical health. Sleeping status can mediate the relationship between emotion, mood, and physical health. Poor or inadequate sleep can negatively affect mood and emotions, leading to increased stress, anxiety, and depression, which, in turn, can negatively affect physical health outcomes. Therefore, sleeping status can mediate the relationship between emotion and mood and physical health, as it plays a crucial role in both emotional well-being and physical health outcomes. It is essential to prioritize good quality sleep to improve emotional well-being and physical health outcomes. This can include setting a regular sleep schedule, creating a sleep-friendly environment, avoiding caffeine and electronics before bed, and engaging in stress-reducing activities such as exercise and mindfulness to help promote better sleep.

H13: Studies correlate positively with Physical Health.

According to Table 2, the significance level for the inverse correlation between academic studies and physical health is noteworthy ($p = 0.0000$) and therefore H13 is accepted. Compared to the research conducted by Mohammad et al., 2022 [46], this result is similar to their research. Studies can be positively correlated with physical health in several ways. Engaging in educational pursuits, such as studying, can lead to better health outcomes by promoting healthy behaviors, reducing stress levels, and improving cognitive function. Studies can promote healthy behaviors such as regular exercise, healthy eating habits, and the avoidance of harmful substances such as tobacco and alcohol. When learning about the importance of healthy behaviors, people may be more motivated to adopt healthier habits, leading to improved physical health outcomes. Therefore, studies can positively correlate with physical health outcomes by promoting healthy behaviors, reducing stress levels, and improving cognitive function. It is important to prioritize education and engage in activities that promote intellectual stimulation to improve overall physical health outcomes.

H14: Sleeping Status mediates the relationship between Studies and Physical Health.

Based on the mediation analysis performed in Table 3, the indirect effect of the mediating effects of sleeping status on the negative correlation between studies and mental health is -0.0059, 95% CI = [-0.0127, -0.0005]. Therefore, sleeping status in general mediates the relationship between studies and physical health; therefore, H12 is accepted. Compared to the research conducted by André et al., 2020 [35], this result is similar to their research. This may be because studies may affect a person's physical health. Sleeping status can mediate the relationship between studies and physical health. Sleeping status can mediate the relationship between studies and physical health. Good quality sleep is essential for physical health, as it is the time that the body repairs and rejuvenates itself. Engaging in studies can be mentally stimulating, which can affect sleep quality and quantity, ultimately affecting physical health outcomes. Therefore, sleeping status can mediate the relationship between studies and physical health, as it plays a crucial role in both cognitive function and physical health outcomes. Good sleep is essential to prioritize improving academic performance and overall physical health outcomes. To encourage better sleep, one can establish a consistent sleep routine, arrange a

sleep-conducive atmosphere, refrain from consuming caffeine or using electronic devices before bedtime, and participate in anxiety-reducing practices such as physical activity and mindfulness.

H15: Medical care correlate negatively with Physical Health.

According to Table 2, the p-value of 0.4130 indicates that the negative correlation between physical health and medical care is not statistically significant, leading to the rejection of H15. Compared to the research conducted by Sanne et al., 2019 [47], this result is in contrast with their research. This could be because medical care can affect the physical health of young adults. It is observed that in this dataset, medical care is negatively correlated with physical health with a direct effect of 0.0362 (Table 3), meaning that medical care improves accordingly with physical health. In fact, medical care is generally associated with better physical health outcomes. Seeking medical care can help prevent, diagnosing, and treat a wide range of diseases and injuries. Numerous factors can impact physical health, including genetics, lifestyle preferences (such as diet, physical activity, and smoking), environmental elements, and socioeconomic status. These factors can interact with medical care in complex ways, but it is generally accepted that medical care is a key component of maintaining and improving physical health.

H16: Sleeping Status mediates the relationship between medical care and Physical Health

Based on the mediation analysis performed in Table 3, the indirect effect of the mediating effects of sleep status on the negative correlation between medical and physical health is 0.4130, 95% CI = [-0.0014, 0.0170]. Therefore, sleeping status in general does not mediate the relationship between medical care and physical health, and therefore H16 is rejected. Compared to the research by Yiqing Zhao, 2021 [48], this result is in contrast with their research. Although sleep is important for general health and well-being and there may be some indirect relationships between sleep and medical care, it is not clear how sleep status would directly mediate the relationship between medical care and physical health. There are many complex factors that can affect physical health and the relationship between medical care and physical health. Sleep is just one of many factors that can play a role in this relationship but is not likely to be a direct mediator.

5.0 CONCLUSION

The studies and research conducted are only focused on young adults in the US, in analyzing how some factors will affect general health. Based on the results recorded and on previous studies, these studies have concluded that sport, sleep status, studies, emotion and mood, and medical care have direct effects on general health, but some are rejected as an indirect effect when sleeping as a mediator. In addition to that, this study can be better informed by several studies conducted before and now, which will make young adults focus on their health and how to avoid obesity and the conditions that stress will bring to affect their health. Next, we have this study limitation not just for young people who should pay attention to their health. People of other ages should also pay attention to their health. However, people of other ages do not have the same activities as young people, such as work, social, and family pressures [50]. In addition, different genders will affect and solve health problems in different ways, for example, women need to keep menstruation on time, so they should control their diet, exercise not too intense and daily stress. Lastly, for this study, future improvement can find more data and analysis must be collected from various age and gender groups. Can find out what problems their encounters affect health. For future research, more variables should be taken into account to investigate. By implementing this proposed framework for comparing many independent variables, the suggested investigation can be expanded and continued in future studies.

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