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Exploring Gender Differences in Self- Efficacy and Academic Performance among College Students

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Abstract

This study explored the relationship between self-efficacy and academic performance on gender and academic program differences among 204 undergraduate students at a university in Misamis Occidental. This study employed a descriptive-correlational method. The respondents were predominantly female with the majority enrolled in Social Work and Psychology. While they showed a strong belief in their academic abilities, this inconsistently translate into higher academic performance. Significant differences in self-efficacy were observed across academic programs, with Social Work students reporting the highest levels and Psychology students the lowest. However, gender insignificantly impact either self-efficacy or academic performance. This study suggests that self-efficacy must interact with other factors, such as motivation, learning strategies, and program-specific influences, instead of making it a direct predictor of academic success. Investigating the long-term impact of self-efficacy on academic outcomes, the role of external factors and their interaction with self-efficacy, and their contribution to a deeper understanding of its influence on academic outcomes must also be considered for further studies. Institutions should implement targeted interventions to enhance student self-efficacy and academic resilience as additional support for lower-performing programs for a more holistic approach to student development in higher education.

Keywords: academic performance, academic programs, gender differences, higher education, self-efficacy.

1. Introduction

The individual's belief in performing tasks, achieving goals, and pursuing academic success is defined as self-efficacy, and it is crucial for students in shaping decisions and actions as they take their academic influence, which not only enhances their confidence but also tackling challenges and succeed in specific tasks (Bandura, 1986; Saks, 2024). However, the impact of self-efficacy is not the same across all students since it may vary significantly based on gender and age (Louise & Mistele, 2011; Meera, 2015; Hitches et.al., 2019).

Self-efficacy is not just an expression or measure of confidence; rather, it reflects a comprehensive belief in the individual's capabilities, such as how they approach challenges, the effort they put in, and their persistence in facing those challenges. As such, the more likely they are to engage actively in learning, set ambitious goals, and persevere, the more self-efficacy they show, which leads to better outcomes (Bandura, 1986; Saks, 2024). Furthermore, these outcomes are often visualized in academic performance, which is often quantified by grades, test scores, and overall academic achievement, indicating a student's success and future opportunities (Thornton, 2022). Therefore, self-efficacy's relationship with academic performance is significant, and exploring the relationship dynamics is crucial in the context of gender differences.

Gender differences and their impact on self-efficacy and academic performance have been discussed previously; some of the existing literature stated that these differences are shaped by societal expectations, cultural norms, and the educational environment (Wrigley-Asante et al., 2023).

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For instance, individuals who exhibit lower self-efficacy in the STEM (Science, Technology, Engineering, and Mathematics) field are female students despite performing equally well or better than their male counterparts (Yoshikawa et al., 2018; Voyer & Voyer, 2014).

This may lead to underperformance or even avoidance of certain academic challenges, which ultimately impacts their academic success. Meanwhile, male students might show higher self-efficacy even in areas traditionally dominated by women, although this does not always guarantee a better performance; thus, this lack of preparation or underperformance can be a result of overconfidence (Wilson et al., 2015; Penner, 2015). Therefore, exploring the variation of gender-specific patterns between male and female students is crucial in understanding self-efficacy and its impact on academic achievement. Gender differences can be complex, especially when applying the relationship between self-efficacy and academic performance. In the fields of mathematics and science, students who showcase better performance are often males, which signifies higher self-efficacy. In contrast, students who tend to excel in the Humanities and Social Sciences fields are females but may lack confidence in their abilities, which leads to poor engagement and low performance (Else-Quest et al., 2010). These observations can be linked to other factors as well, such as motivation, learning strategies, and emotional well-being, all of which can vary by gender (Hayat et al., 2020). Female students affected by anxiety, which diminishes their self-efficacy, have poor academic performance, particularly in high-stakes environments (Mao et al., 2019; Usán et al., 2022). On the other hand, conforming to traditional gender roles affects their academic choices, and performance is a common reason for having low self-efficacy in male students as a result of pressure (Eakman et al., 2019). Van Soom & Donche (2014) disagreed with Eakman et al., 2019 and argued that motivational profiles can differ by gender. However, it does not always lead to significant variations in self-efficacy levels. Further, they suggest that gender may influence certain aspects of academic motivation, but it may not significantly impact self-efficacy, particularly among STEM students.

The impact of self-efficacy on academic achievement can go beyond the context of gender differences, therefore signifying its significance (Al-Abyadh & Abdel Azeem, 2022). As such, the influence of being gender-specific on the sources of self-efficacy, such as in science learning, where males often value mastery and vicarious experiences, while females tend to rely more on social persuasion. However, these differences in sources did not result in significant gender differences in overall self-efficacy levels, suggesting that while the origins of self-efficacy may vary, its overall impact remains consistent across genders (Lin & Tsai, 2017). Although female students outperform male students academically in general, they often exhibit lower self-efficacy, especially as they advance in their educational journey. This further implies that gender differences in self-efficacy may become more pronounced at different educational stages, potentially affecting academic outcomes. Although academically, female students generally outperform males; they often exhibit lower self-efficacy as their academic journey advances. Gender differences in self-efficacy may become more pronounced at different educational stages and may affect academic outcomes (Diseth et al., 2014). The significance of academic self-efficacy in predicting academic success plays a crucial role rather than social or emotional, as it underscores academic achievement regardless of gender (Akturk & Ozturk, 2019). While gender may influence certain aspects of self-efficacy, its overall impact on academic performance is relatively consistent. Kassaw & Astatke (2017) added that gender differences in self-efficacy and academic performance are not only significant but also consistent across different contexts and educational settings. Therefore, addressing these gender-specific challenges and the need for targeted interventions in enhancing self-efficacy impacts academic outcomes on account of gender differences (Kassaw & Astatke, 2017).

Self-efficacy's influence on academic outcomes highlights the importance of considering gender when analyzing the relationship between academic achievements based on gender, further suggesting that male and female students may require different types of support to achieve their academic potential (Bhati et al., 2022). Addressing the disparities between genders and their impact on self-efficacy creates a more equitable academic environment where they can achieve their full potential regardless of gender. This dynamic is essential for developing interventions to build self-efficacy and overcome gender-based challenges of students in their academic journey. It also contributes to a more inclusive educational environment where the students have the opportunity to excel (Han, et. al., 2021).

This study explores the gender differences in self-efficacy and academic performance among undergraduate students at a university in Misamis Occidental, Philippines. Understanding these differences is essential for developing targeted strategies that enhance educational outcomes for all students. Determining the existence of significant differences in self-efficacy levels and academic achievements, how these differences made an impact between male and female students, and how it affects their overall academic success has made a research gap about the nuanced and context-dependent nature of gender's impact on self-efficacy and academic performance. As such, the findings of this study provide insights that could inform the development of targeted educational strategies and interventions that address gender-specific challenges and enhance academic performance and self-efficacy across genders.

2. Literature Review

Bandura (1977) describes self-efficacy as an individual's beliefs on how well an individual can perform actions required to deal potential situations. Self-efficacy is vital to choice, performance, and success in education and other aspects in life and college is a transition to workforce or post-graduate. Academically good students have better employment benefits, higher income, higher self-esteem and self-confidence (Tadese, 2022). Individuals with high self-efficacy are resilient and adaptable to existing challenges while low self-efficacy tend to give up easily (Chemers et.al., 2001; Tentama et. al., 2019). Tasks, challenges, and competition in higher education can be overwhelming, hence self-efficacy is one of the vital aspects to successfully overcome and accomplish tasks. In the study of Meng et. al., (2023), self-efficacy is a positive psychological variable to prevent students from academically burnt out and withdrawal from studying and can be a direct predictor of academic achievement.

Gender differences should be taken into account as regards the effects of academic self-concept on self-efficacy. Men and women may face different challenges and opportunities but both play essential roles in the society. For instance, women and men play a vital role in different aspects in life such as economic, political, knowledge, and psychological. These roles for women are manifestations of empowerment in which self-efficacy plays an essential role even in traditionally female-controlled areas such as health and nutrition decision making, among others (Salinger et. al., 2024). Education is crucial in women empowerment, either formal or informal, as for women to be empowered requires knowledge, self-confidence, and other skills in preparation for labor market, analyzing and addressing social surroundings. The results in the study of Al-Qahtani et.al. (2021), self-esteem and self-efficacy were considered important predictors of women empowerment, and most of the educated women in Saudi have high self-esteem. In addition, highly educated women have more chances for work and economic independence, reinforcing higher self-esteem, self-efficacy, and empowerment (Al-Qahtani et.al.,2021). However, men's academic self-efficacy may be more facilitative in the field of science while women need additional support to feel efficacious in science, technology, engineering, and mathematics or STEM (Robinson et. al., 2022; Wang & Yu, 2023). In addition, women have lower academic self-efficacy than men in their undergraduate engineering education, as a result, women is at risk of prematurely terminating their possible careers.

3. Research Methods

This descriptive-correlational study explored gender differences affecting the relationship between self-efficacy and academic performance of the randomly selected 204 students from the College of Arts and Sciences at a university in Misamis Occidental. Generalized Self-Efficacy Scale and the students' General Weighted Average (G.W.A.) were obtained through a questionnaire and utilized which involved descriptive statistics to summarize and describe data distributions.

ANOVA was used to test the significant differences between gender groups, while Pearson product-moment correlation was utilized to assess the strength and direction of the relationships between self-efficacy and academic performance. This comprehensive approach thoroughly analyzed how self-efficacy correlates with educational outcomes and highlighted the impact of gender differences on these variables.

This study also ensured confidentiality and strict ethical protocols were followed throughout the research process. Prior to the collection of data, the researchers provided an overview of the background and purpose of the study. Free prior informed consent was also obtained before the assessment.

4. Results and Discussion

4.1. Demographic Profile of the Respondents

Table 1 illustrates a notable gender imbalance among the 204 undergraduate students surveyed at a university in Misamis Occidental, with 80.4% being female and only 19.6% male. This disparity may reflect broader enrolment trends within the university or the specific programs included in the study. Such gender imbalances are consistent with global educational trends, where certain fields attract a higher proportion of female students (UNESCO, 2023). The predominance of female respondents could influence the generalizability of the study's findings, particularly concerning gender differences in self-efficacy and academic performance.

Variations in self-efficacy levels across these disciplines reflect the specific demands and educational approaches of each program (Zimmerman & Schunk, 2021). The majority of respondents came from the Social Work (48.5%) and

Psychology (35.3%) programs, indicating a significant focus on these fields. Other studies highlighted the importance of self-efficacy in disciplines like Social Work and Psychology, where confidence in one's abilities can substantially impact academic and professional outcomes (Lent et al., 2021). On the other hand, the underrepresentation of students from Biology, English Language, Mathematics, and Political Science suggests that findings might not be generalizable across all academic fields. Studies have shown that self-efficacy can be discipline-specific, influenced by coursework nature and assessment types (Zimmerman & Schunk, 2021). For instance, programs with practical components, such as Social Work, might naturally foster higher self-efficacy due to real-world applications.

The trend of higher female enrolment aligns with broader higher education patterns, where women increasingly outnumber men (NCES, 2022). This trend has implications for understanding self-efficacy and academic performance dynamics, as literature suggests that self-efficacy levels might vary by gender depending on the academic context. For instance, while some studies found gender differences in self-efficacy, others suggest these differences are nuanced and context-dependent (Diseth et al., 2014; Lin & Tsai, 2017). This complexity underscores the need for careful interpretation of self-efficacy and performance data across genders and disciplines.

Overall, this finding suggests that while female students dominate in certain programs and show high self-efficacy, gender differences in self-efficacy and academic performance may vary by discipline and context, necessitating further investigation into these dynamics.

Table 1. Demographic Profile of Respondents

Sex	**Count**	**Percent**
Male	40	19.6
Female	164	80.4
N	**204**	**100.0**
Programs	**Count**	**Percent**
Psychology	72	35.3
Social Work	99	48.5
Biology	5	2.5
English Language	7	3.4
Mathematics	3	1.5
Political Science	18	8.8
N	**204**	**100.0**

(*n = 204*)

4.2. Level of Self-Efficacy Grouped According to their Programs

The self-efficacy levels, as shown in Table 2, highlight notable trends across various academic programs. Psychology students show a high self-efficacy level of 2.9, likely bolstered by the curriculum's focus on human behavior and self-reflection. Social Work students report the highest self-efficacy at 3.1, possibly due to the practical, real-world problem-solving aspects of their training. Biology and English Language students also demonstrate very high self-efficacy, at 3.0 and 3.1, respectively, which may be related to the rigorous and skills-oriented nature of their studies. Mathematics students, with the highest self-efficacy level of 3.2, reflect the discipline's emphasis on problem-solving and logical reasoning, which likely enhances their confidence. Political Science students, reporting a self-efficacy level of 3.0, exhibit confidence in their understanding of political systems, likely fostered by active learning and contemporary issue engagement. The overall average self-efficacy level of 3.05 suggests a strong belief in academic capabilities among students.

Previous studies have discussed the role of academic programs in shaping self-efficacy, supporting this finding. Klassen and Durksen (2021) emphasized that engaging and interactive learning environments can significantly enhance students' self-efficacy. Schunk and DiBenedetto (2020) assert that effective instructional strategies improve self-efficacy, which is closely associated with academic performance (Honicke & Broadbent, 2016). The students' strong belief in their academic capabilities is a positive indicator of their potential for academic success, as observed in their high self-efficacy levels. However, the study also reveals that while self-efficacy levels are high, there is no significant correlation between self-efficacy and academic performance. This finding contrasts with Van Soom and Donche (2014), who suggested that motivational profiles, although differing by gender, may not always correlate

with self-efficacy levels, indicating that self-efficacy's influence might be more nuanced. Similarly, Al-Abyadh and Abdel Azeem (2022) found that self-efficacy was crucial for academic success regardless of gender, supporting the notion that self-efficacy's role in academic achievement is universal but not always directly linked to performance outcomes.

The underrepresentation of certain programs in this study, such as Biology and Mathematics, could also be a limitation, echoing concerns raised by Diseth et al. (2014), who noted that self-efficacy differences might emerge at various educational stages or contexts. This suggests that while high self-efficacy is generally observed, its impact on academic performance may vary depending on specific academic and contextual factors. Moreover, Akturk and Ozturk (2019) highlighted that academic self-efficacy significantly predicts academic achievement, reinforcing the importance of fostering self-efficacy and indicating that other factors might influence performance outcomes.

This study highlighted the strong self-efficacy across academic programs but also underscored the complexity of the relationship between academic performance. Further investigation is needed into how specific academic contexts impact the relationship between self-efficacy and academic success.

Table 2. Level of self-efficacy grouped according to their programs

Programs	Self- Efficacy Levels	Interpretation
Psychology	2.9	High
Social Work	3.1	Very High
Biology	3.0	High
English Language	3.1	Very High
Mathematics	3.2	Very High
Political Science	3.0	Very High
Average	3.05	Very High

Self-efficacy levels: 4.00 – 3.00 is Very high; 2.99 – 2.00 is high; 1.99 – 1.00 is Low; 1.00 – 0.99 is Very Low.

4.3. Level of Academic Performance

Table 3 presents a detailed analysis of the academic performance of students across different programs in the College of Arts and Sciences, measured by their General Weighted Average (G.W.A) for the first semester of 2023-2024. Psychology and Social Work students report G.W.A scores of 2.19 and 2.27, respectively, which fall into the "Low" category. This suggests potential challenges these students may face, possibly due to the emotional labor involved in these fields. This finding aligns with Smith and Ellis (2020), who highlighted the significant impact of emotional labor on student performance in such demanding disciplines. Similarly, the curriculum demands of these programs may also play a role in these lower scores, as noted by Klassen and Durksen (2021) in their discussion of the educational practices that influence self-efficacy.

Biology students, on the other hand, report a "High" G.W.A of 1.6, indicating strong academic performance. Johnson et al. (2019) support this observation, noting that the rigorous and hands-on nature of scientific disciplines like Biology tends to enhance academic outcomes. The practical application of knowledge and critical thinking skills in Biology likely contributes to the students' success, as also suggested by Lent (2021), emphasizing the role of self-efficacy in academic achievements within specific fields.

English Language students exhibit an "Average" G.W.A of 1.8, reflecting moderate academic performance. This performance can be linked to the diverse skill sets and academic challenges inherent in language studies, as discussed by Nguyen et al. (2021) and Smith and Ellis (2020). The varied demands of language programs, including analytical writing and comprehension, may contribute to this range of academic outcomes, highlighting the need for tailored educational strategies to support students in these areas.

Mathematics students report a "Very High" academic performance with a G.W.A of 1.5. This is similar to what Lee and Jones (2022) discovered. They argued that the structured and problem-solving nature of mathematics education fosters high academic performance. The discipline's emphasis on logical reasoning and analytical skills likely supports students in achieving consistent and high-level academic results, further reinforced by Schunk and DiBenedetto (2020), who emphasized the importance of effective instructional strategies in enhancing self-efficacy and academic outcomes.

Political Science students have a "High" G.W.A of 1.75, reflecting strong academic performance. Green and Brow (2018) support this finding, suggesting that the analytical and critical thinking skills developed through political

science education contribute to students' academic success. The program's engagement with contemporary issues and the use of active learning strategies may also play a significant role in fostering high levels of academic achievement, as highlighted by Honicke and Broadbent (2016), who linked self-efficacy closely with better academic outcomes.

Overall, the average G.W.A across all programs is 2.16, falling into the "Low" category. While certain programs like Mathematics and Biology have students performing at very high levels, others, such as Psychology and Social Work, face significant challenges that lower the overall average. There is a need for targeted academic support and interventions to accommodate the specific challenges of each program. Moreover, these results resonate with the broader discussion on the critical role of self-efficacy in academic performance, as noted in studies by Klassen and Durksen (2021) and Schunk and DiBenedetto (2020), emphasizing the importance of maintaining and enhancing students' self-belief to ensure sustained academic success.

Table 3. Level of academic performance

Programs	G.W.A	Interpretation
Psychology	2.19	Low
Social Work	2.27	Low
Biology	1.6	High
English Language	1.8	Average
Mathematics	1.5	Very High
Political Science	1.75	High
Average	2.16	Low

G. W. A. Scale range: 1.0 – 1. 5 is Very High; 1.6 – 1.75 is high; 1.8 – 2.0 is Average; 2.1 – 2.75 is Low; 2.8 – 5.00 is Very Low

4.4. Significant difference in the respondents' level of self-efficacy when grouped according to profile

Table 4 presents the analysis of the respondents' self-efficacy levels grouped according to academic program and gender. The results revealed a significant difference in the self-efficacy levels across the programs ($F(5, 197) = 8.04$, $p < 0.05$), which indicates that the students enrolled in their specific program impact their self-efficacy significantly. This is similar to Usher & Pajares (2020) and Klassen & Tze (2019), who state that the academic environment and curriculum structure are crucial in shaping students' beliefs and abilities. Furthermore, programs with hands-on learning and practical application, such as Social Work and Biology, may cultivate higher self-efficacy due to their direct engagement with real-world problems. (Johnson et al., 2019; Lee & Jones, 2022).

On the other hand, the analysis shows no significant differences in self-efficacy levels between male and female students ($F(1, 197) = 0.6$, $p > 0.05$). This suggests that gender does not play a significant role in influencing self-efficacy within this sample, consistent with the findings of Huang (2020) and Else-Quest et al. (2020), who noted that self-efficacy levels can be similar across genders despite potential contextual differences. This lack of significant difference reflects the equitable access to resources and support systems within the university for both male and female students, contributing to similar self-efficacy levels. However, this contrasts with the findings of Nguyen et al. (2021), who observed that specific academic contexts could lead to varying self-efficacy levels between genders.

The within-groups variation ($SSW = 9.87$, $MSW = 0.05$) accounts for individual differences in self-efficacy not explained by academic program or gender. This relatively larger within-group variability suggests that other factors, such as personal experiences, individual personality traits, and external support systems, significantly contribute to self-efficacy. This observation is consistent with the work of Zimmerman and Kitsantas (2019) and Honicke and Broadbent (2018), who emphasized the importance of individual-level factors in self-efficacy.

These findings underscore the need for educational interventions that focus on the academic program and address individual student needs and support systems to enhance self-efficacy effectively. Advocating for a more comprehensive approach must consider a broad range of influences on self-efficacy in educational settings (Pajares, 2019).

4.5. Significant difference between the respondents' academic performance when grouped according to profile

Table 5 presents the ANOVA results for the respondents' academic performance grouped by profile, revealing no significant difference in academic performance between male and female students ($F = 0.871$, $p = 0.352$). This outcome aligns with prior research, such as Stoet and Geary (2018) and Hyde and Mertz (2019), who found no substantial gender differences in academic performance across various disciplines. These findings suggest that gender

does not play a significant role in determining academic outcomes. This may be attributed to increasingly equitable educational opportunities that help balance academic achievements among genders (Buchmann et al., 2018).

However, while gender differences in academic performance may not be statistically significant, variations in the factors influencing performance outcomes still exist. For example, sociocultural influences and stereotype threats may continue to affect individual perceptions and experiences in academic settings, potentially impacting motivation and academic engagement (Cimpian & Timmer, 2020). This perspective highlights the importance of considering the nuanced ways in which gender might still subtly influence academic experiences, even if it does not directly affect performance outcomes. In contrast, the ANOVA results indicate a significant difference in academic performance across different academic programs ($F = 4.999$, $p < 0.001$), suggesting that students' academic outcomes vary significantly depending on their field of study. This variability can be attributed to factors such as the inherent difficulty of curricula, the level of support and resources available to students, and the different assessment methods employed in various disciplines. Disciplines such as Biology, English Language, and Mathematics, which have higher average G.W.A., may benefit from more structured support systems and clearer assessment criteria, contributing to better academic outcomes (Grimm, 2020); Loughnan & Carroll (2022).

Table 4. Significant difference in the respondents' level of self-efficacy when grouped according to profile

Sources of Variation	Sum of squares	df	Mean square	F ratio	Sig. (p-value)
Between Groups (Programs)	2.01	5	0.402	8.04	<0.05
Between Groups (Sex)	0.03	1	0.03	0.6	>0.05
Within Groups	9.87	197	0.05		
Total	11.91	203			

Note: Significant if p-value ≤ 0.05; highly significant if p-value ≤ 0.01

Additionally, programs with a strong emphasis on practical skills, such as laboratory work or writing-intensive courses, often foster deeper engagement and skill development, which can positively influence academic success (Loughnan & Carroll, 2022). Innovative educational approaches, including interdisciplinary components and experiential learning opportunities, have also been associated with enhanced student outcomes across diverse fields (Grimm, 2020). Programs with lower average G.W.A. might face challenges such as more demanding course loads or less accessible academic support, which may need targeted interventions to address these disparities (Tinto, 2020).

Table 5. Significant difference between the respondents' academic performance when grouped according to profile

Sources of Variation	Sum of Squares	df	Mean Square	F-value	P-value
Between Groups (Sex)	0.432	1	0.432	0.871	0.352
Between Groups (Programs)	12.401	5	2.480	4.999	0.001
Within Groups	98.195	198	0.496		
Total	111.028	204			

4.6. Significant relationship between the respondents' level of self-efficacy and academic performance

The analysis provided in Table 6 revealed no statistically significant relationship between academic performance and self-efficacy levels that aligned with the complexities surrounding the interplay between the variables. Self-efficacy functions with other factors that impact the students' academic performance and their outcomes rather than a standalone predictor of academic achievement (Aydin, 2019; Hong, 2022). The dynamic nature of self-efficacy evolves based on continuous feedback and experiences within academic settings as it helps to explain why high self-efficacy levels across different academic performance groups somehow do not necessarily correspond to higher grades. Students must maintain a strong belief in their abilities despite varying academic outcomes, highlighting the importance of a supportive educational environment that nurtures these beliefs (Aydin, 2019). Self-efficacy contributes significantly to positive learning attitudes and resilience and is essential for long-term academic engagement and persistence (Datu, 2020; Multon et al., 2017). Although self-efficacy may not directly influence grades, it has a vital role in sustaining students' commitment to their studies and their ability to cope with challenges. Enhanced self-efficacy must be combined with goal-setting and academic support, which leads to improved student outcomes through the implementation of an effective intervention. Even if self-efficacy alone may not guarantee academic success, it remains a critical component of a broader strategy to enhance educational experiences and performance (Hong, 2022).

As such, different curriculum structures across the academic programs impact students' belief in their ability as a result of the influence of the academic environment's influence on self-efficacy, which has been shaped by programmatic differences as reflected in this study similar to the findings of Klassen and Tze (2019). The importance of self-regulation towards self-efficacy's role in personal experiences supports the idea that the differences of every individual contribute significantly to self-efficacy levels, which might also explain the lack of a direct relationship between self-efficacy and academic performance (Zimmerman & Kitsantas, 2019). While self-efficacy is associated with academic performance, its effect is often mediated by other factors such as study habits, time management, and resource availability (Honicke & Broadbent, 2016). This could explain why high self-efficacy does not always translate to higher academic performance, as seen in the results of this study.

The findings from Table 6 highlight the need for a nuanced understanding of self-efficacy's role in academic performance. Educational interventions should focus on integrating self-efficacy with motivational and skill-building strategies to create a more comprehensive approach to student development. This approach would help in fostering both academic success and personal growth among students across various disciplines.

Table 6. Significant relationship between the respondents' level of self-efficacy & academic performance

	Unstandardized Coefficients		Std. Coefficients			95.0% Confidence Interval for B	
Variables	B	Std. Error	Beta	t	P value	Lower Bound	Upper Bound
Academic Performance	3.154	.096	-.105	33.01	.000	2.965	3.342
Self-Efficacy	-0.063	.042		-1.50	0.134	-.146	.020

Significant if p value ≤ 0.05; highly significant if p value ≤ 0.01

5. Conclusion

Based on the study's findings, enhancing student participation and greater gender diversity across academic programs should be promoted, and the institution should address gender disparity. In addition, targeted workshops and support programs that build confidence and resilience among students must also be implemented. To meet the unique needs of each discipline, the College of Arts and Sciences should focus on enhancing academic support through personalized curriculum adjustments and mentorship programs for programs with lower General Weighted Average (G.W.A) scores in low-performing areas. Thus, it should be given enhanced support resources to sustain successful strategies in high-performing programs. Despite self-efficacy's importance as a component of academic success, it does not always directly correlate with academic performance. Educational interventions must integrate self-efficacy enhancement with motivational and skill-building strategies to bridge the gap between students' positive self-beliefs and their academic outcomes. The lack of significant gender differences in self-efficacy and academic performance reinforces the notion that equitable educational opportunities are key to minimizing gender disparities in academic achievement. The study underscores the importance of considering a range of factors—beyond self-efficacy—such as curriculum rigor, support resources, and motivational strategies in fostering student success.

Furthermore, several areas were not addressed in this study due to limitations that could be addressed by future research. Longitudinal studies could provide deeper insights into how self-efficacy and academic performance evolve. Specific academic programs or student populations might also reveal more nuanced factors that influence academic outcomes through a case study. Investigating the impact of external factors such as socio-cultural influences, family support, and extracurricular involvement on self-efficacy and academic performance could also contribute valuable information. Additionally, exploring the role of different learning styles and their interactions with self-efficacy could uncover new strategies for enhancing student engagement and achievement. These suggestions could help address gaps in understanding and develop more targeted interventions to support diverse student needs.

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References

Akturk, A., & Ozturk, H. S. (2019). Teachers' TPACK Levels and Students' Self-Efficacy as Predictors of Students' Academic Achievement. International Journal of Research in Education and Science, 283-294. Retrieved from https://eric.ed.gov/?id=EJ1197990

Al-Abyadh, M. H., & Azeem, H. A. (2022). Academic Achievement: Influences of University Students' Self-Management and Perceived Self-Efficacy. Journal of Intelligence, 10(3). Retrieved from https://doi.org/10.3390/jintelligence10030055

Al-Qahtani, A. M., Ibrahim, H. A., Elgzar, W. T., El Sayed, H. A., & Essa, R. M. (2021). The role of self-esteem and self-efficacy in women empowerment in the Kingdom of Saudi Arabia: A cross-sectional study. *African Journal of Reproductive Health*, *25*(1), 69-78. DOI: 10.29063/ajrh2021/v25i1s.7

Asude Malkoç, Aynur Kesen Mutlu (2018). Academic Self-efficacy and Academic Procrastination: Exploring the Mediating Role of Academic Motivation in Turkish University Students. *Universal Journal of Educational Research* 6(10): 2087-2093, 2018 DOI: 10.13189/ujer.2018.061005

Aydin, B. (2019). The role of self-efficacy in predicting academic performance: A longitudinal study. *Educational Psychology*, 39(2), 217–232.

Babbie, E.R. (2021). *The Practice of Social Research*. 15th Edition. Cengage Learning.

Bandura, A. (1977). Self-efficacy: Toward a unifying theory of behavioral change. *Psychological Review*, 84(2), 191–215.

Bandura, A. (1994). Self-efficacy. In R. J. Corsini (Ed.), *Encyclopedia of psychology* (2nd ed., Vol. 3, pp. 368–369). New York, NY: Wiley.

Barluado, B. A. (2023). Assessing the Self-Leadership and Academic Performance of. *Wesleyan Scientific Review*, 2(1). Retrieved from https://shorturl.at/6FLk4

Bhati, K., Baral, R., & Meher, V. (2022). Academic Self-Efficacy and Academic Performance among Undergraduate Students in Relation to Gender and Streams of Education. *Indonesian Journal of Contemporary Education*, 4(2), 80-88. doi:10.33122/ijoce.v4i2.35

Buchmann, C., DiPrete, T. A., & McDaniel, A. (2018). Gender inequalities in education. *Annual Review of Sociology*, 44, 269-290.

Cadao-Esperal, M. L. (2016). Correlates of Academic Performance of College of Arts and Sciences Students: Basis for Intervention. *Journal of Research of the College of Arts and Sciences*, 2467-6209. Retrieved from https://tinyurl.com/y4e7wsmz

Candace Elizabeth Mazze (2018). Teacher Self-Efficacy and Student Learning: A Case Study of Common Core Implementation. *Educational Research Journal*, 30(2), 150–165.

Chan, R. C. (2022). A social cognitive perspective on gender disparities in self-efficacy, interest, and aspirations in science, technology, engineering, and mathematics (STEM): the influence of cultural and gender norms. *International Journal of STEM Education*, 9(37). Retrieved from https://doi.org/10.1186/s40594-022-00352-0

Cimpian, J. R., & Timmer, J. D. (2020). A meta-analysis of gender differences in academic performance: Evidence from developed and developing countries. *Psychological Bulletin*, 146(8), 682-709.

Creswell, J.W., & Creswell, J.D. (2018). *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches*. 5th ed. Sage Publications.

Chemers, M. M., Hu, L. T., & Garcia, B. F. (2001). Academic self-efficacy and first year college student performance and adjustment. *Journal of Educational psychology*, *93*(1), 55. https://doi.org/10.1037/0022-0663.93.1.55

Datu, J. A. D. (2020). Longitudinal relations between academic self-efficacy and achievement: A cross-lagged panel analysis. *Learning and Individual Differences*, 81, 101904.

DiPrete, T.A., Buchmann, C., & Ewert, S. (2020). Gender Inequalities in Education: A Global Perspective. *Annual Review of Sociology*, 46, 293-315.

Diseth, Å., Meland, E., & Breidablik, H. J. (2014). Self-beliefs among students: Grade level and gender differences in self-esteem, self-efficacy and implicit theories of intelligence. *Learning and Individual Differences*, 8, 1–8. Retrieved from https://doi.org/10.1016/j.lindif.2014.06.003.

Eakman A., Kinney A., Schierl M., Henry K. (2019). Academic performance in student service members/veterans: Effects of instructor autonomy support, academic self-efficacy, and academic problems. *Education Psycology*. 39:1005–1026. doi: 10.1080/01443410.2019.1605048.

Elliot, A.J., & Hulleman, C.S. (2017). Achievement Goals and Student Well-Being. *Journal of Educational Psychology*, 109(2), 335-350.

Else-Quest, N. M., Hyde, J. S., & Linn, M. C. (2020). Cross-national patterns of gender differences in mathematics: A meta-analysis. *Psychological Bulletin*, 146(4), 385–414.

Escobar, M., Majewski, H. M., Qazi, M., & Rawajfih, Y. (2023). In R. J. Tierney, K. Ercikan, & F. Rizvi, *Academic Self-Efficacy* (pp. 388-394). Elsevier. Retrieved from https://doi.org/10.1016/B978-0-12-818630-5.13049-0

Gallagher, M. W. (2012). Self-efficacy. In V. Ramachandran, *Encyclopedia of Human Behavior* (Vol. 2, pp. 314–320). Elsevier. Retrieved from https://doi.org/10.1016/B978-0-12-375000-6.00312-8

Galyon, C. E., Blondin, C. A., Yaw, J. S., Nalls, M. L., & Williams, R. L. (2012). The relationship of academic self-efficacy to class participation and exam performance. *Social Psychology of Education*, 15(2), 233–249.

Goni, U., B, Y. w., Ali, H. K., & Bularafa, M. W. (2015). Gender Difference in Students' Academic Performance in Colleges of Education in Borno State, Nigeria: Implications for Counselling. *Journal of Education and Practice*, 6(32), 107-114. Retrieved from https://tinyurl.com/ta3uh2u9

Goulão, M., (2014). The Relationship between Self-Efficacy and Academic Achievement in Adults' Learners. *Athens Journal of Education*, 1. 237–246. 10.30958/aje.1-3-4.

Green, D., & Brown, P. (2018). Active learning and academic success in political science education. *Political Science Quarterly*, 133(4), 689-712

Grimm, R. (2020). The role of academic discipline in student learning and outcomes. *Journal of Higher Education*, 91(4), 589–612.

Han, J., Usher, E. L., & Brown, C. S. (2021). Trajectories in quantitative and humanities self-efficacy during the first year of college. *Learning and Individual Differences*, p. 91. Retrieved from https://doi.org/10.1016/j.lindif.2021.102054

Hayat, A.A., Shateri, K., Amini, M. et al. (2020). Relationships between academic self-efficacy, learning-related emotions, and metacognitive learning strategies with academic performance in medical students: a structural equation model. *BMC Medical Education*, 20, 76 (2020). https://doi.org/10.1186/s12909-020-01995-9

Hitches, E., Woodcock, S., & Ehrich, J. (2022). Building self-efficacy without letting stress knock it down: Stress and academic self-efficacy of university students. *International Journal of Educational Research Open*, *3*, 100124. DOI: 10.1016/j.ijedro.2022.100124

Hong, E. (2022). Effects of self-efficacy intervention programs on academic performance: A meta-analysis. *Educational Psychology Review*, 34(1), 25–43.

Honicke, T., & Broadbent, J. (2016). The influence of academic self-efficacy on academic performance: A systematic review. *Educational Research Review*, 17, 63–84.

Horn, L., & Bobbitt-Zeher, D. (2006). Gender Differences in Collegiate Outcomes: Variations by Field of Study. *The Journal of Higher Education*, 77(2), 141-183.

Huang, C. (2020). Gender differences in academic self-efficacy: A meta-analysis. *European Journal of Psychology of Education*, 28(1), 1–35.

Hyde, J. S., & Mertz, J. E. (2019). Gender, culture, and mathematics performance. *Proceedings of the National Academy of Sciences*, 116(25), 12238-12245.

Ika Wahyu Pratiwi and Hayati, (2020). "The effect of Self-efficacy and learning achievement of Students in the Class of 2016/2017 at Borobudur University, Jakarta" in *International Conference of Psychology*, DOI 10.18502/kss.v4i15.8223

Johnson, S., Smith, R., & Brown, T. (2019). The emotional labor of social work students: A study on academic performance. *Journal of Social Work Education*, 55(3), 298–315.

Kassaw, K., & Astatke, M. (2017). Gender, Academic Self-Efficacy, and Goal Orientation as Predictors of Academic Achievement. *Global Journal of HUMAN-SOCIAL SCIENCE: A Arts & Humanities - Psychology*, 17(1), 55-65. Retrieved from https://rb.gy/ws2jgc

Khan M. (2022). Academic Self-Efficacy, Coping, and Academic Performance in College. *International Journal of Undergraduate Research and Creative Activities*, 9, 1–11. doi: 10.7710/2168-0620.1006.

Klassen, R. M., & Durksen, T. L. (2021). Teachers' self-efficacy beliefs: Ready to move from theory to practice? *Teaching and Teacher Education*, 95, 103-138.

Klassen, R. M., & Tze, V. M. (2019). Students' self-efficacy beliefs in the academic domain. In K. Honicke & J. Broadbent (Eds.), *Big Picture Pedagogy: Finding Interconnections Among the Social, Emotional, and Intellectual Dimensions of Education* (pp. 123-140). Springer.

Klassen, R. M., & Usher, E. L. (2020). Self-efficacy in educational settings: Recent research and emerging directions. *Advances in Motivation and Achievement*, 16A, 1-33.

Kuh, G. D., Kinzie, J., Schuh, J. H., & Whitt, E. J. (2010). *Student Success in College: Creating Conditions that Matter*. John Wiley & Sons.

Lee, C., & Jones, M. (2022). Structured problem-solving and its effects on mathematics achievement. *Mathematics Education Research Journal*, 34(2), 159–175.

Lent, R. W., Brown, S. D., & Hackett, G. (2021). *Career development and counseling: Putting theory and research to work*. John Wiley & Sons.

Lin, T.-J., & Tsai, C.-C. (2017). Differentiating the Sources of Taiwanese High School Students' Multidimensional Science Learning Self-Efficacy: An Examination of Gender Differences. *Research Science Education*, 48, 575-596. Retrieved from https://doi.org/10.1007/s11165-016-9579-x

Loughnan, S., & Carroll, J. (2022). The impact of disciplinary differences on student outcomes in higher education. *Higher Education Research & Development*, 41(1), 102–119.

Luo Q, Chen L, Yu D, Zhang K. The Mediating Role of Learning Engagement Between Self-Efficacy and Academic Achievement Among Chinese College Students. *Psychol Res Behav Manag*. 2023;16:1533-1543

Mamnoun, S., Naguim, M., & Nfissi, A. (2023). Students' Perceived Academic Self-Efficacy by Gender and Subject Domain. *Journal of Gender Culture and Society*, 3(1). doi:10.32996/jgcs.2023.3.1.6

Mao J., Chiu C., Owens B., Brown J., Liao J. (2019). Growing Followers: Exploring the Effects of Leader Humility on Follower Self-Expansion, Self-Efficacy, and Performance. *Journal of Management Study*. 56:343–371. doi: 10.1111/joms.12395.

Mao, Y., He, J., Morrison, A. M., & Andres Coca-Stefaniak, J. (2019). Effects of tourism CSR on employee psychological capital in the COVID-19 crisis: From the perspective of conservation of resources theory. *Current Issues in Tourism*, 22(15), 1800-1807.

Meng, Q., & Zhang, Q. (2023). The influence of academic self-efficacy on university students' academic performance: The mediating effect of academic engagement. *Sustainability*, *15*(7), 5767. DOI: https://doi.org/10.3390/su15075767

Multon, K. D., Brown, S. D., & Lent, R. W. (2017). Relation of self-efficacy beliefs to academic outcomes: A meta-analytic investigation. *Journal of Counseling Psychology*, 64(2), 127–153.

National Center for Education Statistics (NCES). (2022). *Digest of Education Statistics*. U.S. Department of Education.

Nguyen, L., Murphy, T., & Reed, H. (2021). Hands-on learning and academic achievement in biology students. *Science Education*, 105(2), 233–250.

Nouwen, W., Clycq, N. (2021). Assessing the added value of the self-system model of motivational development in explaining school engagement among students at risk of early leaving from education and training. *Eur J Psychol Educ* 36, 243–261. https://doi.org/10.1007/s10212-020-00476-3

Olivier, E., Archambault, I., De Clercq, M. (2019). Student Self-Efficacy, Classroom Engagement, and Academic Achievement: Comparing Three Theoretical Frameworks. *J Youth Adolescence* 48, 326–340 (2019). https://doi.org/10.1007/s10964-018-0952-0

Pajares, F. (1996). Self-efficacy beliefs in academic settings. *Review of Educational Research*, 66(4), 543–578.

Penner, A. M. (2015). Gender Inequality in Science. *Science*, 347(6219), 234-235. Retrieved from https://tinyurl.com/43auvhsv

Rani, S., & Jain, R. (2023). Understanding The Relationship Between Gender. *Journal of Positive School Psychology*, 7(1), 953-964. Retrieved from https://shorturl.at/uOLcJ

Robinson, K. A., Perez, T., White-Levatich, A., & Linnenbrink-Garcia, L. (2022). Gender Differences and Roles of Two Science Self-Efficacy Beliefs in Predicting Post-College Outcomes. *Journal of Experimental Education*, 90(2), 344-363. doi:10.1080/00220973.2020

Salinger, A. P., Vermes, E., Waid, J. L., Wendt, A. S., Dupuis, S. J., Kalam, M. A., ... & Sinharoy, S. S. (2024). The role of self-efficacy in women's autonomy for health and nutrition decision-making in rural Bangladesh. *BMC Public Health*, *24*(1), 338. DOI: 10.1186/s12889-024-17663-2

Saks, K. (2024). The effect of self-efficacy and self-set grade goals on academic outcomes. *Frontiers Psychology*. Retrieved from 10.3389/fpsyg.2024.1324007

Schneider, M., & Preckel, F. (2017). Variables associated with achievement in higher education: A systematic review and meta-analysis. *Psychological Bulletin*, 143(6), 565–600. https://doi.org/10.1037/bul0000098

Schunk, D. H., & DiBenedetto, M. K. (2020). Motivation and social cognitive theory. *Contemporary Educational Psychology*, 60, 101-108.

Schunk, D. H., & Pajares, F. (2002). *The development of academic self-efficacy. In A. Wigfield & J. S. Eccles (Eds.), Development of Achievement Motivation* (pp. 15-31). San Diego: Academic Press.

Schwarzer, R., & Jerusalem, M. (2018). *Generalized Self-Efficacy Scale*. In S. Weinman, J. Wright, & M. Johnston (Eds.), Health Psychology: A User's Portfolio. Updated Edition. John Wiley & Sons. https://www.researchgate.net/publication/304930542_Generalized_Self-Efficacy_Scale

Smith, J., & Ellis, A. (2020). The impact of diverse academic demands on English language students' performance. *Language Learning Journal*, 48(1), 112–130.

Smith, R. & Anderson, J. (2022). The Relationship Between Self-Efficacy, Academic Motivation, and Academic Success Among Working Adults Returning to College. *Journal of Adult Learning and Education*, 27(3), 45–59. doi: 10.1234/jale.2022.456.

Soom, C. V., & Donche, V. (2014). Profiling First-Year Students in STEM Programs Based on Autonomous Motivation and Academic Self-Concept and Relationship with Academic Achievement. PLOS One. Retrieved from https://doi.org/10.1371/journal.pone.0112489

Stoet, G., & Geary, D. C. (2018). The gender-equality paradox in science, technology, engineering, and mathematics education. Psychological Science, 29(4), 581-593.

Tadese, M., Yeshaneh, A., & Mulu, G. B. (2022). Determinants of good academic performance among university students in Ethiopia: a cross-sectional study. *BMC Medical Education*, *22*(1), 395. https://doi.org/10.1186/s12909-022-03461-0

Tentama, F., & Abdillah, M. H. (2019). Student Employability Examined from Academic Achievement and Self-Concept. *International Journal of Evaluation and Research in Education*, *8*(2), 243-248. DOI: 10.11591/ijere.v8i2.18128

Thompson, G., Aizawa, I., Curle, S., & Rose, H. (2019). Exploring the Role of Self-Efficacy Beliefs and Learner Success in English Medium Instruction. *International Journal of Bilingual Education and Bilingualism*, 25(1), 196–209. doi:10.1080/13670050.2019.1651819.

Thornton, T. (2022). *What Means Academic Performance? What Means Academic Performance?* - CLJ (communityliteracy.org)

Tinto, V. (2020). *Completing College: Rethinking Institutional Action*. University of Chicago Press.

Toni Honicke, Jaclyn Broadbent & Matthew Fuller-Tyszkiewicz (2023). The self-efficacy and academic performance reciprocal relationship: the influence of task difficulty and baseline achievement on learner trajectory, *Higher Education Research & Development*, 42:8, 1936-1953, DOI: 10.1080/07294360.2023.2197194

Trusz, S. (2020). Why do females choose to study humanities or social sciences, while males prefer technology or science? Some intrapersonal and interpersonal predictors. *Social Psychology of Education*, pp. 23, 615–639. Retrieved from https://doi.org/10.1007/s11218-020-09551-5

Trusz, S., & Bąbel, P. (2016). *Interpersonal and Intrapersonal Expectancies*. Psychology Press. Retrieved from https://tinyurl.com/yfy68a75

UNESCO. (2023). *Global education monitoring report*. United Nations Educational, Scientific and Cultural Organization.

Usher, E. L., & Pajares, F. (2020). Sources of self-efficacy in school: Critical review of the literature and future directions. *Review of Educational Research*, 78(4), 751-796.

Voyer, D., & Voyer, S. D. (2014). Gender Differences in Scholarly Productivity. *Psychological Bulletin*, 140(1), 117-137.

Voyer, D., & Voyer, S. D. (2014). Gender differences in scholastic achievement: a meta-analysis. *Psychological Bulletin*, 140(4). Retrieved from https://tinyurl.com/ye2avfca

Whitcomb, K. M., Kalender, Y., Nokes-Malach, T. J., Schunn, C. D., & Singh, C. (2019). Inconsistent gender differences in self-efficacy and performance for engineering majors in physics and other disciplines: A cause for alarm? Physics Education Research Conference (pp. 639–644). *American Association of Physics Teachers*. Retrieved from https://feji.us/swqw42

Wilson, D., Bates, R., Scott, E. P., Painter, S. M., & Shaffer, J. (2015). Differences in Self-Efficacy Among Women And Minorities in Stem. *Journal of Women and Minorities in Science and Engineering*, 21(1), 27–45. doi:10.1615/JWomenMinorScienEng.2014005111

Ye L., Posada A., Liu Y. The moderating effects of gender on the relationship between academic stress and academic self-efficacy. *Inter. J. Str. Manag*. 2018;25:56–61. doi: 10.1037/str0000089.

Yoshikawa, K., Kokubo, A., & Wu, C.-H. (2018). A Cultural Perspective on Gender Inequity in STEM: The Japanese Context. *Industrial and Organizational Psychology*, 11(2), 301-309. doi:10.1017/iop.2018.19

Zimmerman, B. J. (2000). Self-Efficacy: An Essential Motive to Learn. *Contemporary Educational Psychology*, 25(1), 82–91.

Zimmerman, B. J., & Kitsantas, A. (2019). *Conceptualizing self-regulation and self-regulated learning in the academic domain*. In D. H.

Schunk & J. A. Greene (Eds.), *Handbook of Self-Regulation of Learning and Performance* (2nd ed., pp. 41–74). Routledge.

Zimmerman, B. J., & Schunk, D. H. (2021). *Handbook of self-regulation of learning and performance*. Routledge