

Sleep Quality and Academic Stress as Predictors of Academic Resilience Among Graduate Students of the School of Counseling and Psychology at San Pedro College

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ABSTRACT

Graduate education imposes prolonged academic, professional, and personal demands that may affect students' capacity for academic resilience, yet the joint contribution of sleep quality and academic stress to this construct remains underexamined, particularly among Filipino graduate students. This study aimed to determine the extent to which sleep quality and academic stress predict academic resilience among graduate students of the School of Counseling and Psychology at San Pedro College. Using a quantitative, non-experimental, cross-sectional, predictive correlational design, data were gathered from 107 graduate students selected through convenience sampling. Sleep quality, academic stress, and academic resilience were measured using the Pittsburgh Sleep Quality Index (PSQI), the Perception of Academic Stress Scale (PAS), and the Academic Resilience Scale-30 (ARS-30), respectively. Data were analyzed using descriptive statistics, Pearson product-moment correlation, and multiple linear regression. Results showed that most respondents (60.7%) were classified as poor sleepers, academic stress was experienced at a moderate level ($M = 3.02$), and academic resilience was generally low ($M = 2.06$), with reflecting and adaptive help-seeking as the weakest dimension. Academic stress was significantly and negatively correlated with academic resilience ($r = -.217, p = .024$) and emerged as a significant individual predictor ($\beta = -.215, p = .028$), whereas sleep quality showed no significant relationship or predictive value ($p > .05$). The overall regression model was not statistically significant and accounted for only a modest proportion of variance (adjusted $R^2 = .029$). These findings suggest that academic stress, rather than sleep quality, is a more immediate driver of academic resilience among graduate students, and that institutional wellness initiatives may benefit from prioritizing stress- and workload-management interventions alongside broader psychosocial support strategies.

Keywords: Academic Resilience, Academic Stress, Sleep Quality, Graduate Students, Predictive Correlational Study

INTRODUCTION

Graduate education presents students with academic, professional, and personal demands that require sustained psychological adaptation. Unlike most undergraduate programs, graduate education frequently involves advanced coursework, independent research, comprehensive examinations, thesis or dissertation requirements, and expectations for scholarly productivity. Many graduate students also pursue their studies while managing employment, financial obligations, and family responsibilities. The convergence of these demands may create prolonged psychological strain and challenge students' ability to remain engaged in their programs. Within this context, academic resilience becomes an important psychological resource because it enables students to adapt to academic setbacks, maintain motivation, and continue progressing toward their educational goals.

Academic resilience refers to students' capacity to respond adaptively to academic pressure, setbacks, and

challenges. Rather than implying the absence of stress, resilience reflects the ability to preserve motivation, regulate emotional responses, seek appropriate assistance, and continue working toward academic goals despite adversity. For graduate students, academic resilience may be particularly important because program demands are often prolonged, relatively unstructured, and dependent on students' ability to work independently. However, resilience should not be understood solely as a fixed personal trait. It may also be affected by students' health-related behaviors, psychological experiences, available resources, and the conditions within their learning environments.

Among the factors that may be associated with academic resilience, sleep quality may play an important role in explaining the association between sleep quality and academic resilience, as poor sleep quality can diminish the cognitive, emotional, and physical resources needed to cope with academic challenges; however, these interrelationships remain underexamined within the graduate school population. At the same time, academic stress also develops when students perceive that educational demands tax or exceed their available coping resources. Persistent stress may interfere with concentration, motivation, emotional regulation, and effective decision-making. These factors may consequently contribute to differences in how effectively students respond to academic setbacks

Evidence involving graduate students demonstrates the importance of the relationship among stress, sleep, and academic functioning. Allen et al. (2021) concluded in their study that sleep habits have the potential to lessen the negative association between stress and graduate student functioning. Better sleep duration and sleep quality weakened the association between stress and exhaustion, although they did not moderate all dimensions of burnout. Similarly, Andrade et al. (2023) found that graduate students reporting good sleep quality had significantly lower levels of academic burnout than those reporting poorer sleep quality. These findings suggest that sleep serves as a potentially protective health-related factor in the context of graduate-school stress, although cross-sectional evidence does not establish causality.

Philippine studies indicate that stress and sleep-related concerns are also evident among Filipino students. Ballebas et al. (2024) reported high prevalences of stress and poor sleep quality among medical students at the University of the Philippines College of Medicine and found a statistically significant association between the two variables. Meanwhile, Estacio et al. (2025) examined sleep quality, sleep quantity, and emotion-regulation strategies among 281 Filipino college students from the University of the Philippines Los Baños. These studies contribute valuable local evidence showing that Filipino students experience concerns related to sleep, stress, and adaptive psychological functioning.

Nevertheless, the available Philippine evidence has focused predominantly on undergraduate and medical students. Graduate students remain comparatively underrepresented, even though many Filipino graduate learners simultaneously manage advanced academic requirements, employment, financial responsibilities, and family obligations. Moreover, local studies have generally examined sleep quality, stress, emotion regulation, or resilience separately rather than investigating sleep quality and academic stress as simultaneous predictors of academic resilience.

Therefore, limited empirical evidence explains the extent to which sleep quality and academic stress independently and jointly predict academic resilience among Filipino graduate students. Addressing this gap, the present study sought to determine whether sleep quality and academic stress significantly predict academic resilience among the School of Counseling and Psychology graduate students at San Pedro College. The findings may contribute to psychological and educational literature and provide evidence that can inform institutional wellness initiatives, mental health services, and academic support programs intended to strengthen graduate students' well-being, persistence, and capacity to manage academic adversity.

Research Objectives

This quantitative predictive correlational study aimed to determine the extent to which sleep quality and academic stress significantly predict academic resilience among graduate students at San Pedro College. Specifically, it sought to answer the following questions:

1. What is the distribution of sleep quality among graduate students in terms of:
 - 1.1 Poor sleep quality; and
 - 1.2 Good sleep quality?
2. What is the level of academic stress among graduate students in terms of:
 - 2.1 Pressure to perform;
 - 2.2 Perceptions of workload and examinations;
 - 2.3 Academic self-perception; and
 - 2.4 Time restraints?
3. What is the level of academic resilience among graduate students in terms of:
 - 3.1 Perseverance;
 - 3.2 Reflecting and adaptive help-seeking; and
 - 3.3 Negative affect and emotional response?
4. Are sleep quality and academic stress significantly related to academic resilience?
5. Do sleep quality and academic stress significantly predict academic resilience?

Hypotheses

The following null hypotheses were tested in this study:

H₀₁: There is no significant relationship between sleep quality and academic resilience among graduate students.

H₀₂: There is no significant relationship between academic stress and academic resilience among graduate students.

H₀₃: Sleep quality does not significantly predict academic resilience among the graduate students.

H₀₄: Academic stress does not significantly predict academic resilience among graduate students.

THEORETICAL FRAMEWORK

This study was anchored on two complementary theoretical perspectives: the Transactional Model of Stress and Coping proposed by Richard Lazarus (Lazarus, R., and Folkman, S., 1984) and the Conservation of Resources (COR) Theory advanced by Stevan Hobfoll (1989, 2001).

To begin, Lazarus's Transactional Model of Stress and Coping (Lazarus, R., and Folkman, S., 1984) conceptualized stress not as a static property residing in the external environment but as the product of a dynamic, bidirectional transaction between the individual and their surroundings. Central to this model is the notion that stress emerges through two sequential cognitive appraisal processes, such as the primary appraisal, which allows the individual to evaluate the significance of a given situation, determining whether it constitutes a threat, a challenge, or is simply irrelevant to their well-being; and the secondary appraisal, where an individual evaluates the resources and coping options available to manage the demand of the first appraisal. In this study, the

Transactional Model situates academic stress as a product of graduate students' appraisal of academic demands, such as comprehensive examinations, thesis milestones, and mentor expectations relative to their perceived capacity to cope. Critically, the model implies that appraisal is not conducted in a vacuum; it is shaped by the psychological and physiological resources the individual brings to the encounter. This is where sleep quality assumes theoretical relevance: a well-rested student, possessing intact cognitive and emotional regulatory capacity, is more likely to appraise a demanding academic task through secondary appraisal as manageable, whereas a chronically sleep-deprived student, whose regulatory capacities are compromised, is more prone to appraising the same demand as overwhelming. The Transactional Model thus provides the mechanism by which sleep quality and academic stress become theoretically and empirically linked, and by which academic stress, as an appraised outcome, is positioned to predict downstream adaptive functioning, or academic resilience.

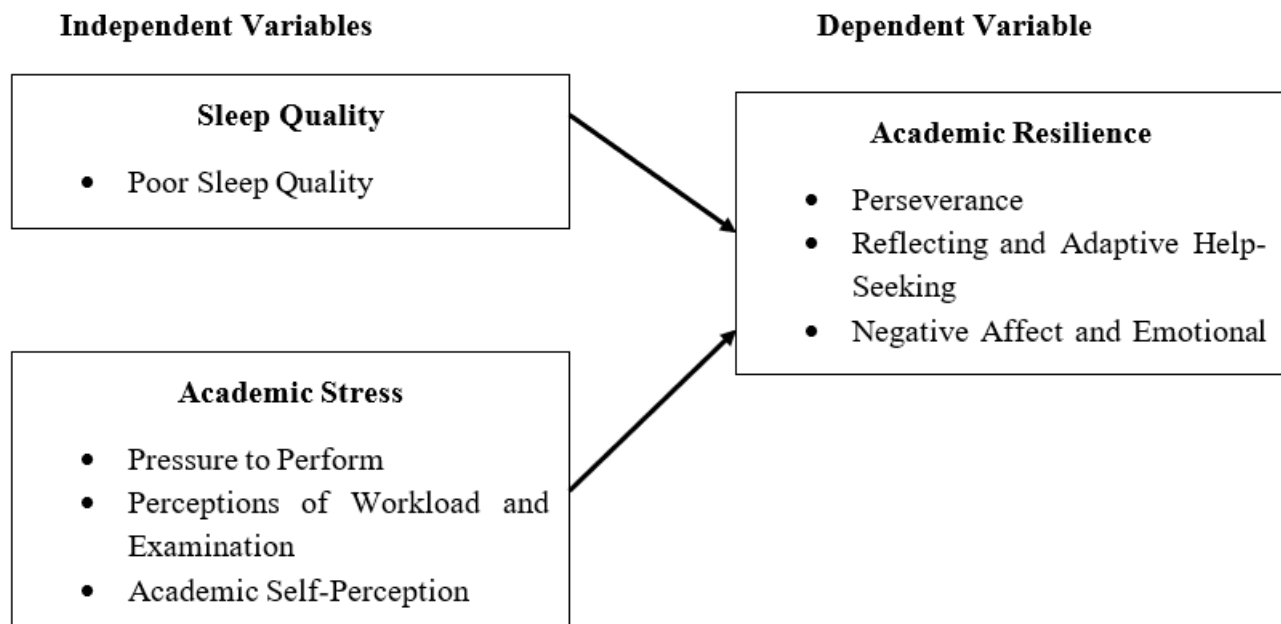
Complementarily, Hobfoll's (1989, 2001) Conservation of Resources (COR) theory provided a framework for a resource-based account of why stress occurs and how it accumulates or dissipates over time. COR theory rests on the central motivational principle that individuals strive to obtain, retain, protect, and build resources, broadly defined as objects, conditions, personal characteristics, and energies that are valued or that serve as means to achieve valued ends. Psychological stress, within this framework, arises under three conditions: when resources are threatened with loss, when resources are lost, or when individuals invest significant resources but fail to receive an adequate return on that investment. In line with this study, sleep is conceptualized as a fundamental physiological and energy-based resource, consistent with Hobfoll's (1989, 2011) later elaborations identifying energies, including physical vitality and stamina, as a distinct category of resource essential to sustaining effective functioning. Chronic academic demands, particularly the prolonged and often ambiguous workload associated with graduate thesis and dissertation work, place sustained pressure on students' resource reservoirs. When sleep, a core replenishing resource, is compromised, students enter academic encounters with a diminished resource base, rendering them more susceptible to resource loss spirals in which academic stress depletes remaining cognitive, emotional, and motivational resources faster than these can be restored. Academic resilience, by contrast, can be understood through the lens of COR theory as a marker of successful resource conservation and reinvestment, an adaptive outcome that reflects a student's capacity to protect their existing resource reservoir, deploy resources judiciously in response to academic demands, and avoid entering a self-perpetuating cycle of depletion.

Overall, the Transactional Model of Stress and Coping and Conservation of Resources Theory offered mutually reinforcing, rather than redundant, explanations of the phenomenon under study. Lazarus's model illuminates the cognitive-appraisal process through which academic demands come to be experienced as stressful and identifies coping resources as the pivot upon which appraisal and, therefore, stress depend. Hobfoll's theory extends this account by specifying sleep as a concrete, depletable resource whose adequacy or inadequacy shapes the broader resource reservoir available for coping and by explaining, through the mechanism of loss spirals, how chronic academic stress and poor sleep quality may compound one another over the course of a graduate program. Integrated in this manner, the two frameworks jointly support the study's central premise: that sleep quality functions as a critical resource within students' coping reservoirs, that academic stress reflects the appraisal and depletion of that reservoir under sustained academic demand, and that academic resilience emerges as the observable outcome of students' relative success in conserving, protecting, and effectively deploying their psychological and physiological resources in the face of graduate school's chronic and cumulative pressures. This theoretical integration provides the conceptual justification for examining sleep quality and academic stress as joint, simultaneous predictors of academic resilience among graduate students.

CONCEPTUAL FRAMEWORK

This study was anchored on the premise that sleep quality and academic stress, as internal physiological and psychological states experienced by the graduate students, function as predictors of their capacity for academic resilience.

Figure 1. Conceptual framework illustrating the hypothesized relationship of sleep quality and academic stress predicting the academic resilience of graduate students



Independent Variable

Sleep Quality

Sleep quality refers to how well a student sleeps, including sleep duration, sleep latency, sleep efficiency, sleep disturbances, and daytime dysfunction. In this study, sleep quality may be measured using the Pittsburgh Sleep Quality Index (PSQI), a widely used instrument that assesses sleep quality and sleep disturbances. A higher PSQI score generally indicates poorer sleep quality (Buysse et al., 1989).

Academic Stress

Academic stress refers to the pressure, tension, or strain experienced by students due to academic demands such as coursework, examinations, research requirements, deadlines, thesis or dissertation writing, and academic expectations. In this study, academic stress may be measured using the Perception of Academic Stress Scale (PAS), which assesses students' perceived academic pressures and sources of academic stress (Bedewy, D., and Gabriel, A. 2015).

Dependent Variable

Academic Resilience

Academic resilience refers to the ability of students to adapt, persist, and recover from academic challenges, setbacks, pressure, or difficulties. In this study, academic resilience may be measured using the Academic Resilience Scale-30 (ARS-30), which assesses students' cognitive, emotional, and behavioral responses to academic adversity (Cassidy, S., 2016).

LITERATURE REVIEW

Academic Resilience

Academic resilience, defined as students' capacity to overcome academic pressure and rebound from setbacks or difficulties, has emerged as a critical construct in understanding graduate student success across diverse educational contexts (Shen and Li, 2026). According to a study of 332 graduate nursing students, scores averaged 90.24 ± 11.93 on a 22-110 scale, with only 48.19% scoring above the mean. This suggests that graduate students

typically have moderate levels of academic resilience, with significant room for improvement (Shen and Li, 2026). Resilience outcomes among graduate populations have been found to be significantly predicted by stress-related constructs, especially self-efficacy and psychosocial support. Self-efficacy showed a strong direct effect on resilience ($\beta = 0.62$, $p = 0.001$) and social support showed a moderate but significant effect ($\beta = 0.41$, $p = 0.003$) in a predictive framework analyzing online learning resilience among 200 Filipino graduate students. Satisfaction partially mediated the relationship between self-efficacy and resilience, while digital adaptability fully mediated the social support-resilience pathway (Tabiolo et al., 2025).

Complementing this quantitative evidence, qualitative inquiry into graduate health science students' perceptions revealed that faculty conceptualize resilience as dependent on autonomy and intrinsic motivation, whereas students themselves emphasize the primacy of support systems, including familial, peer, and institutional resources, in sustaining academic persistence amid rigorous coursework demands (Carsone et al., 2024). Furthermore, research on graduate nursing students identified research competency and communication competency as significant associated factors explaining 39.7% of variance in academic resilience, with role models and student leadership experience also contributing meaningfully to resilience outcomes (Shen and Li, 2026).

In the Philippine setting, resilience was found to significantly buffer the psychological impact of pandemic-related stress, anxiety, and fear among graduate students, suggesting that resilience functions as a critical adaptive resource in the Filipino graduate school experience, particularly during periods of sustained uncertainty (Cahapay and Bangoc, 2021). Existing studies have predominantly examined resilience through the lens of psychosocial variables, self-efficacy, social support, grit, and institutional factor, while physiological and behavioral health indicators such as sleep have received limited empirical attention despite their well-established relevance to cognitive functioning and stress regulation (Chamadia and Qureshi, 2021; Steel et al., 2024).

Sleep Quality

Sleep quality is an important factor in students' overall well-being and academic functioning. It generally refers to how well a person sleeps, including sleep duration, sleep disturbances, sleep efficiency, and how rested the person feels after sleeping. Buysse et al. (1989) developed the Pittsburgh Sleep Quality Index, a widely used instrument for assessing sleep quality and sleep disturbances. In the context of graduate education, sleep quality is especially important because graduate students often manage coursework, research tasks, deadlines, professional responsibilities, and personal obligations at the same time. Previous studies have shown that sleep quality is closely related to stress and student functioning. Allen et al. (2021), in a study involving 2,683 graduate students, found that stress was associated with burnout indicators such as exhaustion, cynicism, and inefficacy. Their study also showed that sleep quality played an important role in the relationship between stress and burnout among graduate students.

In the Philippine context, Ballebas et al. (2024) reported a high prevalence of stress and poor sleep quality among medical students and found a significant association between stress and poor sleep quality. More recently, Huang et al. (2024) found that higher perceived stress was directly related to poorer sleep quality among college students. The reviewed literature suggests that poor sleep quality may be related to students' difficulty in managing academic demands, while good sleep quality may support emotional regulation, concentration, and coping. Lo Martire et al. (2024) also emphasized that sleep is a modifiable behavior that may help improve stress resilience and reduce stress.

Academic Stress

Academic stress is recognized as one of the most significant psychological challenges experienced by students in higher education because it influences academic performance, mental health, and overall well-being. It arises when students perceive that academic demands exceed their available coping resources, resulting in psychological, emotional, and physiological strain (Lazarus, R., and Folkman, S., 1984). According to the Transactional Model of Stress and Coping, stress is not determined solely by external demands but by an individual's cognitive appraisal of those demands and their perceived ability to manage them. Consequently,

students exposed to similar academic requirements may experience different levels of stress depending on their coping resources and available support systems.

A systematic review by Cho and Hayter (2020) identified academic workload, research expectations, financial concerns, supervisory relationships, and uncertainty regarding future careers as major sources of stress among graduate students. Collectively, these findings suggest that academic stress among graduate students is multidimensional and results from the interaction between demanding educational environments and students' perceived coping capacity. Extensive research demonstrates that prolonged academic stress adversely affects students' cognitive functioning, psychological well-being, and academic performance. Students experiencing excessive stress frequently report impaired concentration, reduced memory, diminished motivation, and poorer academic achievement (Pascoe et al., 2020). Chronic exposure to stress also increases vulnerability to anxiety, depression, emotional exhaustion, and burnout, which may ultimately reduce students' persistence in higher education. Allen et al. (2021) found that higher levels of perceived stress were significantly associated with emotional exhaustion, cynicism, and academic inefficacy among graduate students. Sleep quality likewise plays an important role in this relationship, as students reporting better sleep experienced lower levels of burnout despite similar academic demands.

Philippine studies similarly indicate that academic stress remains a significant concern among university students. Ballebas et al. (2024) found a significant association between stress and poor sleep quality among medical students at the University of the Philippines Manila, highlighting the high prevalence of both conditions in the local context. Estacio et al. (2025) likewise reported that Filipino college students generally exhibited poor sleep quality despite adequate sleep duration and that better sleep quality was associated with more adaptive emotion-regulation strategies. These findings suggest that Filipino students experience challenges like those reported internationally.

Synthesis and Research Gap

Considered together, these three bodies of literature reveal a consistent pattern. Research on academic resilience has concentrated almost exclusively on psychosocial and relational predictors—self-efficacy, social support, competency, and motivation—while explicitly noting that physiological and behavioral indicators remain underexamined (Chamadiah and Qureshi, 2021; Steel et al., 2024). Research on sleep quality, meanwhile, has consistently positioned sleep as an outcome of stress or a moderator of burnout rather than as an independent predictor of resilience (Allen et al., 2021; Huang et al., 2024). Research on academic stress connects meaningfully to both constructs in isolation—offering the theoretical grounding through the Transactional Model of Stress and Coping (Lazarus and Folkman, 1984) and empirical links to both sleep and resilience-adjacent outcomes such as burnout (Ballebas et al., 2024; Estacio et al., 2025)—yet no reviewed study models sleep quality and academic stress together as simultaneous predictors of academic resilience.

This gap is particularly pronounced among graduate students in the Philippine setting, where resilience has been shown to serve as a critical adaptive resource under conditions of sustained academic and psychological strain (Cahapay and Bangoc, 2021), yet the physiological and behavioral contributors to that resilience remain unexamined. The present study addressed this gap by employing a predictive-correlational design to determine whether sleep quality and academic stress, considered jointly, significantly predict academic resilience among graduate students at the School of Counseling and Psychology at San Pedro College.

METHODOLOGY

Research Design

This study adopted a quantitative, non-experimental, cross-sectional, predictive correlational design to examine the degree to which sleep quality and academic stress predict academic resilience among graduate students. A cross-sectional design is appropriate because data were gathered from participants at a single point in time, yielding a snapshot of their sleep quality, academic stress, and academic resilience during the data collection period rather than requiring repeated measurement or longitudinal observation.

The predictive correlational design was further warranted because the study sought not merely to establish significant relationships among sleep quality, academic stress, and academic resilience, but also to determine the extent to which sleep quality and academic stress, independently and jointly, predict academic resilience. Pearson correlation analysis assessed the relationships among the study variables, and multiple linear regression analysis evaluated the unique and combined predictive contributions of sleep quality and academic stress to academic resilience. This design was methodologically appropriate because it permits the identification of statistically significant predictors of academic resilience while explicitly precluding causal inference.

Sampling Method

The respondents were selected through convenience sampling, a non-probability sampling technique in which respondents are recruited based on their accessibility, availability, and willingness to participate during the data collection period. To determine an adequate sample size, this study applied the Taro Yamane (1967) formula, a widely used method for computing sample size when the population size is known and a specified margin of error is desired. The formula is expressed as: $n = N / (1 + N(e)^2)$ where n represents the required sample size, N denotes the total population size, and e is the margin of error, set at 0.0704 (7.04%) for this study. Given a total population of 228 $[N]$ graduate students, the computed sample size is 107 $[n]$ respondents, calculated as follows: $n = [N] / (1 + N^2) = [n]$. This sample size is considered adequate for detecting statistically significant relationships and predictive associations among the study variables at a 95% confidence level.

Respondents

The respondents of this study were graduate students from the School of Counseling and Psychology at San Pedro College in Davao City. The study gathered 107 respondents who had met the established inclusion criteria.

To be eligible for participation, respondents were: (1) of legal age; (2) currently enrolled in a master's or doctoral program under the School of Counseling and Psychology only at San Pedro College during the data collection period; (3) completed at least one academic term in their graduate program to ensure sufficient exposure to graduate-level academic demands; and (4) voluntarily provided informed consent to participate in the study. Both full-time and part-time graduate students, regardless of employment status, were eligible for inclusion.

Individuals who were undergraduate students, graduates who are from other programs, students who had not yet completed one academic term, and those who declined or failed to provide informed consent were excluded from the study.

Locale of the Study

This study was conducted at San Pedro College, located at 12 C. Guzman Street, Davao City, Philippines. San Pedro College is a private Catholic educational institution offering undergraduate and graduate programs across various disciplines, including psychology, education, nursing, business administration, and allied health sciences. The institution was selected as the research locale because the study specifically focuses on graduate students currently enrolled in its master's and doctoral degree programs.

San Pedro College constitutes an appropriate setting for the study, as graduate students at the institution are exposed to the rigorous academic demands characteristic of graduate education, including advanced coursework, research activities, thesis or dissertation writing, comprehensive examinations, and other scholarly requirements. Moreover, many graduate students concurrently manage professional employment, family responsibilities, and other personal obligations, rendering them an appropriate population for investigating the interrelationships among sleep quality, academic stress, and academic resilience.

Instruments

The study used a self-administered questionnaire, delivered via the Google Forms platform, consisting of four parts to collect data on participants' demographic characteristics and study variables. The survey link was sent to the official chat group of the School of Counseling and Psychology only to ensure controlled access for eligible participants and maintain the confidentiality of responses throughout the data collection process. The Google

Form was composed of five sections: (1) Informed Consent, (2) Demographic Profile (3) Pittsburgh Sleep Quality Index (PSQI), (4) Perception of Academic Stress Scale (PAS), and, (5) Academic Resilience Scale (ARS-30). Prior to the actual data collection, permission to use the standardized instruments was obtained from the respective copyright holders or developers whenever required

Informed Consent

This section was utilized to explain the purpose of the research, the procedure and standardized instruments that were used, risks and benefits to the respondents, right to withdraw, and authorization of the respondents to use the gathered data in the study.

Demographic Profile

A research-made demographic profile section was used to determine the eligibility of the participants. Specifically, this section gathered information on their pseudonym, enrollment status, and degree program under the School of Counseling and Psychology.

Pittsburg Sleep Quality Index (PSQI)

Sleep quality was measured using the Pittsburgh Sleep Quality Index (PSQI), developed by Buysse et al. (1989). The PSQI is a 19-item self-report instrument that yields a global score across seven component domains: subjective sleep quality, sleep latency, sleep duration, habitual sleep efficiency, sleep disturbances, use of sleep medication, and daytime dysfunction. Global scores range from 0 to 21, with higher scores indicating poorer sleep quality; a global score greater than 5 is conventionally used to distinguish "poor" from "good" sleepers.

The PSQI has demonstrated strong psychometric properties since its original validation. Buysse et al. (1989) reported a Cronbach's alpha of approximately .83 for the global score, indicating strong internal consistency, and the instrument demonstrated high sensitivity and specificity in differentiating clinical sleep-disturbed populations from healthy controls. Construct validity has since been supported across numerous subsequent studies employing the instrument with both clinical and non-clinical populations. The PSQI has also been translated and validated across a wide range of linguistic and cultural contexts, lending support to its cross-cultural applicability. For the present study, the original English-language version of the PSQI was deemed appropriate given that English serves as the medium of instruction and academic discourse within Philippine graduate education, obviating the need for translation or cross-cultural adaptation.

Perception of Academic Stress Scale (PAS)

Academic stress was measured using the Perception of Academic Stress (PAS) Scale, developed by Bedewy and Gabriel (2015). The PAS Scale comprises items distributed across four empirically derived dimensions: pressure to perform, perceptions of academic workload and examinations, academic self-perception, and time restraints. The instrument was developed and validated through exploratory factor analysis with a university student sample, providing evidence of its construct validity, and has demonstrated acceptable internal consistency reliability across its overall score and constituent subscales.

The PAS Scale was originally developed and validated within an English-medium university context, which supports its appropriateness for direct application, without translation, to English-medium Philippine graduate education settings. The instrument has subsequently been adopted in academic-stress research across a range of cultural and educational contexts, including Southeast Asian higher-education populations, lending further support to its applicability to the present sample, notwithstanding the absence of a dedicated psychometric validation specific to Filipino graduate students.

Academic Resilience Scale (ARS-30)

Academic resilience was measured using the Academic Resilience Scale-30 (ARS-30), developed by Cassidy (2016). The ARS-30 is a multidimensional, 30-item instrument comprising three subscales: perseverance, reflecting and adaptive help-seeking, and negative affect and emotional response. The instrument was developed

through factor-analytic procedures with a university student sample and is grounded theoretically in the academic-adversity and resilience literature.

Cassidy (2016) reported acceptable-to-good internal consistency reliability across the three subscales, and subsequent studies employing the ARS-30 have provided further support for its construct and convergent validity in relation to related constructs such as coping and self-efficacy. As with the PAS Scale, the ARS-30 was developed within a Western, English-medium higher-education context; its subsequent use within Asian and Filipino academic-resilience research supports its applicability to the present study, although the absence of a formal psychometric validation specific to Filipino graduate students in counseling and psychology programs is acknowledged as a limitation of the study's instrumentation.

Data Gathering Procedure

The data-gathering process was conducted systematically following the approval of the study by the appropriate authorities and in accordance with established ethical research standards, and the following:

1. The researchers secured an approval form from the dean of the School of Counseling and Psychology to utilize the graduate students as respondents of this study. Upon receiving the granted permission, the researchers identified and recruited eligible participants based on the established inclusion criteria. Invitations to participate in the study were disseminated through the official group chat of the graduate school enrollees for the school year 2026-2027.
2. All respondents were provided with a Google Form link that consists of informed consent, demographic profile, Pittsburgh Sleep Quality Index (PSQI), Perception of Academic Stress (PAS) and Academic Resilience Scale (ARS-30). Only participants who voluntarily agreed on the informed consent were included in the study.
3. The researchers complied with the provisions of the Data Privacy Act of 2012 by collecting only the information necessary for the conduct of the study. Personally identifiable information was not collected unless required for administrative purposes, and any information obtained was treated with the highest level of confidentiality. The collected data was used exclusively for academic research purposes and was presented only in aggregate form to ensure that individual participants cannot be identified.

Statistical Treatment

All completed questionnaires were reviewed for completeness and consistency. Responses were coded, encoded, and organized using Jamovi for statistical analysis. Electronic data were stored in password-protected files accessible only to the researchers. All research data were retained and disposed of in accordance with the data retention and disposal policies of San Pedro College and applicable ethical guidelines.

To obtain the first, second, and third research objectives, descriptive statistics were employed to determine the frequency count of poor and good sleep quality, academic stress, and academic resilience among the respondents. Frequency counts and percentages were used to summarize the sleep quality of the respondents, while means and standard deviations were computed to describe the levels of the academic stress and academic resilience variables. The interpretation of the mean scores followed the scoring and interpretation guidelines prescribed by the developers of the Pittsburgh Sleep Quality Index (PSQI), the Perception of Academic Stress Scale (PAS), and the Academic Resilience Scale-30 (ARS-30) (Bedewy, D., Gabriel, A., 2015; Buysse, D., et al, 1989; Cassidy, S., 2016).

To obtain the fourth research objective, the Pearson product-moment correlation coefficient (Pearson's r) was utilized to determine the strength, direction, and significance of the relationships among sleep quality, academic stress, and academic resilience. Pearson's r is an appropriate statistical technique because the study examines the relationships among continuous variables measured using standardized psychometric instruments.

To obtain the fifth research objective, multiple linear regression analysis was performed to determine the extent to which sleep quality and academic stress independently and collectively predict academic resilience among the respondents. Specifically, the regression analysis estimated the unique contribution of each independent variable while controlling for the effects of the other predictor. Furthermore, the coefficient of determination (R^2) was computed to determine the proportion of variance in academic resilience explained by the combined effects of sleep quality and academic stress. The standardized regression coefficients (β), t -values, significance levels (p -values), and overall model fit (F -statistic) were examined to determine the relative influence and statistical significance of each predictor.

All statistical analyses were conducted using a 0.05 level of significance ($\alpha = .05$). The null hypotheses were rejected if the computed p -value was less than .05 and retained if the computed p -value was greater than or equal to .05.

RESULTS

This section presents the results of the statistical analyses conducted to answer the study's research questions concerning the predicting factor of sleep quality and academic stress on academic resilience among counseling and psychology graduate students at San Pedro College. Results are organized according to the sequence of the research questions and are followed by a discussion that situates the findings within relevant theoretical and empirical literature.

Table 1. Frequency of Poor and Good Sleep Quality Among Graduate Students

Sleep Quality	f	%	Cumulative %
Poor Sleeper	65	60.7	60.7
Good Sleeper	42	39.3	100.0
Total	107	100.0	—

Note. $N = 107$. A global PSQI score above 5 was classified as poor sleep quality, whereas a score of 5 or below was classified as good sleep quality (Buysse et al., 1989).

Table 1 presents that the majority of respondents ($n = 65$, 60.7%) were classified as poor sleepers, while less than half ($n = 42$, 39.3%) were classified as good sleepers. This finding indicates that clinically relevant sleep disturbance was common rather than exceptional among the graduate students sampled, with most respondents reporting difficulties in at least one component of sleep quality, such as sleep latency, duration, efficiency, or daytime dysfunction, sufficient to elevate their global PSQI score above the threshold for poor sleep.

Table 2. Level of Academic Stress Among Graduate Students

Dimension	M	SD	Interpretation
Pressure to Perform	3.12	0.751	Moderate
Perceptions of Workload and Examinations	3.24	0.768	Moderate
Academic Self-Perception	2.72	1.088	Moderate
Time Restraints	3.00	1.167	Moderate
Overall Academic Stress	3.02	—	Moderate

Note. $N = 107$. Mean scores were interpreted as follows: 1.00–1.80 = Very Low; 1.81–2.60 = Low; 2.61–3.40 = Moderate; 3.41–4.20 = High; 4.21–5.00 = Very High. Higher scores indicate greater perceived academic stress (Bedewy, D. and Gabriel, A., 2015).

Table 2 shows that the respondents obtained the highest mean score on perceptions of workload and examinations ($M = 3.24$, $SD = 0.77$), followed by pressure to perform ($M = 3.12$, $SD = 0.75$), time restraints ($M = 3.00$, $SD = 1.17$), and academic self-perception ($M = 2.72$, $SD = 1.09$). All four dimensions and the overall academic stress score ($M = 3.02$), fell within the moderate range. This pattern suggests that graduate students

perceived a moderate, consistent degree of pressure across the demands associated with coursework, examinations, self-evaluation, and time management, with concerns regarding workload and examinations perceived as comparatively more salient. The relatively larger standard deviations obtained for academic self-perception ($SD = 1.09$) and time restraints ($SD = 1.17$) further indicate that respondents varied more widely in how they appraised their own academic competence and their ability to manage time, compared to the more uniform appraisals of performance pressure and workload.

Table 3. Level of Academic Resilience Among Graduate Students

Dimension	M	SD	Interpretation
Perseverance	1.92	0.572	Low
Reflecting and Adaptive Help-Seeking	1.83	0.619	Low
Negative Affect and Emotional Response	2.44	0.837	Low
Overall Academic Resilience	2.06	—	Low

Note. $N = 107$. Mean scores were interpreted as follows: 1.00–1.80 = Very Low; 1.81–2.60 = Low; 2.61–3.40 = Moderate; 3.41–4.20 = High; 4.21–5.00 = Very High (Cassidy, 2016). For perseverance and reflecting and adaptive help-seeking, higher scores indicate greater resilience; for negative affect and emotional response, lower scores indicate a more favorable (less maladaptive) emotional response to academic setbacks.

As shown in Table 3, graduate students obtained generally low mean scores across the three dimensions of academic resilience. Reflecting and adaptive help-seeking obtained the lowest mean ($M = 1.83$, $SD = 0.62$), followed closely by perseverance ($M = 1.92$, $SD = 0.57$), both falling within the low range. This pattern suggests that respondents did not strongly endorse behaviors associated with sustained effort in the face of setbacks or with actively seeking support and reflecting on academic difficulties. In contrast, negative affect and emotional response also fell within the low range ($M = 2.44$, $SD = 0.84$); because lower scores on this dimension indicate less maladaptive emotional reactivity to academic adversity, this particular result may be interpreted favorably, suggesting that respondents did not report strong negative emotional reactions to academic setbacks. Considered together, the overall pattern indicates that graduate students in this sample were characterized more by emotional restraint than by active, resilience-supportive behaviors such as perseverance and adaptive help-seeking.

Table 4. Relationship Between Sleep Quality, Academic Stress, and Academic Resilience				
Variables	Academic Resilience			
	Pearson's r	p-value	Decision on H_0	Interpretation
Sleep Quality	-0.05	0.611	Failed to Reject H_0	Not Significant
Academic Stress	-0.217	0.024	Failed to Reject H_0	Not Significant

Table 4 presents a Pearson product-moment correlation that was conducted to examine the relationships among academic resilience, academic stress, and sleep quality. Based on the table above, academic resilience was significantly and negatively correlated with academic stress, $r(105) = -.217$, $p = .024$, which also indicates that as academic stress increases, academic resilience tends to decrease. Academic resilience was not significantly correlated with sleep quality, $r(105) = -.050$, $p = .611$. This suggests no meaningful linear association between sleep quality and academic resilience in this sample.

As a supplementary observation, academic stress and sleep quality were not significantly correlated with one another, $r(105) = .134$, $p = .167$, indicating that the two predictors were reasonably independent of each other.

Overall, these results indicate that sleep quality and academic stress are not equally related to academic resilience. Academic stress demonstrated a statistically significant, small-to-moderate negative relationship with academic resilience, whereas sleep quality did not show a significant association.

Prior to interpreting the regression results, assumptions of multiple linear regression were assessed. The Durbin–Watson statistic indicated no significant autocorrelation among residuals ($DW = 1.66$, $p = .068$), supporting the

assumption of independence of errors. Multicollinearity was not a concern, as variance inflation factors (VIF) for both predictors were low ($VIF = 1.02$), with corresponding tolerance values of .982, well within acceptable thresholds ($VIF < 5$; tolerance $> .20$). These results indicate that the assumptions underlying the regression model were satisfied. As a result, multiple linear regression was conducted to examine whether sleep quality and academic stress significantly predicted academic resilience.

Table 5. Sleep Quality and Academic Stress as Predictors of Academic Resilience									
Predictor	Estimate	SE	95% Confidence Interval		t	p	Stand. Estimate	Decision on H_0	Interpretation
			Lower	Upper					
Intercept	2.8263	0.339			8.333	<.001			
Academic Stress	-0.2485	0.112	-0.406	-0.0231	-2.223	0.03	-0.2146	Reject H_0	Significant Predictor
Sleep Quality	-0.0251	0.116	-0.433	0.3477	-0.217	0.08	-0.0426	Failed to Reject H_0	Not a Significant Predictor
Model Fit Measures: $R=0.218$, $R^2= 0.0477$, Adjusted $R^2= 0.0294$, $F= 2.61$, $p=0.08$									

Based on the table 5, the overall regression model was not statistically significant, $R = .218$, $R^2 = .048$, adjusted $R^2 = .029$, $F(2, 104) = 2.61$, $p = .079$. Collectively, sleep quality and academic stress accounted for approximately 4.8% of the variance in academic resilience, indicating a small effect size overall. Examination of the individual predictors, however, revealed a nuanced pattern. As shown in Table 1, academic stress was a statistically significant negative predictor of academic resilience, $B = -0.249$, $SE = 0.112$, $t(104) = -2.223$, $p = .028$, $\beta = -.215$, 95% CI $[-0.470, -0.027]$. This finding indicates that as academic stress increases, academic resilience tends to decrease. In contrast, sleep quality did not significantly predict academic resilience, $B = -0.025$, $SE = 0.116$, $t(104) = -0.217$, $p = .829$, $\beta = -.043$, 95% CI $[-0.255, 0.205]$.

The results provide partial support for the research question. Although the overall regression model did not reach conventional statistical significance ($p = .079$), academic stress emerged as a significant individual predictor of academic resilience, whereas sleep quality did not. These findings suggest that academic stress, rather than sleep quality, was the primary contributor to the variance explained in the model, though the overall explanatory power of the model remained modest (adjusted $R^2 = .029$). This pattern implies that factors beyond those examined in this model may play a more substantial role in explaining academic resilience among participants.

DISCUSSION

The present study examined the extent to which sleep quality and academic stress predict academic resilience among graduate students at San Pedro College's School of Counseling and Psychology. The findings are discussed below in relation to the study's five research questions and situated within the Transactional Model of Stress and Coping (Lazarus and Folkman, 1984) and Conservation of Resources theory (Hobfoll, 1989, 2001).

Regarding sleep quality, the majority of respondents (60.7%) were classified as poor sleepers, while only 39.3% reported good sleep quality. This finding is consistent with prior research documenting widespread sleep disturbance among student populations; Ballebas et al. (2024) similarly reported a high prevalence of poor sleep quality among medical students in the Philippines, and Allen et al. (2021) found comparable difficulties among graduate students in an international sample. Viewed through Conservation of Resources theory, the predominance of poor sleepers in this sample suggests that many graduate students at San Pedro College may be entering their academic demands with an already diminished physiological resource base, a condition Hobfoll (1989, 2001) identified as one that heightens vulnerability to resource-loss spirals.

For academic stress, respondents reported a moderate level overall ($M = 3.02$), with perceptions of workload and examinations rated highest among the four dimensions, followed by pressure to perform, time restraints, and academic self-perception. This pattern aligns with Cho and Hayter's (2020) systematic review, which identified academic workload and examination-related demands as among the most salient sources of stress reported by

graduate students across disciplines. Interpreted through the Transactional Model of Stress and Coping (Lazarus and Folkman, 1984), the comparatively elevated workload-related stress may reflect a secondary appraisal process in which students perceive the cumulative volume of coursework, research obligations, and evaluative demands of graduate study as taxing their available coping resources.

Academic resilience was generally low overall ($M = 2.06$), with reflecting and adaptive help-seeking showing the lowest mean, closely followed by perseverance, while negative affect and emotional response—where lower scores are favorable—also fell within the low range. Collectively, this pattern suggests that respondents were not strongly endorsing active, adaptive resilience behaviors, although they likewise did not report strong maladaptive emotional reactivity to academic setbacks, indicating a profile characterized more by emotional restraint than by active engagement in resilience-supportive behavior. This is broadly consistent with Shen and Li (2026), who found that graduate nursing students exhibited only moderate resilience with considerable room for improvement, and it resonates with Carsone et al. (2024), whose qualitative findings emphasized the centrality of support systems—familial, peer, and institutional—in sustaining graduate students' academic persistence, a finding especially relevant given that help-seeking emerged as the weakest resilience dimension in the present sample.

The correlational analyses provide partial support for the study's hypotheses. Consistent with the decision to reject H_{02} , academic stress was significantly and negatively correlated with academic resilience, $r(105) = -.217$, $p = .024$, replicating the broader pattern reported by Allen et al. (2021), who found that perceived stress was associated with poorer psychological functioning among graduate students, and supporting the Transactional Model's premise that heightened stress appraisal undermines students' adaptive coping capacity. In contrast, and consistent with the failure to reject H_{01} , sleep quality showed no significant association with academic resilience, $r(105) = -.050$, $p = .611$. This null result is notable given that Conservation of Resources theory frames sleep as a foundational resource for adaptive functioning; however, it converges with a broader pattern in the literature in which sleep quality has more often been documented as a moderator or correlate of stress-related outcomes such as burnout (Allen et al., 2021; Andrade et al., 2023) rather than as a direct, independent predictor of resilience itself. The non-significant correlation between academic stress and sleep quality observed in the present sample, $r(105) = .134$, $p = .167$, similarly diverges from findings such as Huang et al. (2024) and Ballebas et al. (2024), who reported significant stress-sleep associations in other student populations, suggesting that in this graduate sample the two variables may be operating somewhat more independently of one another than the theoretical framework anticipated.

The regression results reinforce this pattern. Although the overall model was not statistically significant, $R = .218$, $R^2 = .048$, adjusted $R^2 = .029$, $F(2, 104) = 2.61$, $p = .079$, academic stress emerged as a significant individual negative predictor of academic resilience, $B = -0.249$, $\beta = -.215$, $p = .028$, whereas sleep quality did not, $B = -0.025$, $\beta = -.043$, $p = .829$. Overall, the two predictors accounted for less than five percent of the variance in academic resilience, a modest effect size indicating that most of the variability in graduate students' resilience remains unexplained by sleep quality and academic stress alone. This is consistent with Tabiolo et al. (2025), who found that self-efficacy and psychosocial support were substantially stronger predictors of resilience among Filipino graduate students than physiological or stress-based indicators, and with Shen and Li (2026), who identified research competency, communication competency, and role models as additional meaningful contributors to graduate students' resilience. Taken together, these findings suggest that while academic stress plays a measurable role in undermining resilience, sleep quality's contribution to resilience in this population may be better captured through indirect or moderating pathways—for instance, as a buffer of the stress-resilience relationship, echoing the moderating role sleep played between stress and burnout in Allen et al. (2021)—rather than as a direct main-effect predictor, as modeled in the present study.

CONCLUSION

This study examined the extent to which sleep quality and academic stress predict academic resilience among graduate students in the School of Counseling and Psychology at San Pedro College. The findings show that poor sleep quality was common among the sampled graduate students, and that academic stress was experienced at a moderate level, driven primarily by concerns about workload and examinations. Academic resilience, in turn, was generally low, with reflecting and adaptive help-seeking emerging as the weakest dimension.

Of the two hypothesized predictors, academic stress was significantly and negatively related to academic resilience and emerged as a significant individual predictor in the regression model, providing evidence in support of rejecting H_{02} and H_{04} . Sleep quality, however, was not significantly related to, nor a significant predictor of, academic resilience, and the corresponding null hypotheses, H_{01} and H_{03} , were not rejected. The overall regression model explained only a modest proportion of variance in academic resilience, adjusted $R^2 = .029$, indicating that sleep quality and academic stress, considered jointly, provide only partial explanatory power, and that other psychosocial factors identified in prior literature, such as self-efficacy and social support, likely play a more substantial role in shaping graduate students' resilience.

These findings extend the local literature by addressing a gap identified, prior Philippine research had largely examined sleep quality, academic stress, and resilience in isolation, and predominantly among undergraduate or medical student populations. By jointly modeling sleep quality and academic stress as predictors of academic resilience among graduate students, this study offers preliminary evidence that academic stress, rather than sleep quality, is the more immediate psychological driver of resilience within this population, while also suggesting that sleep quality's role may be better understood as an indirect or resource-based influence rather than a direct predictor. Practically, these results suggest that institutional efforts to strengthen graduate students' academic resilience, particularly wellness initiatives and academic support programs, may benefit from prioritizing stress management and workload-related interventions, while continuing to examine sleep quality and other physiological factors as part of a broader, multidimensional approach to supporting graduate students' well-being and persistence.

Consequently, several limitations also qualify in the interpretation of these findings. First, the cross-sectional design captured sleep quality, academic stress, and academic resilience at a single point in the academic term; consequently, the observed relationships cannot be interpreted as causal, and the direction and stability of these relationships over the course of a graduate program remain unknown. Second, the sample was drawn from a single institution and a single academic discipline—graduate students in Counseling and Psychology at San Pedro College. Because sleep quality, academic stress, and resilience may operate differently across disciplines, institutions, and cultural contexts, the findings may not generalize to graduate students in other programs or settings.

Third, all three variables were assessed using self-report instruments, which are inherently subject to recall bias, social desirability bias, and subjective interpretation of item content. Sleep quality, in particular, was measured through students' retrospective self-perceptions rather than objective measures such as actigraphy or polysomnography, which may capture sleep patterns with greater precision. Fourth, the predictive model examined only two predictors of academic resilience; consistent with the modest variance explained by the model (adjusted $R^2 = .029$), a substantial proportion of the variability in academic resilience was left unaccounted for, suggesting that other psychosocial, institutional, or contextual factors not examined in this study—such as self-efficacy, social support, and coping resources—may contribute more substantially to graduate students' resilience. Finally, the relatively modest sample size ($N = 107$), drawn from one college, limits the statistical power available to detect small effects and constrains the precision of the estimated relationships. Future research employing longitudinal designs, multi-institutional or multidisciplinary samples, objective sleep measures, and a broader range of predictor variables would help address these limitations and extend the findings of the present study.

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