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Examining the Relationship Between AI Usage and Procrastination Levels in Academic Writing Among Tertiary Students

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ABSTRACT:- This research examines the relationship between the use of artificial intelligence (AI) tools and academic procrastination among tertiary students, in this case, Bachelor of Secondary Education Major in English students. With growing numbers of AI tools such as ChatGPT and Grammarly being ubiquitous in academic work, concerns about their potential benefit and drawback to the productivity of students also grew. Using a quantitative-descriptive research design, the study surveyed college students to examine the extent of AI use and corresponding procrastination behavior in academic writing. The results showed a moderate positive correlation between extent of AI tool use and procrastination, suggesting that while AI can streamline some parts of the writing process, it can also unintentionally cause delays in starting or finishing tasks.

These results highlight the multi-faceted nature of AI in scholarly activities, and its effective use and responsible deployment must be encouraged to avoid over-reliance and encourage self-management. The research offers reflective considerations about the influence of technology tools on students' work patterns and offers implications for educators, institutions, and future studies on the use of AI in higher education.

I. INTRODUCTION

Background of Study

Artificial Intelligence (AI) is rapidly becoming a force for change in higher education, impacting teaching, learning, research, and more specifically, academic writing (Crompton & Burke, 2023). AI technology brings immense advantages through its ability to simplify educational processes, boost productivity, and enhance available learning support for instructors and students alike (Rodrigues et al., 2024). However, with these benefits come some new pedagogic and ethical concerns, notably on academic honesty issues and the critical thinking skills of students (Javaid et al., 2024).

AI has the potential to uphold academic integrity by assisting students in refining their writing and avoiding unintentional plagiarism. At the same time, it also introduces the risk of misuse—such as overdependence on automated tools or using them as shortcuts, which may hinder learning (Hill & Hargis, 2024). While arguments over the use of AI as a novel pedagogy technology continue, studies on how it can be harnessed responsibly in academe remain in its infancy stage (Rodrigues et al., 2024). Amidst the increased use of AI-based software like grammar checkers, content creation tools, and writing companions, students' strategies to complete written assignments have dramatically changed. Despite their primary purpose of improving writing quality, the effects of AI-based tools on academic writing procrastination are yet to be fully understood. Procrastination, however, is also known as the voluntary delay of tasks despite expected ill effect. Students, particularly when it comes to writing assignments (Javaid et al., 2024), share this widespread phenomenon. As per some studies, AI can relieve cognitive burdens and help in the management of time-bound scholarly work, which could deter procrastination (Crompton & Burke, 2023).

Still, another school of thought holds that the ease of AI invites cramming work patterns since students use AI tools to generate output at or near deadlines. The majority of existing literature has a tendency to treat this as a dichotomy: AI either enhances productivity or perpetuates avoidance (Rodrigues et al., 2024). This study strives for more subtlety through examining the twofold role of AI in shaping writing behavior among students.

While interest in how AI is to be applied within education has heightened, few pieces of research directly accounted for the degree to which the use of AI tools in educational settings at the university level correlates with student procrastination on writing. What exists in terms of literature has been mainly on whether AI is able to function and be of use to learners in general, not necessarily its impact on the behavior of students

(Holmes, Bialik, & Fadel, 2019). This study addresses that by researching whether the routine usage of AI tools results in improved time management or, conversely, promotes procrastination among tertiary level students, specifically those taking up Bachelor of Secondary Education major in English.

II.   REVIEW OF RELATED LITERATURE

AI integrates the academic writing realm to become a transforming agent in higher education, with more and more tertiary students relying on digital tools to support their learning and productivity. This review of related literature investigates the confluence of AI use and procrastination levels in academic writing on the part of university students, thereby rendering a synthesis of more recent and trustworthy studies published from 2019 onward.

In recent history, research has shown that AI tools such as ChatGPT, Grammarly, Quillbot, and others transform how students perceive the process of writing assignments. Prominent applications are generating ideas, drafting reports, paraphrasing, checking grammar, and enhancing content quality. Afifah1 found that graduate students use a vast array of AI tools to smoothen every point of the writing process, while affirming with the same study that AI help saves time in assignment completion and helps improve organization and clarity of expression in their written work. These advantages come along with use of AI in a suitably responsible and ethical way. According to Afifah's research, students claimed the need to edit and proofread AI-generated text, corroborate sources, and maintain one's voice in an academic sense for the safeguarding of academic integrity.3

AI's impact on procrastination appears to be the central theme in the literature. Procrastination, or the art of delay, is a phenomenon among university students; anything between one or eight in ten students in university suffers from it, which could compromise their academic proficiency and lead to increasing stress and anxiety4. Opposing views seem to lean towards different causes of procrastination: fear of failure, perfectionism, low self-regulation, and weak time management skills. AI solutions provide a more effective solution to such issues through personalized feedback, reminders, and task organization, all of which help students improve their self-regulation skills. For instance, AI applications in reminding students of their deadlines by sending individualized reminders, prioritizing their chores, and providing real-time feedback would lead students to recognize the necessity and the importance of timely completion of academic responsibilities.

A systematic review of literature and experimental study by Duan et al. (2024) aimed at the effectiveness of a combination of AI-based reminders and peer motivation in reducing academic procrastination. It was found that using some degrees of personalization, using AI reminders combined with social support, results in a statistically significant decrease in procrastination behaviors among college students. Quantitative research showed that procrastination scores dropped markedly in the experimental group and qualitative interviews confirmed that many participants found AI reminders helpful, and fellow peer interaction gave them motivation. This implies that AI, when combined with social learning strategies, can promote higher self-regulation and responsibility, thus decreasing procrastination2.

The interrelation between the use of AI and procrastination is not perfectly direct. Though AI applications might enable students to begin and finish writing assignments faster, there can be an excess dependence on such applications, and that could counteract the improvement of autonomous writing and critical thinking capabilities. Uppal and Hajian (2025) studied students' attitudes towards ChatGPT and found that the students who felt the tool is trustworthy and effective had better grades and greater confidence in academic abilities. The study also built a firm association between reliance on ChatGPT and greater procrastination activity, though. The paradox in this context suggests that while AI can be an excellent facilitator, over-reliance leads some students to delay being fully committed to their assignment and rely on AI to cover for gaps because of poor preparation or motivation1.

Gunawardana and Kathriarachchi (2025) have a detailed review of how AI can be applied to predict and counter academic procrastination. From the discussion, one can observe that deep learning and machine learning models can classify students as probable procrastinators based on demographics, study behaviors online, and academic achievement. Such prediction models allow for interventions such as specific feedback and special assistance. Nonetheless, the authors supplement that ethical factors, such as data privacy and bias, are important in achieving responsible AI integration. For example, biased training data may result in inaccurate predictions for some demographic groups, highlighting context-sensitive and unbiased AI applications5.

The potential for transformation of AI in determining student learning culture is further ratified by studies on shifts in patterns of procrastination after the introduction of AI tools. In a 2024 study conducted and published in the Journal of Ecohumanism, students who implemented AI-based applications cited better

management of time and a more organized strategy for academic tasks. Research showed that AI programs can enable learners to transition away from cram sessions to more purposeful and planning-oriented study processes. But according to the authors, AI has no magic powers; sustainable shifts in behavior have to come on the back of intrinsic motivation as well as student self-regulation, supplemented with technology. The success of AI interventions may differ depending on the individual differences in self-discipline, discipline, and motivation, making personalized and adaptive strategies critical4.

Ethics and integrity are given prominence when addressing AI for academic purposes. Afifah (2024) underscores keeping the application of AI as a helper, not to substitute for actual scholarship work. Integrity checks include editing AI-generated work, proofing sources, and final output as the original voice and learning of the student. They are essential to protect against plagiarism and maintain the integrity of academic outputs in an era where AI-generated content keeps evolving3.

The literature also outlines some gaps and avenues for further research. Most of the existing research has considered technologically advanced or Western education contexts, with few studies investigating cultural and subject-specific differences in AI adoption and its impact on procrastination. Longitudinal work is needed to evaluate the long-term effects of extended AI use on students' writing practices, learning outcomes, and self-regulation skill development5. Also, the collaborative synergy among peer support, instructor direction, and AI demands continued study to define optimal practice when merging technology and teaching writing skills2.

Overall, literatures indicates that AI can curb and exacerbate procrastination in academic writing among students in higher education. It is still under the mercy of intelligent use, moral management, and availability of human factors such as peer motivation and instructor mentorship. While AI keeps progressing and dominating classrooms, more studies and responsive intervention will be necessary to tap into the potential without diluting academic integrity and student development.

III.   RESEARCH QUESTIONS

The aim of this research study is to examine the relationship between the extent of AI usage and the level of procrastination in tertiary-level students, specifically the Bachelor of Secondary Education major in English. To address these concerns, the study seeks to answer the following research questions:

1. What is the extent of AI usage of the students in academic writing when taken as a whole and when grouped according to year level?
2. What is the level of procrastination of students when doing academic writing when taken as a whole and when grouped according to year level?
3. Is there a significant difference in the extent of AI usage of the students in academic writing when grouped according to year level?
4. Is there a significant difference in the level of procrastination of the students in academic writing when grouped according to year level?
5. Is there a significant relationship between the extent of AI usage and the level of procrastination of students in doing academic writing?

IV.   METHODOLOGY

Research Design

This quantitative study utilized a descriptive-correlational research design to examine the relationship between the extent of AI usage and the levels of academic procrastination in writing among BSEd students majoring in English. This research design enabled the researchers to describe the different variables separately and understand their possible correlation without the interference of other variables. The study further examined how frequently students used AI tools in academic writing and how this correlated with procrastination.

Respondents

The Bachelor of Secondary Education major in English from a state university was chosen as the respondents of this study, where total enumeration sampling was used. All students who are under this program were involved in answering the survey, as this method is accessible for everyone, enhancing the comprehensiveness of the data gathered and the validity of the results, since the population represented is relevant to the study. A total of 140 respondents were included in this study.

Research Instruments

The researchers used a validated researcher-made online survey form administered via Google Forms to gather all the data needed in this study. To measure both the extent of artificial intelligence (AI) usage and the level of academic procrastination in academic writing, the instrument was structured.

Google Form was used, which consisted of two major parts:

Part I: Extent of AI Usage in Academic Writing

This section consisted of twenty (20) items to assess the frequency of AI tool usage in academic writing tasks of the respondents. Items covered aspects such as grammar assistance, content generation, idea development, paraphrasing, translation, and formatting. A five-point Likert scale was utilized to rate the responses with these response options:
1 = Never, 2 = Rarely, 3 = Sometimes, 4 = Often, 5 = Always.
The scale's effectiveness was considered by the researchers since it captures the varying degrees of the AI usage of the students in their academic writing in a quantifiable and interpretable manner.

Part II: Level of Procrastination in Academic Writing

This section also contained twenty (20) items designed to measure behavioral indicators of procrastination, which included questions about avoidance of tasks, preference for last-minute work, and difficulties with time management. The responses were also measured using a five-point Likert scale with these descriptors:
1 = Strongly Disagree, 2 = Disagree, 3 = Uncertain, 4 = Agree 5 = Strongly Agree.
This scale allowed each respondent to express varying levels of agreement according to their experiences, which was appropriate for assessing attitudes and tendencies toward procrastination.

Data Gathering

The data for this study were collected through a Google Forms survey, which provided both accessibility and efficiency in reaching all the target respondents—students enrolled in the BSED English program. The link to the form was disseminated through official platforms such as university emails, class group chats, and learning management systems. Before the conduct of the survey, the respondents were asked to provide informed digital consent. The form included a statement that details the purpose of the study, the confidentiality of data, anonymity of responses, and the voluntary nature of participation.

The responses were securely stored, and no personal recognizable information was collected. Ethical guidelines—including the right to withdraw any time—were strictly observed throughout the data collection process. The researchers remained the survey open for a specific time period to allow sufficient time for respondents   to   finish.
After gathering the data, the responses were organized, cleaned, and prepared for analysis using descriptive and inferential statistical tools.

Data Analysis

To answer the research questions, both descriptive and inferential statistical tools were employed. Descriptive statistics, including means and standard deviations, were used to determine the extent of AI usage and the level of academic procrastination in writing among English major students, both as a whole and across different year levels. In analyzing results, two statistical tools were used. The Kruskal-Wallis H test in assessing whether there were significant differences in AI usage and procrastination levels across year levels, and the Spearman's rank-order correlation coefficient to examine the relationship between the extent of AI usage and students' level of procrastination in academic writing among BSED English majors. The results are presented in tables with corresponding interpretations and discussions.

V.   RESULTS

Table 1. Mean and Standard Deviations of the Extent of AI Usage in Academic Writing among tertiary students

YEAR LEVEL	N	Mean	Interpretation	Standard Deviation
FIRST YEAR	11	3.14	SOMETIMES	0.55
SECOND YEAR	27	3.13	SOMETIMES	0.59
THIRD YEAR	24	3.84	OFTEN	0.52
FOURTH YEAR	12	3.19	SOMETIMES	0.84
TOTAL	74	3.37	SOMETIMES	0.68

Note: 4.21-5.00 "Always", 3.41-4.20 "Often", 2.60-3.40 "Sometimes", 1.81-2.60 "Rarely", 1.00-1.80 "Never"
The table 1 shows the overall extent of AI usage among English major students in academic writing, and it is interpreted as "Sometimes" (M = 3.379, SD = 0.686). When differentiated by year level, Third Year students were reported to be the highest users of AI (M = 3.848, SD = 0.525), categorized as "Often." Meanwhile, First

Year (M = 3.146), Second Year (M = 3.139), and Fourth Year (M = 3.196) students all showed "Sometimes" usage. This suggests that while AI tools are integrated into academic tasks by most students, their frequency of use varies, with Third Year students demonstrating notably higher reliance.

Table 2. Mean and Standard Deviation of the Level of Academic Procrastination in Writing among English Major Students

YEAR LEVEL	N	Mean	Interpretation	Standard Deviation
FIRST YEAR	11	3.532	Severe Procrastinator	0.783
SECOND YEAR	27	3.457	Severe Procrastinator	0.573
THIRD YEAR	24	3.788	Severe Procrastinator	0.606
FOURTH YEAR	12	2.754	Moderate Procrastinator	1.006
TOTAL	74	3.462	Severe Procrastinator	0.766

Note: 4.21-5.00 "Extreme Procrastinator", 3.41-4.20 "Severe Procrastinator", 2.60-3.40 "Moderate Procrastination", 1.81-2.60 "Mild Procrastinator", 1.00-1.80 "non-procrastinator"

Table 2 shows that the overall mean procrastination score of tertiary students majoring in English were 3.462 (SD = 0.766), which is interpreted as "Severe Procrastinators." Third Year students again showed the highest procrastination level with a procrastination score of (M = 3.788), followed by First Year (M = 3.532), Second Year (M = 3.457), and Fourth Year students (M = 2.754), the last of which was interpreted as "Moderate Procrastinators." The results highlight the developmental differences in self-regulation and time management of the students across academic levels.

Table 3. Extent of AI Usage in Academic Writing across Year Levels

	Category	Mean Rank	Kruskal Wallis	Df	Sig (2-tailed)
	FIRST YEAR	29.05			
	SECOND YEAR	29.46			
YEAR LEVEL	THIRD YEAR	52.49	17.410	3	0.001
	FOURTH YEAR	33.54			

*p<0.05, "SIGNIFICANT"

In table 3, a Kruskal-Wallis H test indicated a significant difference in AI usage based on year level, H(3) = 17.410, p = 0.001. The results show that students fom third Year had the highest mean rank (52.49), suggesting that they use AI significantly more than their peers across other levels.

Table. 4 Level of Academic Procrastination in Writing across Year Levels

	Category	Mean Rank	Kruskal Wallis	Df	Sig (2-tailed)
	FIRST YEAR	39.77			
	SECOND YEAR	35.09			
YEAR LEVEL	THIRD YEAR	46.79	10.986	3	0.012
	FOURTH YEAR	22.25			

*p<0.05, "SIGNIFICANT"

Another Kruskal-Wallis H test also used in table 4 indicating a significant difference in the procrastination across year levels, H(3) = 10.986, p = 0.012. Third Year students again were recorded as the year level with the highest mean rank (46.79), and Fourth Year students the lowest (22.25), confirming that procrastination patterns shift as students' progress academically.

Table 5. Relationship between the Extent of AI Usage and Level of Academic Procrastination

			AI USAGE	PROCRASTINATION
Spearman's rho	AI USAGE	Correlation Coefficient	1.000	0.320
		Significance (2-tailed)		0.005
	PROCRASTINATION	Correlation Coefficient	0.320	1.000
		Significance (2-tailed)	0.005	

$p<0.05$, "SIGNIFICANT"

A **Spearman's rho** correlation test showed a **moderate positive relationship** between AI usage and procrastination, **r = 0.320, p = 0.005.** This implies that higher usage of AI tools is significantly associated with higher levels of procrastination among students.

VI.   DISCUSSIONS

The findings demonstrate a notable pattern: students experiencing heavier academic workloads and greater time pressure-such as those in their third year-tend to use AI tools like ChatGPT more frequently and also exhibit higher levels of procrastination. This is based by recent researches indicating that students facing increased academic demands are more likely to turn to using generative AI for support with complex writing tasks and to manage their responsibilities more efficiently. The association is particularly present among students in intermediate levels, who often report to experience cognitive and emotional stress, that results to a greater reliance on technological aids for academic support.

Adopting a perspective that is focused on learning and growth, allows better understanding of the significant differences in both AI usage and the level of procrastination of the BSED Major in English students across their year level. As students continue to advance in their academic journey, they generally expected to acquire a stronger time management skills and academic discipline. According to the results of the study, fourth-year students who happen to have a low score in AI usage signifies that, as they are closer to graduation, they may have a more strengthen sense of accountability regarding academic integrity and thus, unlikely occurrence of procrastination and reliance in using AI tools are noticeable. This observation aligns with existing theories that older or more advanced students are more likely to engage in proactive behaviors due to experiences that results for them to have greater self-regulation that increases maturity.

Moreover, the results clearly shows that there is a consistent, positive correlation between AI usage and the level of procrastination in academic writing among BSED English students. Several studies confirm that overhauling reliance on ChatGPT is significantly associated with higher procrastination scores among tertiary students, even after considering other factors. While AI tools can enhance productivity and academic performance by simplifying the writing process and reducing the time needed to complete assignments, they may also still enable academic delays due to too much dependency that they can finish their writing assignments on time. Students who procrastinate has the ability of doing it by generating content close to deadlines, relying on AI's efficiency to meet requirements at the last minute-a practice that can diminished opportunities for deep learning and critical engagement.

The findings of this study raise important pedagogical concerns. While AI tools can be a valuable assistant for academic writing, over-reliance reduces students' writing development, creativity, and sense of ownership. The convenience that AI can offer may encourage a false sense of time security, wherein it further reinforces avoidance behaviors in students and makes it easier for them to delay substantive engagement with their work. As recent scholars emphasize, institutions must balance the benefits of AI integration in academic environments with clear ethical guidelines and conduct AI literacy programs. Teachers and administrators should also work collaboratively to promote a responsible use of AI as a supporting tool in students' academic work—particularly at the tertiary level, where students are finessing the fundamentals of their chosen fields. It is important to emphasize AI should only complement, not replace, students' efforts and critical thinking capabilities.

VII.   CONCLUSIONS

This research investigated the complex relationship between the usage of AI and procrastination in academic writing among Bachelor of Secondary Education (BSED) English majors. The data found that the students were using AI tools (ChatGPT, Grammarly, Quillbot) "sometimes" on average. Third-year students were found to use AI the most. Simultaneously, a general trend of "severe procrastination" was observed,

especially among the same group. Notably, a statistically significant positive correlation between AI usage and procrastination was found, indicating that as students increasingly depend on AI tools, their tendency to delay academic writing tasks also rises.

These findings support artificial intelligence's dual nature as a useful tool in higher education. These include helping students overcome writer's block, manage workloads, and improve their writing, among other ways they are incorporated into a student's life. However, these conveniences and speed can also lead students to depend on last-minute revamping while contributing to a decline in critical thinking and ownership of one's academic status. Different year levels further illustrate the extent of variation in the use of AI and procrastination, which attended the factors such as academic maturity, self-discipline, and experience in and with technology.

Above all, it certainly has its implications beyond a statistical relationship. It has important pedagogical and even ethical implications as far as what AI can or may do in terms of student behavior, academic integrity, and learning outcomes. Final-year students, such as those in their Fourth Year, exhibited fairly moderate use of AI and less procrastination, probably hinting at more developed responsibility and self-anecdotal self-regulation. Therefore, that becomes a cue for designing targeted interventions associated with levels of academic maturity. Moreover, educational establishments will focus on AI literacy to promote healthier academic practices. They would teach students not only how to use AI but also how to know when and why they should use an AI tool. The faculty might bring in modules dealing with the lines of responsible AI use, the ethics of writing, and time management in this regard. Systems of education should not discourage AI but should rather assist students in considering it a tool that complements intellectual work and engagement. It would be interesting to study the qualitative aspects of AI such as AI use, the motivations, attitudes, and context leading to procrastination. With longitudinal methods, one could investigate how students relate AI with procrastination over time, with deeper integrations of AI into educational settings.

Most importantly, a blend of AI applications and external influences such as peers, academic stress, and institutional support mechanisms might also be useful in comprehending students' conduct. Most significantly, a combination of the application of AI and the external factors that may also reflect peer pressure, academic demands or support from the institution, may also be beneficial in exploring students' behavior. However, while AI may improve higher education for the better, the use of AI in students' academic writing needs to be used responsibly. Thoughtful, fair, and reflective use of AI applications can improve education by giving students more capacity without leading them to be irresponsible, dependent thinkers.

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The following prompts were employed:
- Please make this paragraph more organized...
- Provide a review of related literature published from 2019 up to present...
- Make this list of references be in APA format 7th edition...
- Suggest ways to improve the coherence of this paragraph…
- Provide a concise definition of Artificial Intelligence suitable for academic writing…
- Summarize the main findings of this article in simple terms…
- Rephrase this section to sound more natural and human-written…
- Check this text for grammar, punctuation, and sentence structure…

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