

The role of academic procrastination in the occurrence of depression, anxiety, and stress among college students

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ABSTRACT

Despite growing attention to academic procrastination and student mental health, few studies have examined how procrastination is linked specifically to depression, anxiety, and stress (DAS) among college students in the Southern Philippines—an underrepresented context in the literature. Anchored in the cognitive-behavioral theory, which posits that maladaptive behaviors like procrastination can reinforce negative emotional states, this study investigates the relationship between academic procrastination and psychological distress. Using a quantitative descriptive-correlational design, data were gathered from 796 college students selected through simple random sampling. Instruments included the academic procrastination scale and the DASS-21, both with strong reliability indices. Descriptive statistics were used to identify the severity levels of procrastination and mental health symptoms, while Pearson's correlation coefficient examined their relationships. Most of students demonstrated moderate levels of academic procrastination. Notably, while depression was significantly correlated with procrastination, anxiety and stress showed no significant association. This suggests that procrastination may particularly intensify depressive tendencies, such as low motivation and self-worth, rather than general stress or anxiety. The high prevalence of extremely severe anxiety and moderate to severe stress signals broader psychosocial challenges among students that may not be directly linked to procrastination but still demand attention. These findings contribute to the academic discourse by contextualizing mental health and behavioral patterns in a regional student population. The study has practical implications for curriculum planners, mental health professionals, and institutional policymakers, particularly in designing support systems that address the psychological and behavioral needs of students within culturally specific frameworks.

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1. INTRODUCTION

Depression, anxiety, and stress (DAS) are interconnected psychological states that significantly influence an individual's emotional and physical well-being. Depression is characterized by persistent feelings of sadness, loss of interest in activities, and decreased energy, often accompanied by cognitive impairments such as difficulty concentrating and feelings of worthlessness [1]. Anxiety, on the other hand, involves heightened states of fear or apprehension, which can manifest as excessive worry, physical symptoms like rapid heartbeat, and avoidance behaviors, potentially interfering with daily functioning [2]. Stress refers to the body's response to external pressures or demands, which, when chronic or unmanaged, can result in both psychological strain and physical health issues such as hypertension and weakened immunity. These three conditions, while distinct, often overlap and exacerbate one another, collectively contributing to the deterioration of mental health and life quality [3].

Academic procrastination refers to the intentional delay or avoidance of academic tasks despite awareness of potential negative consequences, such as poor performance or heightened stress. It is a prevalent behavior among students and is often linked to difficulties in self-regulation, time management, and task initiation [4]. Unlike general procrastination, academic procrastination specifically pertains to educational contexts, including postponing studying for exams, completing assignments, or engaging in learning activities [5]. This behavior is frequently associated with cognitive and emotional factors such as fear of failure, perfectionism, or lack of motivation, which can lead to a cycle of guilt and decreased academic satisfaction [6].

DAS have emerged as significant mental health challenges for students, exacerbated by the demands of modern education and societal pressures. Many students face academic workloads, financial struggles, and uncertainties about the future, which contribute to emotional distress and reduced coping abilities [7], [8]. Depression is particularly concerning, as it often leads to diminished motivation and academic disengagement, while anxiety disorders can impair concentration and lead to avoidance behaviors [9]. Stress, whether academic or personal, further compounds these challenges, leading to burnout and negatively affecting physical health and cognitive performance. In parallel, academic procrastination is a pervasive issue among students, with up to 50% reporting regular delays in completing tasks [10].

Recent studies have highlighted the prevalence and impact of DAS among student populations, emphasizing their significant implications for mental health and academic performance. Depression has been identified as a leading factor contributing to academic disengagement and social isolation, with students reporting high levels of sadness and hopelessness [11]. Further research has shown that procrastination is often linked to factors such as poor time management, fear of failure, and low self-regulation, which contribute to delays in completing academic tasks [12]. Furthermore, procrastination has been associated with negative emotional outcomes, including heightened levels of anxiety and stress, as students experience guilt and frustration from failing to meet deadlines [6].

Academic procrastination has become an increasingly pervasive issue in higher education, often resulting in missed deadlines, academic underperformance, and elevated psychological distress among students. Numerous studies have established its association with negative emotional outcomes, including depression, anxiety, and stress. These mental health conditions, when unaddressed, significantly impair students' motivation, self-regulation, and academic persistence. However, despite the global attention to these issues, little is known about how academic procrastination specifically relates to mental health challenges among college students in the Southern Philippines—a context characterized by distinct cultural, social, and academic stressors.

To address this gap, the present study is guided by the general research question: what is the relationship between academic procrastination and the levels of DAS among college students in the Southern Philippines? Specifically, the study aims to i) determine the level of academic procrastination among students; ii) assess their levels of DAS; and iii) test the relationship between these psychological outcomes and their procrastination behaviors. It is hypothesized that academic procrastination is significantly correlated with increased levels of DAS. This study is anchored in self-regulation theory [13], which posits that procrastination results from an individual's failure to manage conflicting goals and emotional impulses. Additionally, temporal motivation theory [14] explains procrastination as a function of time sensitivity, expectancy, value, and impulsiveness, all of which can be influenced by psychological states such as depression and stress.

2. METHOD

2.1. Research design

This research employed a quantitative research design, specifically a descriptive correlation approach, to explore the relationship between academic procrastination and the levels of DAS among college

students. Quantitative research involves the systematic collection and analysis of numerical data to understand patterns, relationships, or trends in a particular phenomenon [15]. Descriptive correlation, a type of quantitative research, is used to identify and measure the strength and direction of the relationship between two or more variables without manipulating them [16].

The use of quantitative research, particularly the descriptive correlation design, is highly appropriate for this study as it allows for the measurement of the degree to which academic procrastination correlates with DAS among college students. This design is ideal because it provides clear, numerical data that can illustrate the extent of these relationships, offering a foundation for understanding how procrastination behaviors are linked to mental health issues. The descriptive correlation design also allows for the exploration of these variables in a natural setting without experimental manipulation, making it suitable for the study of real-world student behaviors and psychological states.

2.2. Respondents and sampling

The study involved 796 college student respondents selected using simple random sampling from a state university in the Southern Philippines. Simple random sampling is a probability technique in which every individual in the target population has an equal chance of being selected, ensuring that the sample is representative and minimizing selection bias. This approach was particularly appropriate for the present study, as it allowed for broad inclusion of students from various academic programs and year levels, thereby enhancing the generalizability of the findings. Participants were recruited through official student class lists. Data collection was conducted online using secure Google Forms to ensure accessibility and convenience. To enhance the integrity of responses, each participant was required to log in with their university-issued email and could only respond once. No face-to-face monitoring was conducted, but data submission was time-stamped and monitored by the researchers to track completeness and participation trends.

Before full deployment, a pilot test was conducted with 30 students who were not part of the final sample. This pretesting ensured clarity, cultural relevance, and the internal consistency of the survey items. Feedback from the pilot group led to minor adjustments in item phrasing for better comprehension in the local context. Participation was voluntary, and informed consent was obtained digitally prior to answering the questionnaire. All data were treated with strict confidentiality and used solely for academic purposes.

2.3. Research instruments

This research adapted the academic procrastination scale developed by Lay [17] to measure the level of academic procrastination among the respondents. The instrument has demonstrated strong internal consistency, with a Cronbach's alpha of 0.88. While initially developed in a Western context, the academic procrastination scale has been previously used in studies involving Southeast Asian student populations, including the Philippines, due to its relevance to universal academic behaviors such as task delay and avoidance. Minor linguistic and contextual adjustments were made to ensure clarity and cultural sensitivity, and a pilot test was conducted with Filipino college students to affirm its appropriateness. In addition, the study utilized the depression, anxiety, and stress scale (DASS-21) [18] to assess psychological distress. This instrument has been widely validated across diverse cultural contexts, including the Philippines, and has shown robust reliability with Cronbach's alpha values of 0.91 for depression, 0.84 for anxiety, and 0.90 for stress. Local use of the DASS-21 in Philippine mental health research confirms its cultural applicability and conceptual alignment with the experiences of Filipino students.

2.4. Statistical analysis

This research employed both descriptive and inferential statistics to analyze the data, including frequency counts, mean, and composite mean, to describe the levels of academic procrastination and the DAS among the respondents. To test the relationship between academic procrastination and the levels of DAS, the Pearson correlation coefficient was used. The Pearson correlation is the most appropriate statistical method for this study because it measures the strength and direction of the linear relationship between two continuous variables, allowing for a clear understanding of how academic procrastination correlates with the psychological outcomes of DAS. This method ensures a precise quantification of the relationships between these variables.

2.5. Ethical consideration

In conducting this research, ethical considerations were prioritized to ensure the protection and well-being of all participants. Informed consent was obtained from each respondent, ensuring they understood the purpose of the study, the voluntary nature of participation, and their right to withdraw at any time without penalty. Confidentiality was strictly maintained, with all data anonymized and securely stored. Additionally, the study adhered to ethical guidelines by ensuring that the participants' mental health was not negatively impacted, and appropriate referrals for psychological support were provided if needed.

3. RESULTS

Table 1 presents the levels of academic procrastination among the students based on the responses collected in the study. The table provides an overview of the frequency and distribution of procrastination behaviors across different respondents, offering insight into the general tendency of students to delay academic tasks. This analysis is crucial in understanding the extent of academic procrastination among college students and its potential implications for their academic performance and mental health.

Table 1. Academic procrastination among the students

Statement	Mean	Description
10. I prefer to leave early for an appointment.	2.89	Agree
5. Even with jobs that require little else except sitting down and doing them, I complete them promptly.	2.80	Agree
14. I buy essential items ahead of time.	2.78	Agree
1. I often perform tasks I intend to do well in advance.	2.78	Agree
6. I usually make decisions as soon as possible.	2.76	Agree
17. I take care of all the tasks I have to do before I settle down and relax for the evening.	2.75	Agree
2. When it is time to get up in the morning, I get right out of bed	2.69	Agree
9. I efficiently manage my time and avoid distractions when preparing for a deadline.	2.67	Agree
15. I usually accomplish everything I plan to do in a day.	2.67	Agree
4. I generally return phone calls promptly.	2.65	Agree
7. I start work immediately when I have tasks to do.	2.64	Agree
12. I often finish tasks earlier than necessary.	2.63	Agree
11. I usually start an assignment shortly after it is assigned.	2.59	Agree
3. I mail a letter shortly after writing it.	2.53	Agree
16. I am proactive and get things done without delay.	2.53	Agree
8. I am never caught doing something at the last minute when preparing to go out.	2.47	Disagree
13. I shop for birthday or Christmas gifts well in advance.	2.35	Disagree
Overall mean	2.66	Moderate academic procrastination

4.00–3.50: Strongly agree (Low academic procrastination); 3.49–2.50: Agree (Moderate academic procrastination); 2.49–1.50: Disagree (High academic procrastination); 1.49–1.00: Strongly disagree (Very high academic procrastination)

Figure 1 illustrates the levels of DAS among the students, as measured in the study. The figure provides a visual representation of the distribution of these psychological outcomes, highlighting the prevalence of each condition among the respondents. This analysis is essential for understanding the mental health challenges faced by students and their potential correlation with academic procrastination.

Table 2 presents the test of relationship between the respondents' academic procrastination and their levels of DAS. The table shows the results of the Pearson correlation analysis, highlighting the strength and direction of the relationship between academic procrastination and each of the psychological outcomes. This analysis is pivotal in determining whether procrastination behaviors are significantly associated with higher levels of DAS among college students.

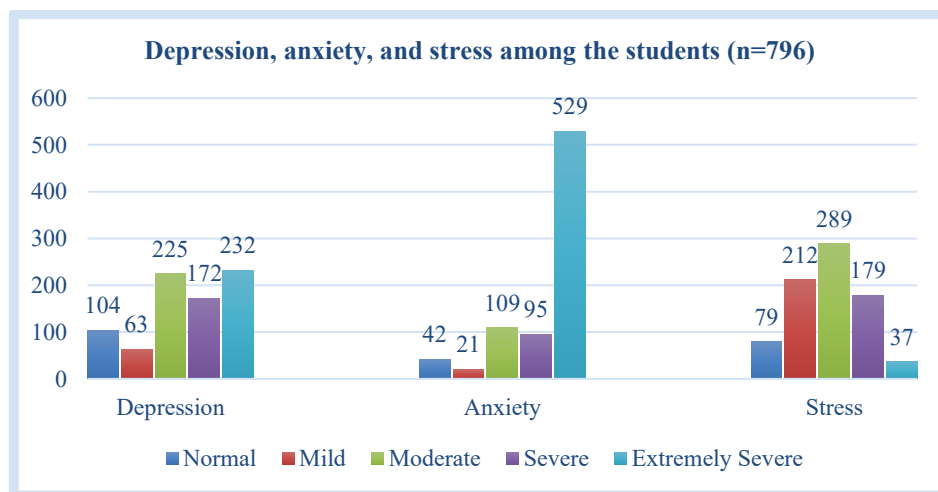


Figure 1. Depression, anxiety, and stress among the students

Table 2. Test of relationship between the respondents' academic procrastination and DAS among the students

Paired variables	Pearson correlation coefficient	p-value	Interpretation $\alpha=0.05$
Depression	.079**	.026	Significant
Anxiety	.035	.325	Not significant
Stress	.011	.751	Not significant

4. DISCUSSION

4.1. Academic procrastination of the respondents

The overall academic procrastination of the respondents got a composite mean of 2.66, interpreted as “moderate academic procrastination.” This means that students exhibit a moderate tendency to delay academic tasks, reflecting a common challenge faced by many in managing their academic responsibilities. This implies that procrastination, while not extreme, is prevalent enough to potentially impact their academic performance and well-being, necessitating attention in academic settings.

This finding aligns with previous research that has identified moderate levels of procrastination among students. For instance, studies have shown that many college students tend to procrastinate to varying degrees, which can affect both their academic outcomes and mental health [19]–[21]. Similar patterns of academic procrastination have been observed across different student populations, suggesting that this issue is widespread and warrants further investigation.

Further, among all the statements, the statement “I prefer to leave early for an appointment” got the highest mean score of 2.89, with a verbal description of “agree.” This means that respondents generally demonstrate a tendency to manage their time proactively, at least in certain situations such as appointments. This implies that while procrastination is present in other academic tasks, students may still show positive time-management behaviors in specific contexts, reflecting some degree of awareness or control over their schedules.

This finding is consistent with previous studies that suggest students may exhibit varied behaviors depending on the context. For example, study by Sloan *et al.* [22] found that students often display punctuality in social or professional appointments, indicating a degree of time management skills. Similarly, Svartdal *et al.* [23] observed that while procrastination is prevalent in academic tasks, students are more likely to manage their time effectively in non-academic settings. Hartung *et al.* [24] also noted that students may demonstrate better time management for external commitments, such as meetings or appointments, compared to academic-related responsibilities.

On the other hand, the statement “I shop for birthday or Christmas gifts well in advance” got a mean of 2.35, interpreted as “disagree.” This means that students generally do not tend to plan ahead for gift shopping, reflecting a preference for last-minute tasks. This implies that procrastination tendencies are evident even in non-academic tasks, which may contribute to stress or rushed decision-making as deadlines approach.

This finding aligns with the results of previous studies, where procrastination was found to extend beyond academic activities to other areas of students' lives. For instance, research highlighted that students often delay non-urgent tasks, such as shopping for gifts, which can lead to unnecessary stress. Similarly, Arıbaş [25] observed that procrastination is a widespread behavior that affects various aspects of students' time management, including personal and social activities. Lu *et al.* [26] also noted that procrastination behaviors are not confined to academic settings but manifest in other areas such as financial planning or household tasks.

4.2. Depression, anxiety, and stress among the students

In terms of depression, Figure 1 reveals that out of 796 respondents, 104 are in a normal state, 64 experience mild depression, 225 are in the moderate category, 172 fall under severe, and 232 are in the extremely severe category. This means that a significant proportion of students are dealing with high levels of depressive symptoms, which can adversely affect their mental health and academic performance. This implies that depression is a critical concern among students, influencing their emotional resilience and potentially their capacity to cope with academic and social pressures.

These results align with findings from other studies that emphasize the widespread nature of depression in educational settings. For example, Lee *et al.* [27] highlighted that nearly one-third of college students exhibit moderate to severe depression levels due to academic stress and personal challenges. Similarly, Peltz *et al.* [28] found that excessive workload and financial strain are primary contributors to depressive symptoms in higher education. Moreover, Hirshberg *et al.* [29] reported that the transition to independent living and academic rigor significantly increase depression risk among university students.

In terms of anxiety, the data indicate that out of 796 respondents, 42 are in a normal state, 21 experience mild anxiety, 109 fall into the moderate category, 95 are classified as severe, and a striking 529 are in the extremely severe anxiety range. This means that a majority of the students experience heightened anxiety levels, significantly affecting their emotional stability and ability to manage daily academic and social demands. This implies that anxiety is a pervasive issue among students, reflecting the pressures they face in balancing academic responsibilities and personal challenges.

The findings align with previous research underscoring the prevalence of anxiety among students. Yang *et al.* [30] found that more than half of university students exhibit high levels of anxiety, often linked to academic workload and peer competition. Similarly, Yang [31] emphasized that social and performance pressures contribute substantially to severe anxiety among college populations. Additionally, a study by Rabby *et al.* [32] revealed that exam-related stress is a significant factor elevating anxiety levels, particularly in large student cohorts.

In terms of stress, the data reveal that out of 796 respondents, 79 are in a normal state, 212 experience mild stress, 289 are categorized as moderately stressed, 179 are severely stressed, and 37 fall into the extremely stressed category. This means that a substantial proportion of students are dealing with moderate to severe levels of stress, which may interfere with their academic performance and overall well-being. This implies that stress is a widespread concern among the student population, potentially stemming from academic pressures, time constraints, and personal responsibilities.

The results are consistent with studies highlighting the prevalence of stress in academic environments. Studies claim that college students frequently report stress related to deadlines and performance expectations. It also demonstrated that balancing coursework with social and family obligations is a significant contributor to elevated stress levels. Moreover, research by Morales-Rodríguez *et al.* [33] revealed that chronic stress among students often correlates with decreased academic engagement and psychological well-being.

4.3. Relationship between the respondents' academic procrastination and DAS among the students

On the test of the relationship between the respondents' academic procrastination and depression, anxiety, and stress, the results show that depression has a Pearson correlation coefficient of .079** with a p-value of .026, indicating a significant positive relationship. This implies that as academic procrastination increases, the level of depression among students tends to rise. The tendency to delay academic responsibilities may contribute to feelings of helplessness and decreased self-worth, exacerbating depressive symptoms.

This finding aligns with previous research that highlights the link between procrastination and negative emotional outcomes. Studies suggest that procrastination often leads to heightened psychological distress due to unmet deadlines and compromised academic performance [34]. Furthermore, Sirois [12] identified a significant association between procrastination and depressive tendencies, particularly in high-stress environments. Similarly, Aller *et al.* [35] noted that procrastination amplifies feelings of self-doubt and failure, which are key contributors to depression.

In terms of anxiety, the results reveal a Pearson correlation coefficient of .035 with a p-value of .325, indicating that the relationship between academic procrastination and anxiety is not statistically significant. This implies that variations in procrastination levels do not necessarily correspond to changes in anxiety levels among the respondents. While procrastination may contribute to stress or frustration, its direct influence on anxiety might be less pronounced, possibly due to other mediating factors influencing anxiety independently.

This finding is consistent with research suggesting that procrastination's impact on anxiety is context-dependent. For instance, Huang *et al.* [36] argued that procrastination does not universally predict anxiety levels, as the relationship is often moderated by coping strategies and individual resilience. Similarly, Gort *et al.* [37] observed that while procrastination may heighten momentary stress, it does not consistently lead to clinical anxiety.

In terms of stress, the results show a Pearson correlation coefficient of .011 with a p-value of .751, indicating no statistically significant relationship between academic procrastination and stress among the respondents. This implies that changes in procrastination levels are not directly linked to variations in stress levels. Factors other than procrastination, such as time management skills or external life pressures, may play a more substantial role in influencing stress.

This outcome aligns with studies suggesting that the connection between procrastination and stress is situational rather than universal. For example, Di Nocera *et al.* [38] found that while procrastination might increase short-term task-related stress, it does not consistently contribute to overall stress levels. Similarly, Gong *et al.* [39] highlighted that effective coping mechanisms can mitigate the potential stress caused by procrastination, reducing its overall impact.

The findings suggest that academic procrastination has a significant relationship with depression but not with anxiety and stress, indicating that interventions targeting procrastination may help mitigate depressive symptoms among students. Policymakers and educational institutions can prioritize implementing time management training and mental health awareness programs to address procrastination's role in students' psychological well-being [40]. Moreover, integrating counseling services that focus on procrastination-related cognitive and emotional barriers can enhance students' coping mechanisms and resilience [41].

The significant relationship found between academic procrastination and depression may be theoretically explained through the lens of self-regulation failure and temporal motivation theory, which suggests that students experiencing depressive symptoms often struggle with low motivation, diminished task value, and impaired goal-setting, leading to delayed academic engagement. Conversely, the non-significant findings for anxiety and stress may indicate that while these conditions create psychological discomfort, they may not always translate into avoidance behavior such as procrastination, especially in contexts where external academic pressures compel task completion despite internal distress. Some studies that have similarly reported no correlation between stress and procrastination, suggesting that high-functioning anxious individuals may even use their anxiety as a motivator [42].

The educational environment in the Southern Philippines, characterized by limited access to mental health support, cultural expectations of academic achievement, and heavy course loads, may also shape students' coping behaviors differently than in Western contexts, where most prior tools were developed. These contextual factors might buffer or intensify the effects of emotional distress on academic behaviors. However, this study is not without limitations. Being cross-sectional, it cannot establish causality, and its reliance on self-reported data introduces potential biases such as social desirability and subjective misreporting. Additionally, although standardized instruments were used, their applicability may still be influenced by cultural nuances that were not fully captured in the adaptation process. Future research should consider longitudinal designs, include qualitative insights, and account for institutional and sociocultural factors that shape both mental health and academic behavior.

Based on the study's findings, educators and institutions should implement targeted interventions that directly address task delay and emotional well-being. First, time management training programs can be integrated into orientation or guidance services to equip students with practical strategies for goal-setting, prioritization, and scheduling—skills that help reduce procrastinatory behavior and support academic success. Second, cognitive-behavioral workshops focused on procrastination-related thought patterns and depressive symptoms can help students recognize avoidance tendencies and replace them with adaptive coping mechanisms. Lastly, instructors can adopt structured course designs that include clear, incremental deadlines and formative feedback, which have been shown to reduce procrastination and lessen the emotional burden associated with large academic tasks. These evidence-based strategies not only respond to the identified relationship between procrastination and depression but also promote a more supportive and mentally healthy academic environment.

5. CONCLUSION

This study advances theoretical understanding by demonstrating that academic procrastination is closely intertwined with emotional and self-regulatory processes, particularly depressive symptoms. By aligning its findings with self-regulation theory and temporal motivation theory, the study strengthens the view that procrastination is not merely a behavioral delay but an affect-driven coping response shaped by diminished motivation, impaired executive control, and negative mood states. This contributes to theory by clarifying that different psychological conditions do not uniformly influence procrastinatory behavior, as the link appears specific to depression rather than anxiety or stress, suggesting differentiated emotional pathways and mechanisms that future models must account for.

From a practical standpoint, the findings offer clear implications for educational leaders, institutions, and teachers. Administrators can use these insights to design policies that integrate mental health considerations into academic support systems, recognizing procrastination as a potential early indicator of depressive tendencies. Teachers may apply structured instructional strategies—such as clearer task scaffolding, predictable timelines, and regular progress check-ins—to help students manage workload demands while reducing the emotional burden associated with academic tasks. For institutional leaders, the results support the development of campus-wide frameworks that coordinate academic guidance with mental-health services to better identify and address students at risk.

The study's nuanced results also highlight the need for more comprehensive exploration of how emotional and contextual factors shape procrastination differently. Future research should identify mediating and moderating mechanisms—such as self-efficacy, emotion-regulation skills, cognitive appraisal, or cultural norms—that explain why depression predicts procrastination while anxiety and stress do not. Longitudinal designs are needed to clarify causality and developmental patterns, while multi-campus or cross-cultural

comparisons can reveal how environmental, institutional, and cultural factors shape these relationships. Experimental and intervention-based studies may further determine which strategies are most effective in reducing procrastination and supporting student well-being.

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AUTHOR CONTRIBUTIONS STATEMENT

This journal uses the Contributor Roles Taxonomy (CRediT) to recognize individual author contributions, reduce authorship disputes, and facilitate collaboration.

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C : **C**onceptualization

M : **M**ethodology

So : **S**oftware

Va : **V**alidation

Fo : **F**ormal analysis

I : **I**nvestigation

R : **R**esources

D : **D**ata Curation

O : **O** Writing - **O**riginal Draft

E : **E** Writing - **R**eview & **E**ding

Vi : **V**isualization

Su : **S**upervision

P : **P**roject administration

Fu : **F**unding acquisition

CONFLICT OF INTEREST STATEMENT

Authors state no conflict of interest.

INFORMED CONSENT

We have obtained informed consent from all individuals included in this study.

ETHICAL APPROVAL

The research related to human use has been complied with all the relevant national regulations and institutional policies in accordance with the tenets of the Helsinki Declaration and has been approved by the authors' institutional review board or equivalent committee.

DATA AVAILABILITY

The authors confirm that the data supporting the findings of this study are available within the article.





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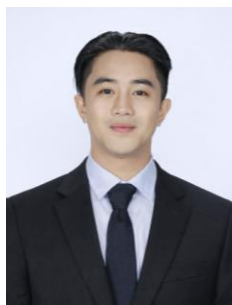
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