



Student Engagement Reviewed Based on Gender and Academic Year

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Abstract

This study aims to determine differences in student engagement by gender and academic year. A quantitative approach with a comparative research design was chosen to answer the research objectives. A total of 379 active students participated in this study, selected using accidental sampling. Data were obtained using a student engagement scale and analysed using ANOVA. The results of the study found that: 1) There was no difference in student engagement based on gender (significance value = 0.400). 2) There was a significant difference in student engagement based on academic year (significance value = 0.001); further analysis showed that first-year students had the highest mean score compared to students in higher years. From these results, it can be concluded that there was no difference in student engagement by gender, whereas by academic year, there was a significant difference. This study provides new insights into the factors of gender and academic year that can impact student engagement. It is hoped that future studies can conduct in-depth analysis using confirmatory factor analysis (CFA) on related variables and involve a more diverse range of subjects.

Keywords: academic year, gender, student engagement

INTRODUCTION

Students in college as actors in learning are not immune to academic problems, such as language barriers, time management issues, and cultural differences within the academic community (Fook & Sidhu, 2015). In addition, students also face challenges in the learning process, namely participating in online learning (Barrot & Fernando, 2023). Since entering the new normal, learning using both online and offline methods has become an additional alternative (Jafar et al., 2023). For students who are unable to adapt to these learning methods, this will result in a series of negative impacts such as low expectations learning (Zhao, 2023), high academic stress (Ibda et al.,

2023), burnout academic (Khoirunnisa & Uyun, 2024), and school engagement (Eseadi et al., 2023).

Among these negative impacts, one that has attracted researchers' attention is student engagement, namely, students' involvement in the learning process (Christenson et al., 2012). Examining student engagement is important because student involvement is one indicator of academic success or failure (Fredricks & McColskey, 2012). Students with low engagement tend to exhibit passive learning behaviour, minimal participation, low motivation to learn, and difficulty understanding the topic (Turnquest et al., 2024). If not identified early, this condition can develop into more serious academic problems, such as declining performance, delayed studies, and increased dropout rates (Shinwari et al., 2023). Therefore, studies on school engagement have strategic value in efforts to prevent academic risks among students.

Mapping student engagement also serves as a basis for formulating higher education policies and interventions (Kang et al., 2023). Higher education institutions can design more participatory learning strategies, responsive academic services, and a campus environment that supports student needs by understanding patterns of student engagement (Lasekan et al., 2024). There are two important variables in understanding variations in student engagement: gender and academic year (Mutiarasari et al., 2024; Sun et al., 2024). These two variables represent psychosocial differences, learning experiences, and academic development stages that directly influence how students engage in the learning process (Korhonen et al., 2024; Wang et al., 2024).

Gender is an important variable in the study of student engagement because gender differences are often associated with variations in learning motivation, self-regulation strategies, and ways of

interacting with the academic environment (Havik & Westergård, 2020). Research by Aguillon et al. (2020) showed that male and female students can exhibit different patterns of engagement across behavioural, emotional, and cognitive aspects. Research by Valls (2022) found that female students tend to show higher academic engagement, as measured by learning consistency and participation, while male students are more variable across learning contexts.

According to Adetayo et al. (2024), the influence of student engagement on academic success differs between male and female students, suggesting that ignoring gender factors in student engagement studies can yield biased, unrepresentative conclusions about the student population as a whole. Therefore, examining student engagement by gender is important to ensure that the learning strategies, academic services, and institutional policies developed are inclusive and responsive to students' diverse needs.

In addition to gender, academic year also represents different phases of student academic development and has direct implications for the level of student engagement (Maloshonok, 2024). First-year students are generally in a vulnerable transition phase, marked by adapting to academic demands, a new social environment, and learning styles in higher education (Lacey et al., 2022). At this stage, student engagement is often unstable and highly influenced by external factors such as faculty support and the learning environment (Çali et al., 2024).

Research by Korhonen et al. (2024) showed that student engagement is not static, but instead changes throughout the academic year. Students in their early years show fluctuating engagement. In contrast, students in their middle and final years may experience a decline in engagement due to academic burnout and the pressure of final assignments. Similar findings are reported by Kahu et al. (2020),

who confirm that the stage of study greatly influences students' current academic experiences. Thus, examining student engagement without accounting for the academic year risks oversimplifying its dynamics and ignoring important changes that occur throughout the study period.

Although important, research on student engagement in the last five years still tends to examine gender and academic year separately. However, the interaction between these two variables can yield different engagement patterns. Therefore, an analysis that combines gender and academic year is important for gaining a more comprehensive understanding of the dynamics of student engagement in higher education.

RESEARCH METHODS

Approaches and Types of Research

A quantitative, comparative research design was chosen as the method in this study because the main objective was to obtain an overview of school engagement by gender and academic year.

Research Subject

The research subjects were active college students at one of the universities in South Sumatra. A total of 379 respondents were involved in this study, obtained through accidental sampling, a technique of selecting research subjects who happen to be available and easily accessible at the time of the study.

Research Instruments

Data collection was conducted using the student engagement Likert scale, consisting of 22 items with four response options: "very appropriate," "appropriate," "inappropriate," and "very inappropriate." The student engagement scale was developed based on the dimensions

of Fredricks et al. (2005), which consist of behavioural, emotional, and cognitive dimensions. Among the items are: "When learning takes place, I pay attention to the lecturer so that I appear serious in learning"; "The situation in my class is delightful." The student engagement scale in this study has a Cronbach's Alpha coefficient of 0.847.

Research Procedures

The data collection procedure in this study involved approaching college students on campus and conducting an initial screening to determine whether they met the research requirements. Next, the researcher showed a QR code linked to the research scale for the subjects to complete, then waited for them to finish before moving on to the following subject.

Data Analysis

Data analysis in this study used ANOVA in JASP 0.19.2.0 to describe school engagement by gender and academic year.

RESEARCH RESULT

Table 1
Distribution Based on Academic Year

Academic Year	Frequency	Percentage
Year I	196	51.7
Year II	39	10.2
Year III	65	17.1
Year IV	46	12.1
Year V	7	1.8
Year VII	26	6.8%
Total	379	100

The participants in this study were 379 active students, comprising 49 males and 330 females. Based on the academic year, 196 students (57.1%) were in first year, 39 students (10.2%) were in the second year, 65 students (17.1%) were in the third year, 46 students

(12.1%) were in the fourth year, seven students (1.8%) were in the fifth year, and 26 students (6.8%) were in the seventh year.

Table 2

Normality Test Results

Variable	Sapiro-Wilk	Interpretation
Student engagement	0.075	Normal

The researcher used the Shapiro-Wilk test to assess the normality of the data distribution in this study. Based on the normality test results, the Shapiro-Wilk statistic was 0.075 ($p>0.05$), indicating that the student engagement data in this study were usually distributed.

Table 3

Homogeneity Test Results

Variable	Levene's	Interpretation
Student engagement	0.880	Homogen

Next, the researcher conducted a homogeneity test using Levene's test to determine whether the groups compared in this study were homogeneous. Based on the results of the homogeneity test, Levene's test statistic was 0.880 ($p>0.05$), indicating that the groups in this study were homogeneous and could be compared.

Table 4

ANOVA Test Results

Variable	F	p	Interpretation
Student engagement*Gender	-0.843	0.400	Not significant
Student engagement*Academic year	15.086	0.001	Significant

After several assumptions (normality and homogeneity) were met, the researcher then conducted an ANOVA analysis. Based on the ANOVA results for student engagement by gender, the p-value of 0.400 ($p>0.05$) indicates no difference in student engagement by gender. However, the results for the academic year showed a significant difference in school engagement with a value of 0.001 ($p<0.05$). Therefore, a Bonferroni test was conducted as a follow-up analysis to examine differences in student engagement across academic years.

Table 5

Bonferroni Test Result

Academic Year	Mean Difference	t	Sig
Year I	Year II	4.822	4.732 < .001
	Year III	5.653	6.795 < .001
	Year IV	1.777	1.866 0.942
	Year V	8.954	4.005 0.001
	Year VI	5.168	4.260 < .001

Based on the Bonferroni test results, there is a difference in student engagement between first-year students and students in other years. The analysis results showed that first-year students have significantly higher student engagement than second-year students (mean difference = 4.822; $p < 0.001$) and third-year students (mean difference = 5.653; $p < 0.001$). A comparison of student engagement between first-year and fourth-year students showed a mean difference score of 1.777, but the difference was not significant ($p = 0.942$). Furthermore, significant differences in student engagement were also found between first-year and fifth-year students (mean difference = 8.954; $p < 0.001$) and between first-year and seventh-year students (mean difference = 5.168; $p < 0.001$). These findings indicate that, for first-year students, student engagement tends to be higher than in most other academic year groups, except when compared to fourth-year students, who showed no difference.

Table 6

Results of School Engagement Description Based on Academic Year

Academic Year	Mean	SD	SE	Coefficient of variation
Year I	70.668	6.174	0.441	0.087
Year II	65.846	5.259	0.842	0.080
Year III	65.015	5.493	0.681	0.084
Year IV	68.891	5.458	0.805	0.079
Year V	61.714	3.773	1.426	0.061
Year VII	65.500	5.515	1.082	0.084

Next, the researcher conducted a descriptive analysis to determine the mean student engagement by academic year. Based on the results of the descriptive analysis, it was found that first-year

students had a mean value of 70.668, second-year students had a mean value of 65.846, third-year students had a mean value of 65.015, fourth- year students had a mean value of 68.891, fifth-year students had a mean value of 61.714, and seventh-year students had a mean value of 65.500. These results indicate that first-year students have a higher mean score than students in other academic years.

DISCUSSION

This study found no difference in student engagement by gender. This finding supports previous studies that found that the level of student engagement among males and females tended to be the same (Arlinkasari & Akmal, 2017; Charkhabi et al., 2019). According to Lestari and Sari (2020), gender differences do not hinder students from improving their academic achievement, because student engagement is a multidimensional construct encompassing cognitive, emotional, and behavioural involvement.

Every student (male or female) has the same capacity to engage in learning when in an actively supportive academic environment. Therefore, if students are given equal opportunities to participate, contribute, and engage themselves during the learning process, gender will not be a factor (Alrajeh & Shindel, 2020; Chernyshenko et al., 2018). According to Prihandini and Savitri (2021), if lecturers facilitate learning effectively, provide support, and do not discriminate against students, this will increase student engagement, mainly when lecturers help students achieve learning objectives.

The following finding is that student engagement differs by academic year. This finding supports the research by Arjomandi et al. (2021), which found differences in school engagement among students across semesters. At the beginning of their studies, students tend to have low stress levels because the assignments and learning materials

are not yet challenging. According to Blair (2017), these differences reflect the dynamics of students' psychological development throughout their studies. First-year students are generally in a transitional phase characterised by high enthusiasm, exploratory motivation, and intense emotional involvement in the new academic environment, and they experience changes over time (Korhonen et al., 2019).

The decline in student engagement among II, III, V, and VII year students indicates that, as academic demands, material complexity, and pressure to complete studies increase, students are likely to experience a decline in intrinsic motivation and learning engagement (Korhonen et al., 2017). In addition, students in their later years of study often face role conflicts between academic and non-academic activities, such as part-time jobs and organisational activities, which can reduce the psychological resources needed to actively engage in learning (Korhonen, 2021).

The finding that there is no difference in student engagement between first-year and fourth-year students indicates that, in their fourth year, students have generally developed more adaptive learning strategies, clearer academic goals, and a stronger career orientation (Shinwari et al., 2023). Although enthusiasm decreases, fourth-year students' learning engagement is maintained through goal-oriented motivation and more mature academic responsibility (Çali et al., 2024). Overall, these findings confirm that student engagement is dynamic and evolves throughout students' academic journey, and is more influenced by developmental stages, academic demands, and learning experiences than by gender factors. Therefore, strategies to enhance student engagement need to be designed contextually, taking into account students' psychological characteristics in each academic year.

The limitation of this study is that an in-depth analysis of different variables has not been conducted. Therefore, researchers

interested in this topic are encouraged to develop this study further using additional variables and confirmatory factor analysis (CFA). Furthermore, future researchers may involve students from different universities to obtain more varied results. Furthermore, research using a Systematic Literature Review (SLR) can provide the latest overview of school engagement.

CONCLUSION

Based on the above discussion, it can be concluded that there is no difference in student engagement by gender, whereas by academic year, there is a difference. Thus, these findings indicate that student engagement is dynamic across the stages of students' academic development, rather than due to gender factors. Furthermore, the findings of this study reinforce the view that efforts to increase student engagement in higher education should be tailored to students' characteristics and needs in each academic year. In practical terms, these results serve as a basis for higher education institutions to design sustainable learning and academic support strategies, especially for students in advanced years who tend to decline in learning engagement.

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