

Lifestyle and Stress Management in University Students

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Abstract.

Introduction:

Stress management is a critical component of university students' well-being, as they often face numerous academic, social, and personal demands that can significantly impact their health and academic performance. Various lifestyle factors, including sedentary behavior, cigarette smoking, alcohol consumption, sleep quality, and caffeine consumption, have been identified as key influences on students' ability to manage stress.

Materials and Methods.

This study employed a cross-sectional descriptive-correlational design to examine the relationship between lifestyle factors and stress management among university students. The sample comprised 206 undergraduate students from the University of Los Lagos, selected through stratified random sampling to ensure representation across different academic levels and majors.

Results.

Out of the 206 students analyzed, 171 (83%) constituted valid cases, while 35 (17%) were missing cases. The results of Chi-square tests revealed a significant relationship between stress management and sleep quality (Pearson Chi-square = 18.447, $p < 0.001$). Additionally, moderate caffeine consumption was associated with better stress management, although this relationship approached but did not reach statistical significance (Pearson Chi-square = 5.970, $p = 0.051$).

Discussion.

The findings provide valuable insights into how various lifestyle factors influence stress management among university students. Specifically, the strong link between sleep quality and stress management underscores the need for interventions that promote healthy sleep habits. The potential role of moderate caffeine consumption in stress management also warrants further investigation.

Conclusions.

This study highlights the critical importance of sleep quality in stress management among university students. While moderate caffeine consumption may also play a role, further research is needed to clarify this relationship. These findings have important implications for the development of targeted interventions aimed at enhancing the overall well-being of university students.

Keywords: Lifestyle, Stress Management, University Students, Sleep Quality, Caffeine Consumption

Introduction.

Stress management is a crucial aspect of university students' well-being, as they frequently face numerous academic, social, and personal demands that can significantly affect their health and academic performance [1]. Various lifestyle factors, such as sedentary behavior, smoking, alcohol consumption, sleep quality, and caffeine consumption, have been identified as influential in students' ability to manage stress [2-3].

Sedentary behavior, defined as the lack of regular physical activity, has been associated with higher levels of stress and anxiety in university students.

Studies have shown that regular physical activity can act as a stress modulator, promoting better mental and physical health [4]. However, many university students do not meet the recommended levels of physical activity, which could exacerbate their ability to manage stress [5].

Smoking is another prevalent lifestyle behavior among university students, often used as a stress-coping mechanism. Although some students perceive smoking as a way to relieve stress, evidence suggests that cigarette consumption can actually increase anxiety and stress levels in the long term [6]. Furthermore, smoking is associated with a range of health problems that can further complicate stress management [7].

Alcohol consumption is a common behavior among university students, especially as a stress-coping strategy. While moderate alcohol consumption may be perceived as relaxing, excessive consumption is associated with increased stress and anxiety levels, as well as mental and physical health problems [8]. Excessive alcohol consumption patterns can interfere with sleep and other aspects of a healthy lifestyle, negatively impacting the ability to manage stress [9].

Sleep quality is a critical determinant of stress management. University students often experience sleep deprivation and irregular sleep patterns due to academic and social demands. Poor sleep quality has been linked to higher stress levels and mental health problems, while adequate and good-quality sleep can significantly improve stress management [10]. Sleep deprivation not only affects mood and cognition but can also lead to a vicious cycle of stress and impaired sleep [11].

Caffeine consumption is a common practice among university students, mainly used to enhance alertness and combat drowsiness. However, excessive caffeine consumption can contribute to elevated anxiety levels and sleep problems, which in turn can negatively affect stress management [12]. Studies have found that moderate caffeine intake can be beneficial for cognitive performance, but excessive consumption can exacerbate stress and sleep disorders [13].

This study aims to examine the combined influence of sedentary behavior, smoking, alcohol consumption, sleep quality, and caffeine consumption on stress management among university students. Understanding these relationships is essential for developing effective interventions that enhance the well-being and quality of life of this population.

Materials and Methods.

Study Design

This study employed a cross-sectional descriptive-correlational design to investigate the relationship between lifestyle factors and stress management in university students.

Participants

The sample consisted of 206 undergraduate students from the University of Los Lagos, selected through stratified random sampling to ensure representation of different levels and majors. Inclusion criteria included being an active student during the study period and being between 18 and 30 years old. Exclusion criteria included students undergoing pharmacological treatment for psychiatric disorders, pregnant or breastfeeding women, and those who did not accurately complete the lifestyle questionnaire.

Data Collection

Data collection was conducted between May 2023 and June 2024. All participants signed informed consent forms before participating in the study. Data were collected through a self-administered questionnaire based on the instrument of the II National Health Survey 2016-2017 [14], which was previously validated through expert judgment and a pilot plan.

Lifestyle Variables

Sedentary Behavior: Evaluated based on the amount of physical activity performed per week. Participants were classified as sedentary if they engaged in less than 150 minutes of physical activity per week, and non-sedentary if they engaged in more than 150 minutes of exercise per week.

Smoking: Participants were classified as daily smokers, occasional smokers, and non-smokers.

Alcohol Consumption: Evaluated based on the weekly frequency of alcohol consumption and the number of drinks consumed on a typical day. Risky consumption was defined as more than 3 drinks per day.

Sleep Quality: Participants were asked whether they felt rested or had slept well during the week. Good sleep quality was defined as those who responded "always" or "almost always," and poor sleep quality was defined as those who responded "sometimes," "almost never," or "never."

Caffeine Consumption: Evaluated based on the frequency of consumption of caffeinated beverages (coffee, tea, energy drinks) and classified as non-consumers, moderate consumers, and high consumers.

Stress Management

Stress management was evaluated through a self-reported questionnaire asking students how often they felt stressed. Participants were classified as "stressed" if they reported feeling stressed always or almost always, and "not stressed" if they responded "sometimes," "rarely," or "never."

Data Analysis

Data were entered and analyzed using SPSS software. Descriptive analyses (means, standard deviations, frequencies) were performed for all variables, disaggregated by gender. Chi-square analysis was used to assess the association between lifestyle variables and stress management. Statistical significance was set at $p < 0.05$.

Ethical Considerations

This study was approved by the Scientific Ethics Committee of the Valdivia Health Service and the University of Los Lagos. All participants provided written informed consent before participating in the study, and personal data confidentiality was ensured through an identification code.

Results.

Case Processing

A total of 206 university students were analyzed, of which 171 (83%) constituted valid cases, while 35 (17%) were considered missing cases. Analyses were conducted to evaluate the relationship between stress management and various lifestyle variables, including sleep quality, caffeine consumption, alcohol consumption, smoking, and sedentary behavior.

Sleep Quality

The majority of students reported having poor sleep quality. Of the 171 valid cases, 129 students (75.4%) indicated poor sleep quality, while only 42 (24.6%) reported good sleep quality (Table 1).

In correlational terms, a significant relationship was found between sleep quality and stress management. Students with better sleep quality demonstrated a greater ability to manage stress (Pearson Chi-square = 18.447, $p < 0.001$).

Caffeine Consumption

Regarding caffeine consumption, 111 students (64.9%) were classified as moderate consumers, 47 (27.5%) as high consumers, and 13 (7.6%) did not consume caffeine (Table 2). This suggests that most students regularly consume caffeine.

Correlationally, the relationship between caffeine consumption and stress management approached statistical significance. Moderate caffeine consumers tended to manage stress better compared to non-consumers and high consumers (Pearson Chi-square = 5.970, $p = 0.051$).

Alcohol Consumption

Regarding alcohol consumption, 144 students (84.2%) were classified as non-consumers, while 27 (15.8%) reported frequent alcohol consumption, indicating a high proportion of students who abstain from alcohol consumption (Table 3).

However, no significant relationship was found between alcohol consumption and stress management (Pearson Chi-square = 3.133, $p = 0.077$).

Smoking

In terms of smoking, 109 students (63.7%) were classified as non-smokers and 62 (36.3%) as daily smokers, indicating that smoking remains a common behavior among university students (Table 4).

Nevertheless, no significant relationship was observed between smoking and stress management (Pearson Chi-square = 1.759, $p = 0.185$).

Sedentary Behavior

Regarding sedentary behavior, 102 students (59.6%) were classified as non-sedentary, while 69 (40.4%) were considered sedentary, indicating that a considerable portion of students do not meet the recommended levels of physical activity (Table 5).

Correlationally, no significant relationship was found between sedentary behavior and stress management (Pearson Chi-square = 1.128, $p = 0.288$).

Discussion.

The results of this study provide valuable insights into the relationship between various lifestyle factors and stress management among university students. The main findings and their implications are discussed below.

Sleep Quality and Stress Management

The results indicate a significant relationship between stress management and sleep quality, with students who manage stress better reporting better sleep quality compared to those who manage stress less effectively. This finding is consistent with previous studies that have found that adequate stress management can improve sleep quality, which in turn can reduce symptoms of stress and other mental health issues [15]. Sleep deprivation and irregular sleep patterns are common among university students due to academic and social demands, which can lead to a vicious cycle of stress and poor sleep quality [16].

Caffeine Consumption and Stress Management

Although the relationship between caffeine consumption and stress management did not reach statistical significance, the data suggest a possible connection. Students who consume moderate amounts of caffeine appear to manage stress better compared to high consumers and non-consumers. This finding is consistent with the literature indicating that moderate caffeine consumption can improve alertness and cognitive performance, while excessive consumption can increase anxiety and stress levels [17]. However, the lack of statistical significance could be due to variability in consumption patterns or sample size. Studies have found that moderate caffeine intake can be beneficial for cognitive performance, but excessive consumption can exacerbate stress and sleep disorders [18].

Alcohol Consumption and Stress Management

No significant relationship was found between stress management and alcohol consumption in this sample. However, the observed trend suggests that students who poorly manage stress may resort to alcohol as a coping mechanism, although this behavior did not reach statistically significant levels in our study. Previous research has shown mixed results in this area, with some studies indicating that excessive alcohol consumption is related to higher levels of anxiety and depression [19]. Additionally, alcohol consumption can interfere with sleep quality and other aspects of a healthy lifestyle, negatively impacting the ability to manage stress [20]. Future research could explore these relationships in greater depth, considering factors such as frequency and quantity of consumption.

Smoking and Stress Management

The results do not indicate a significant relationship between stress management and smoking. Although smoking has been shown to be a coping strategy for

stress in some populations, this study did not find sufficient evidence to support this relationship among university students. This finding suggests that other factors may be at play and that smoking is not a primary coping mechanism for stress management in this sample [21]. Additionally, smoking is associated with a range of health problems that can further complicate stress management [22]. The absence of a significant relationship may indicate the need for additional studies to identify what other mechanisms students use to manage stress.

Sedentary Behavior and Stress Management

The relationship between sedentary behavior and stress management was also not significant in this study. Although regular physical activity has been associated with better mental health outcomes, the lack of a significant relationship in this case may be due to variability in physical activity and sedentary behavior levels among students. Promoting physical activity remains crucial, as other studies have consistently shown that exercise can reduce symptoms of anxiety and depression [23, 24]. Despite the findings, it is important to consider implementing physical activity programs in universities as a preventive strategy to improve students' overall well-being.

Conclusions and Future Research.

Overall, this study highlights the importance of sleep quality in stress management among university students. Although the relationships with caffeine consumption, alcohol consumption, smoking, and sedentary behavior were not significant, these areas remain relevant to the mental and physical health of students. Future studies could benefit from larger samples and the use of longitudinal designs to better explore causal relationships. Additionally, universities should consider developing comprehensive interventions that address multiple lifestyle factors to enhance students' well-being.

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Conflict of Interest Statement:

The author declares no conflict of interest.

Table 1: Relationship between Sleep Quality and Stress Management.

Category	Not Stressed	Stressed	Chi-square	p-value
Good Sleep Quality	24	18	18.447	0.001
Poor Sleep Quality	113	16	nan	nan
Total	137	34	nan	nan

Table 2: Relationship between Caffeine Consumption and Stress Management

Category	Not Stressed	Stressed	Chi-square	p-value
Non-Caffeine Consumer	11	2	5.97	0.051
Moderate Consumer	83	28	nan	nan
High Consumer	43	4	nan	nan
Total	137	34	nan	nan

Table 3: Relationship between Alcohol Consumption and Stress Management

Category	Not Stressed	Stressed	Chi-square	p-value
Non-Alcohol Consumer	112	32	3.133	0.077
Alcohol Consumer	25	2	nan	nan
Total	137	34	nan	nan

Table 4: Relationship between Smoking and Stress Management

Category	Not Stressed	Stressed	Chi-square	p-value
Non-Smoker	84	25	1.759	0.185
Daily Smoker	53	9	nan	nan
Total	137	34	nan	nan

Table 5: Relationship between Sedentary Behavior and Stress Management

Category	Not Stressed	Stressed	Chi-square	p-value
Non-Sedentary	79	23	1.128	0.288
Sedentary	58	11	nan	nan
Total	137	34	nan	nan

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