

Analyzing the relationships between nursing students' academic performance, academic procrastination, burnout, and GPA

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Abstract

Background: The current learning system, which employs hybrid learning methods, requires students to adapt and manage their time effectively. Failure to do so may increase the risk of experiencing academic burnout and procrastination.

Purpose: This study aims to explore the relationship between academic burnout, academic procrastination, self-regulated learning, academic performance, and Grade Point Average (GPA) among students.

Methods: A cross-sectional study was conducted with 310 nursing students selected through purposive sampling. The variables examined were academic burnout, academic procrastination, self-regulated learning, academic performance, and GPA. The instruments used included the Self-Regulated Learning Scales, the Maslach Burnout Inventory Student Survey, the Active Procrastination Scale, and the Academic Performance Scale. Statistical analysis was performed using Structural Equation Modeling (SEM) with Partial Least Squares (PLS).

Results: The confirmatory factor analysis of the scales indicated that SRMR=0.125, NFI=0.620, and RMS theta=0.190, suggesting that the model does not meet the criteria for a good fit. The R-square value was 0.481, indicating that self-regulated learning, academic procrastination, and burnout collectively influence academic performance.

Conclusion: These findings contribute to the literature by highlighting the role of self-regulated learning and procrastination in academic outcomes while calling into question the reliability of GPA as a sole indicator of academic success.

Keywords: academic; burnout; procrastination; self-regulated learning; students

Introduction

Academic performance has garnered significant attention, particularly in higher education institutions that face growing challenges due to shifting learning environments. Since the COVID-19 pandemic, learning methods that were initially conducted offline transitioned to online. After the pandemic ended, these methods evolved into hybrid learning approaches. The hybrid learning, which combines online and offline methods, has introduced new complexities for students. They are expected to manage their time, maintain motivation, and regulate their learning behaviors across different platforms. Among these factors, academic procrastination, academic burnout, and self-regulated learning are particularly significant as they directly impact students' academic experiences and outcomes. (Ragusa et al., 2023)

Academic procrastination involves the voluntary delay of academic tasks despite knowing that such delays could lead to negative consequences

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(Salguero-Pazos & Reyes-de-Cózar, 2023) a research indicates that procrastination disrupts students' ability to manage their time effectively, leading to missed deadlines and reduced academic performance (Rad et al., 2025). Academic burnout, characterized by emotional exhaustion, cynicism, and a sense of reduced personal accomplishment (Liu et al., 2023). Self-regulated learning involves students' ability to effectively plan, monitor, and evaluate their learning processes (Raković et al., 2022). It is a well-documented predictor of academic success, with self-regulated learners typically achieving higher academic performance due to better time and resource management (Panadero, 2017). Despite the strong evidence linking self-regulated learning to academic achievement, there is a gap in understanding how it interacts with procrastination and burnout to influence GPA.

The influence of academic procrastination, burnout, and self-regulated learning on academic performance and GPA (Grade Average Point) is a critical area of research, given its implications for student success and well-being. Understanding these factors is essential for developing effective educational strategies and interventions. This research topic is significant because it addresses the complex interplay between students' psychological states and their academic outcomes, which can inform policies and practices to enhance educational experiences and performance.

Previous research highlights the reciprocal relationship between GPA and burnout, indicating that high academic performance can lead to increased burnout, particularly among high-achieving students (Puah et al., 2024). Additionally, studies have shown that self-regulated learning significantly influences academic procrastination, suggesting that effective time management and motivation are essential for academic success (Goyal et al., 2024). Another studied studies have explored the reciprocal relationship between burnout and GPA, highlighting the role of grit and passion as moderating factors (Puah et al., 2024). However, the dynamic between self-regulated learning and procrastination remains underexplored, particularly in how self-regulation can mitigate procrastination's negative effects (Astuti, 2024).

This research adopts an integrative theoretical framework combining Self-Regulated Learning Theory (Zimmerman, 2002), Maslach's framework of academic burnout (Maslach & Jackson, 1981) and the Temporal Motivation Theory (Steel & König, 2006) to examine the combined effects of academic procrastination, burnout, and self-regulated learning on academic performance and GPA.

Materials and Methods

Design

This is an analytical study with a cross-sectional design, conducted from April to May 2024.

Sample

The sample consisted of 310 students aged between 19 and 22 years, taken by purposive sampling. The participants were nursing students from the Faculty of Nursing and Midwifery at Private University Surabaya. The inclusion criteria are all nursing students in second and third year. The G*Power program was utilized to determine the sample size and assess the statistical power of the study. For all calculations, a significance level (α) of 0.05 and a statistical power ($1 - \beta$) of 0.95 were employed.

Variable and Measurements

Self-Regulated Learning

The Self-Regulated Learning questionnaire used the Zimmerman version, which was modified by Fauziah (Fauziah et al., 2018). It consists of 47 questions using a Likert scale ranging from 1 to 4. For favourable items, 1 point represents "strongly agree," 2 points for "agree," 3 points for "disagree," and 4 points for "strongly disagree." Conversely, for unfavourable items, 1 point represents "strongly disagree," 2 points for "disagree," 3 points for "agree," and 4 points for "strongly agree." Favourable items include questions 1, 2, 7, 8, 9, 11, 13, 15, 18, 19, 21, 23, 25, 26, 29, 30, 33, 35, 36, 37, 40, 41, 44, and 45, while unfavourable items are questions 3, 4, 5, 6, 10, 12, 14, 16, 17, 20, 22, 24, 27, 28, 31, 32, 34, 38, 39, 42, 43, 46, and 47. The questionnaire assesses three domains: academic cognition, academic motivation, and academic behaviour. The reliability test yielded a Cronbach's alpha of 0.923.

Academic Burnout

Academic burnout was measured using the Maslach Burnout Inventory Student Survey (MBI-SS) (Schaufeli et al., 2002), which consists of 15 questions using a Likert scale. For favourable items, 1 point represents "strongly agree," 2 points for "agree," 3 points for "disagree," and 4 points for "strongly disagree." For unfavourable items, the scoring is reversed: 1 point represents "strongly disagree," and so on. Favourable items are numbered 1-9, while unfavourable items are 10-15. The questionnaire is divided into three domains: emotional exhaustion, depersonalization, and personal achievement.

Academic Procrastination

The Academic Procrastination questionnaire used the Active Procrastination Scale (APS) developed by (Chun Chu & Choi, 2005), later modified by (Choi & Moran, 2009), with the Indonesian version validated and tested for reliability by Purwanto (Purwanto & Natalya, 2019). The questionnaire consists of 16 items, with four dimensions: outcome satisfaction, preference for pressure, intentional decision to procrastinate, and ability to meet deadlines. Each dimension comprises four items, and responses are measured on a seven-point Likert scale ranging from 1 ("totally disagree") to 7 ("totally agree").

Table 1. Characteristic of respondents

Variable	N	%
Gender		
Male	27	8.7
Female	283	91.3
Age		
19 years	68	21.9
20 years	70	22.6
21 years	160	51.6
22 years	12	3.9

Table 2. Model fit

	Saturated Model	Estimated Model
SRMR	0.125	0.126
d_ ULS	2.969	3.014
d_G	0.574	0.577
Chi-Square	1054.018	1059.264
NFI	0.620	0.619

Table 3. Hypotesis test

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (O/STDEV)	P Values
Academic Performance -> GPA	0.051	0.052	0.061	0.839	0.402
Academic Procrastination -> Academic Performance	-0.632	-0.636	0.043	14.597	0.000
Burn-out Academic -> Academic Performance	0.051	0.041	0.039	1.308	0.191
Self-Regulated Learning -> Academic Performance	0.508	0.508	0.044	11.493	0.000

For unfavourable items, the scoring is reversed. Unfavourable items include questions 9, 10, 11, and 12.

Academic Performance

The Academic Performance questionnaire was adapted from the instrument developed by Carson Birchmeier, Emily Grattan, Sarah Hornbacher, and Christopher Gregory of Saginaw Valley State University. It consists of 8 items, with responses measured on a five-point Likert scale, where 5 represents "strongly agree" and 1 represents "strongly disagree."

Grade Point Average (GPA)

The maximum GPA is 4. The cumulative GPA of the students was categorized as follows: 3.5-4.0 as excellent, 3.0-3.5 as very good, 2.5-3.0 as fairly good, 2.0-2.5 as poor, and 0.0-2.0 as fail.

Data collection

The research involves collecting primary data

through a self-administered questionnaire. To obtain the necessary data, a request letter was sent to the College Dean for permission to conduct the study. Following approval and ethical clearance, the researchers began gathering data from students. The data collection was carried out using Google Forms, and there was no face-to-face interaction during this process. On the first page of the Google Form, there is a description of the research objectives and the identities of the researchers involved. This is followed by an informed consent section for the respondents. Those who agree to participate can proceed directly to respond to the questionnaire, while those who do not wish to participate may exit the Google Form immediately.

Data analysis

Statistical analysis was conducted using Structural Equation Modeling-Partial Least Square (SEM-PLS). Descriptive statistics were employed to describe the participants' age and gender.

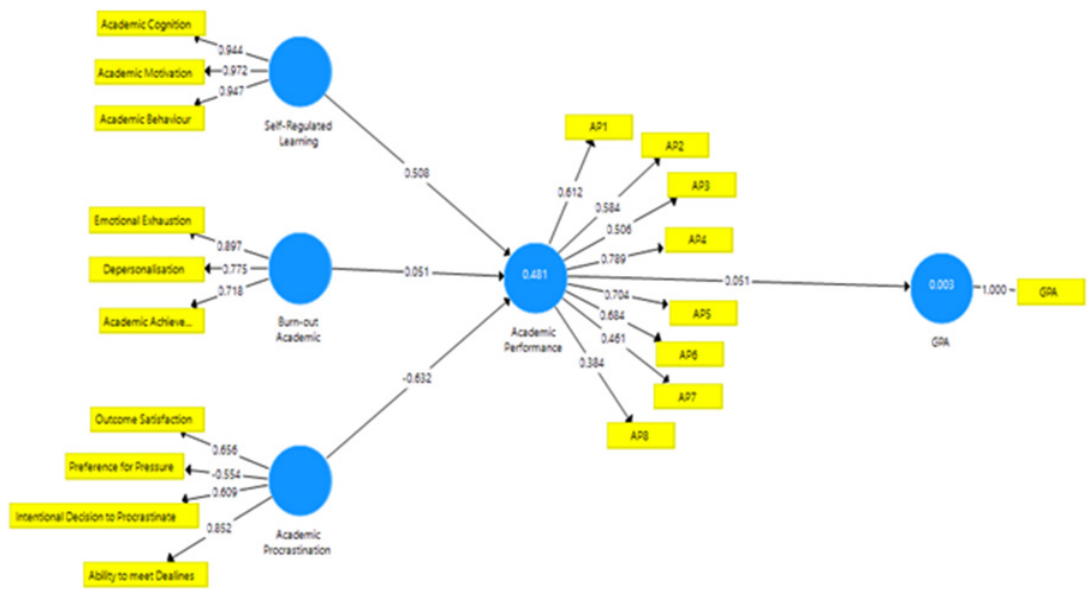


Figure 1. Loading factor analysis

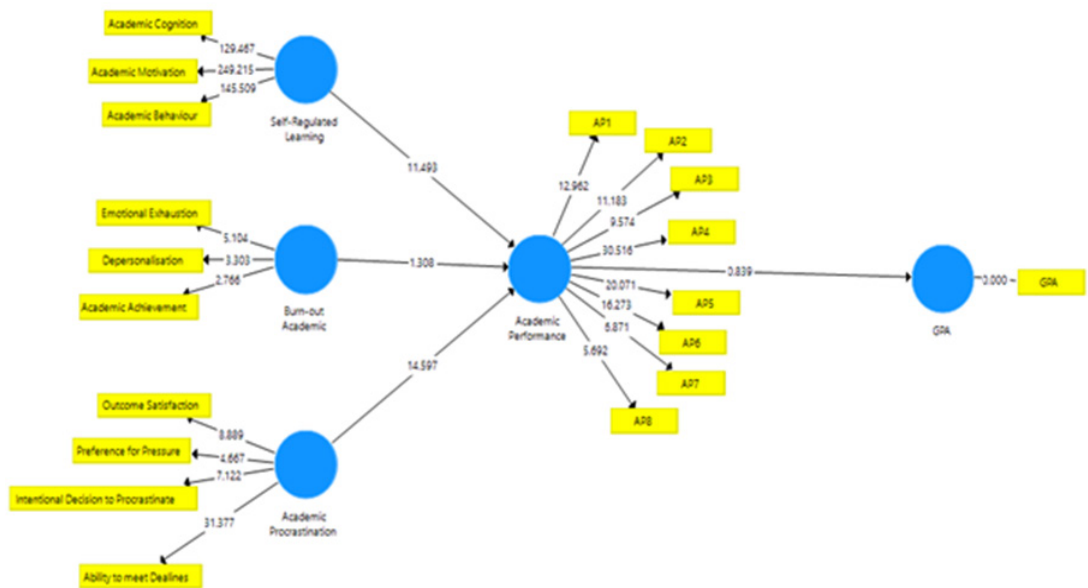


Figure 2. Structure equation model analysis

Ethical consideration

Ethical approval for this study was obtained from the Health Ethics Committee of Universitas Nahdlatul Ulama Surabaya, No. 0151/EC/KEPK/UNUSA/2024

Results

The data revealed that 91.3% of the respondents were female, with the most common age being 21 years (Table 1) The variable self-regulated learning generated high factor loadings, exceeding 0.9, as

did academic burnout. Conversely, the variable academic procrastination showed low factor loadings, particularly for the item "Preference for Pressure," indicating that this item contributes minimally to the latent variable of academic procrastination. Similarly, the variable academic performance displayed low loading factor for items No. 2 ("I pay attention and listen during every discussion"), No. 7 ("I exert more effort when I do difficult assignments"), and No. 8 ("Solving problems is a useful hobby for me") (Figure 1).

Confirmatory Factor Analysis for model fit are SRMR of 0.125, and NFI of 0.620, with an RMS Theta of 0.190, suggesting that the model does not meet the fit criteria. The R-square value of 0.481 implies that self-regulated learning, academic procrastination, and academic burnout collectively influence academic performance (Table 2). The T statistic value for self-regulated learning is 11.493, for academic procrastination it is 14.597 in relation to academic performance, while the T statistic value for academic burnout is 1.308 and for academic performance in relation to GPA it is 0.829 (figure. 2)

Meanwhile, Self-Regulated Learning (SRL): SRL shows a strong positive relationship with Academic Performance (coefficient: 11.493). This suggests that students with higher levels of self-regulated learning tend to perform better academically, Burn-out Academic shows a weak negative relationship with Academic Performance (coefficient: -1.308). Academic Procrastination: Academic Procrastination demonstrates a significant negative relationship with Academic Performance (coefficient: -14.597). Academic Performance is measured through eight indicators (AP1 to AP8), all showing significant loadings, surprisingly, the relationship between Academic Performance and GPA is very weak (coefficient: 0.839) (Figure.2)

The final results indicate that academic procrastination is significantly related to academic performance (p -value < 0.001), as is self-regulated learning (p -value < 0.001). However, academic burnout does not significantly affect academic performance (p -value > 0.005) and academic performance shows no significant impact on GPA. (Table 3)

Discussion

The purpose of this study is to analyse the relationships between academic procrastination, academic burnout, self-regulated learning, academic performance, and GPA. The results show that academic procrastination is related to academic performance. This is in line with previous research that states that academic procrastination negatively impacts academic performance, which is detrimental to students (Bahl et al., 2024). It is very clear that the intention to procrastinate and the increasing pressure of deadlines can negatively impact low academic performance. (Kim & Seo, 2015). The online learning system tends to make

students more prone to procrastination compared to offline learning (Sun et al., 2023) (Budury et al., 2022) Other research findings also indicate that Students who tend to procrastinate academically may find it difficult to achieve a state of flow, which can lead to lower academic life satisfaction (Öztekin et al., 2025).

The main reasons for this procrastination behavior are a lack of interest in completing tasks, low self-control (Shi, 2023) and also dependence on peers, and even a dislike for academic assignments (Budury et al., 2022). Recent studies also mention that factors influencing procrastination include stress, health issues, and insufficient self-regulation processes (Araya-Castillo et al., 2023). In the context of online and offline learning, students tend to procrastinate more when using online methods. Students express that offline learning can enhance self-perception and self-efficacy in studying due to direct interaction with peers and lecturers (Muhson et al., 2024).

Academic burnout was found to be uncorrelated with academic performance. It is a complex phenomenon that sometimes does not relate to academic success. This finding is supported by previous research indicating no relationship between academic burnout and performance (Garden, 1991) Other studies suggest that academic burnout is more closely related to poor sleep quality (Figueiredo & Ferreira, 2024) and that emotional intelligence might mediate the relationship between academic burnout and performance (Jurado et al., 2021) These results contrast with other research indicating that academic burnout correlates with poor GPA and academic achievement (Madigan & Curran, 2021) Academic burnout may not affect performance if students possess effective learning regulation strategies and a supportive network like family and friends, allowing them to manage burnout while maintaining good academic performance.

Self-Regulated Learning (SRL): There is a significant relationship between self-regulated learning and academic performance, as supported by previous research (Gorbunova et al., 2024) that the role of SRL in arranging student motivation and behavior allows students to plan and evaluate their learning processes. Previous studies have shown that SRL involves goal setting, applying learning techniques, self-monitoring, and self-adjustment, significantly impacting academic performance (Bahir & Wang, 2023). Effective time management, a critical component of SRL, positively influences academic outcomes. Students who effectively plan their time, both short and long-term, tend to achieve higher academic results (Lourenço & Paiva, 2024). In blended learning environments, mastering digital strategies through SRL is essential for high academic performance. Students proficient in SRL demonstrate better management of cognitive, organizational, and motivational resources, crucial for success in technologically integrated learning contexts (Vargas-Mendoza & Gallardo, 2023)

Academic performance demonstrates no correlation with GPA. Despite its predictive power, GPA alone does not capture all aspects of academic performance, as it primarily reflects grades rather than the full spectrum of student learning and development (Nurudeen et al., 2024). Academic performance and GPA are related but distinct concepts. Academic performance encompasses a broader range of student achievements, including skills, knowledge, and competencies acquired during their education, while GPA is a numerical representation of a student's average performance across courses.

Conclusions

The findings reveal that both academic procrastination and self-regulated learning significantly influence academic performance. However, academic burnout showed no significant relationship with academic performance, and academic performance itself was not directly linked to GPA. The study contributes to the understanding of factors that affect students' academic outcomes, highlighting the importance of managing procrastination and promoting self-regulated learning to enhance performance. Surprisingly, the lack of connection between academic performance and GPA suggests that GPA may not fully capture students' learning or capabilities. Future research should explore additional variables that might influence GPA and assess alternative measures of academic success. Educational institutions are encouraged to implement interventions focused on improving self-regulated learning and reducing procrastination to support better academic outcomes.

Limitation of study, the sample size and demographic characteristics of the participants, which could affect the generalizability of the results to a broader population of students. The results may be specific to the particular academic environment or cultural context in which the study was conducted. Educational systems, grading policies, and student support structures vary across regions, potentially influencing the relationships between the variables studied.

Declaration of Interest

There is no conflict of interest among authors

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Data Availability

Data are available from the corresponding author upon a reasonable request.

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