Journal of Learning and Educational Policy
Vol: 05, No. 01, Jan-June 2025
ISSN: 2799-1121, DOI: 10.55529/jlep.51.34.42 ❒34

Research Paper

Perceptions and performance of secondary school students on gender stereotypes in education

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Article Info

Article History:
Received: 02 October 2024
Revised: 11 December 2024
Accepted: 19 December 2024
Published: 05 February 2025

Keywords:
Gender Stereotypes
Secondary Education
Academic Performance
Mixed Methods
Education Equity

ABSTRACT

This study used a mixed-method approach where the effect of gender stereotypes was explored on the perceptions and academic performance of secondary school students. Quantitative results from 200 students indicated an average-high perception of stereotypes (Mean = 3.75, SD = 0.52), and a weak negative correlation (-0.32, $p<0.05$) between the perceptions and performance of the respondents. Findings from qualitative data generated via thematic analysis of focus group discussions presented such themes as gendered expectations, societal pressure to conform, and a growing consciousness for equality in the outcomes. In this regard, the findings recommend possible intervention, such as training teachers and curriculum redesigning with a gender-sensitive perspective to address stereotypes and develop equitable educational environments.

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1. INTRODUCTION

Gender stereotypes have been a longstanding issue in educational environments. These stereotypes, often based on cultural and societal expectations, influence how boys and girls are viewed in terms of their strengths, affecting both their academic achievements and future career goals. For instance, girls are frequently guided toward the humanities, while boys are often pushed to explore STEM fields. Recognizing these dynamics is vital for promoting a more equitable education system.

The ongoing presence of gender stereotypes in classrooms impacts not only students' academic performance but also their long-term personal and professional development. These stereotypes can subtly influence how teachers interact with students and how students perceive their own capabilities. Tackling these biases is crucial for fostering inclusive learning spaces.

In secondary schools, students are at a key point where stereotypes can greatly affect their identity development. This study concentrates on secondary school students to understand their views during this important phase. The school environment also reflects broader societal values, making it an excellent context for exploring gender stereotypes.

While many studies have looked into gender stereotypes in education, there is a lack of research on how students perceive these stereotypes and how it affects their academic performance. Additionally, much of the existing literature does not take into account local cultural factors that could shape these interactions [1], [2].

This study seeks to explore the impact of gender stereotypes on perceptions and academic performance among secondary school students. By analyzing key themes in students' stories and conducting statistical analyses of their perceptions, this research aims to inform the creation of gender-sensitive educational policies. The study uses a mixed-methods approach, integrating both quantitative and qualitative data to gain a well-rounded understanding of the issue. The results will not only reveal the prevalence of gender stereotypes but also provide practical recommendations for educators and policymakers.

2. RELATED WORK

Gender stereotypes in education have been widely documented as detrimental to both students' academic performance and subject choices. It was demonstrated through longitudinal analysis that self-efficacy a critical determinant of achievement is significantly shaped by gendered societal expectations [3]. This aligns with another study which linked stereotypical beliefs to the gender gap in STEM fields, noting that students internalize societal messages about whether certain subjects are "for girls" or "for boys" [4].

Research in adolescent populations reveals that stereotypical narratives emerge early and persist into secondary education. Middle school girls often avoid math-intensive subjects due to perceived incongruence with their gender identity [5]. Similarly, boys receive more encouragement from teachers toward math and science, reinforcing gendered trajectories in education [6].

Teacher behavior plays a critical role in either perpetuating or mitigating these stereotypes. Good, Rattan, and Dweck [7] documented subtle biases such as offering more challenging problems to boys while Kirk, Schutte, and Meier [8] identified that teacher expectations significantly influence student self-concept and achievement levels. These findings are mirrored in meta-analyses [9] showing that gender gaps in math are more pronounced where teachers hold strong gendered beliefs.

Quantitative assessments reinforce these trends: PISA data indicates that girls underperform in mathematics relative to their male peers, even when actual ability is equivalent [10], [11]. These performance disparities cannot be fully explained by ability differences alone, suggesting a key role for stereotype-related influences.

Qualitative studies add depth by exploring how students interpret and respond to stereotypes. A study by in U.S. high schools revealed that girls in STEM classes often felt "out of place," while boys in humanities encountered social mockery when expressing interest in traditionally female domains [12].

French [13] similarly observed that boys experienced stigma when pursuing language and arts courses, prompting self-limiting behaviors.

Researchers have also emphasized the importance of cultural context. In their comparative study across Spain and Mexico, López and González [14] showed that local gender norms significantly modulate how stereotypes affect school choices girls from traditional regions were less likely to enroll in STEM despite having comparable academic records. This shows that global stereotypes interact with community values to shape educational paths [15].

Intervention studies largely support efforts to counteract these stereotypes. Keller [16] successfully improved girls' math performance through role-model presentations, while [17] demonstrated that reframing math as learnable (rather than innate) reduced anxiety and boosted performance among girls. Conversely, interventions with boys pursuing arts are rarer yet suggest promise: Master and Meltzoff [18] found that exposure to male role models in arts led to greater engagement among boys.

Despite this rich body of work, gaps persist. Few studies have combined rigorous quantitative outcome tracking with nuance-rich qualitative student narratives. Additionally, research in non-Western secondary schools remains limited particularly regarding how local cultural views shape educational trajectories. Studies in Southeast Asian contexts are sparse, leaving regional policy-relevant insights underdeveloped [1].

This study addresses this gap by employing a mixed-methods design, integrating survey data on student perceptions and performance with thematic analysis of their narratives. By doing so, it builds on the theoretical frameworks established by Bandura. [3], [4] and the methodological best practices of Keller [16], [17]. In focusing on secondary students in our local cultural setting, the research offers culturally grounded evidence to inform gender-sensitive educational policies and practices.

3. METHODOLOGY

3.1. Research Design

This study employed a mixed-methods approach, integrating both quantitative and qualitative data collection techniques. The quantitative aspect consisted of a survey given to 200 secondary school students, with an equal number of male and female participants. The qualitative aspect included focus group discussions to gain deeper insights into the students' experiences regarding gender stereotypes in education.

Quantitative data were analyzed using descriptive statistics and Pearson correlation analysis to investigate the relationships between students' perceptions and academic performance. Qualitative data underwent thematic analysis, with verbatim transcripts being coded to identify recurring themes. This dual approach provided a comprehensive examination of the topic.

3.2. Participants

The participants consisted of 200 secondary school students aged 12 to 18 years old, with an equal number of male and female respondents. Students were selected from various schools, ensuring representation across different socioeconomic backgrounds. A stratified random sampling technique was used to ensure diverse perspectives on gender stereotypes in education.

3.3. Instrument

The study used a survey questionnaire designed to assess students' perceptions of gender stereotypes and their academic performance. The questionnaire consisted of two main sections: [1] Perceptions of Gender Stereotypes wherein students rated their agreement on a Likert scale [1], [2], [3], [4], [5] regarding gendered expectations, pressure to conform, and awareness of gender equality in their school environment; and [2] Academic Performance wherein students reported their average grades in subjects typically associated with gender stereotypes (e.g., Math and Science for boys, English and

Humanities for girls). Additionally, focus group discussions were conducted to explore themes such as gendered expectations, societal pressure, and evolving awareness in more depth.

4. RESULTS AND DISCUSSION

4.1. Results

This study's results are divided into two sections: quantitative findings and qualitative insights. The quantitative findings present statistical data regarding the connection between students' views on gender stereotypes and their academic performance. Meanwhile, the qualitative analysis reveals common themes in students' stories, providing a more profound understanding of how these stereotypes influence their educational experiences.

4.1.1. Quantitative Results

Table 1. Descriptive Statistics

Variable	Total Mean	Total SD	Interpretation
Perception of Stereotypes	3.75	0.52	Moderately High Agreement
Academic Performance	85.2	7.4	Above Average Performance

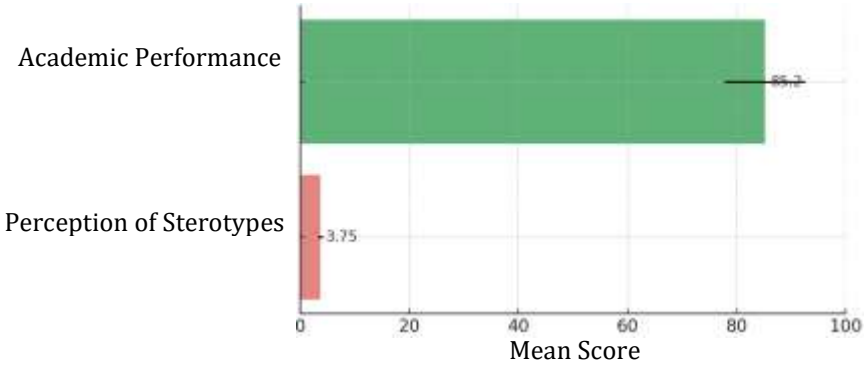


Figure 1. Descriptive Statistics of Perception and Performance

As shown in Table 1 and Figure 2, the mean score of 3.75 (SD = 0.52) regarding the perception of stereotypes shows that students have a moderate awareness of gender stereotypes in their educational setting. Meanwhile, the academic performance score averages at 85.2 (SD = 7.4), indicating that most students achieve above-average results, even in light of their perceptions of these stereotypes.

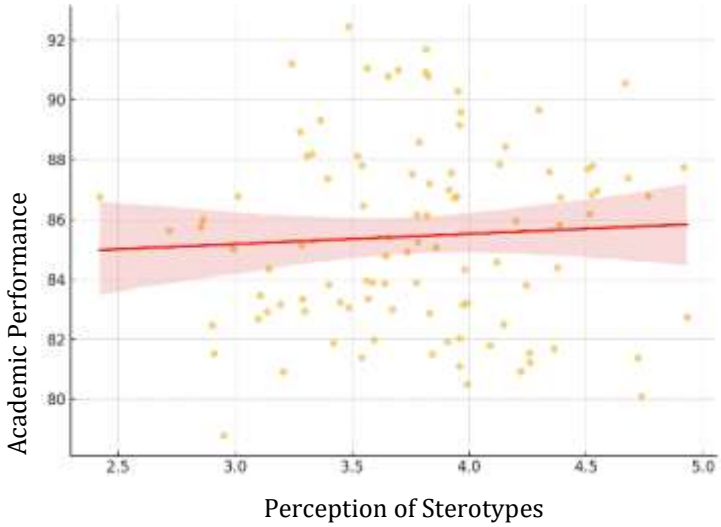


Figure 2. Correlation between Perception of Stereotypes and Academic Performance

Table 2. Correlation Analysis

Variables	R-Value	P-Value	Interpretation
Perception vs. Performance	-0.32	0.015	Weak Negative Correlation

As shown in Table 2 and Figure 2, the weak negative correlation (-0.32, $p < 0.05$) indicates that as perceptions of gender stereotypes rise, there is a slight decline in academic performance. This finding is consistent with research by Smith. [19], which revealed that negative views regarding academic ability related to gender can impede performance in competitive areas.

4.1.2 Qualitaitive Results

The thematic analysis reveals three key insights regarding gender and academic perceptions among students, supported by their own statements. Theme 1: Gendered Expectations highlights how boys often feel discouraged from excelling in language subjects due to societal norms. One student shared, “Mas mahirap para sa mga lalaki ang mag-aral ng English dahil hindi raw ito para sa amin” (“It is harder for boys to excel in English because it is said not to be for us”), illustrating how language learning is perceived as more appropriate for girls. Theme 2: Pressure to conform shows that girls sometimes internalize stereotypes about their academic capabilities, particularly in STEM. As one respondent expressed, “Minsan, iniisip ng mga babae na hindi sila magaling sa Math kasi para daw 'yun sa lalaki” (“Sometimes, girls think they are not good at Math because it is said to be for boys”), underscoring how gendered assumptions discourage them from pursuing math and science. Theme 3: Modern Awareness reflects students' recognition of progress in gender equality. One student noted, “Mas okay na ngayon kasi pantay na kami ng mga babae sa maraming aspeto” (“It is better now because we are equal with girls in many aspects”), signaling a shift toward more balanced opportunities, though lingering stereotypes are still acknowledged.

4.2. Discussion

The findings indicate a weak negative relationship between how students perceive stereotypes and their academic performance. Although stereotypes are present, their effect on performance is lessened by other elements, such as supportive learning environments. These outcomes align with recent research [20], which underscores the ability of students to overcome gender biases.

The qualitative themes suggest that stereotypes affect confidence in specific subjects, with both boys and girls feeling limited by traditional roles. It is essential for educators to tackle these biases through inclusive teaching methods. Research like that of Ramos. [15] highlights the need for teacher training to identify and combat gender biases.

Future studies should investigate strategies to diminish stereotypes in classrooms. Longitudinal research could evaluate the lasting effects of stereotypes on career choices. Furthermore, incorporating gender sensitivity into curricula can help cultivate an inclusive mindset among students.

5. CONCLUSION

This study aimed to explore how gender stereotypes influence students’ perceptions and academic performance, particularly within the context of secondary schools where identity and academic pathways begin to solidify. The results confirm this expectation, showing that while students generally perform above average, there is a noticeable though weak negative correlation between heightened awareness of stereotypes and academic achievement. The qualitative data further reinforce this, revealing that gendered expectations and pressures to conform still shape students’ confidence and choices in specific subjects.

These findings demonstrate that gender stereotypes, though often subtle, continue to influence students’ educational experiences, thereby validating the need for gender-sensitive policies and teaching approaches mentioned in the introduction. The study not only confirms the relevance of addressing these stereotypes in educational settings but also opens the door for further exploration. Future research could focus on developing and testing interventions that promote inclusive classroom practices and challenge internalized biases. Longitudinal studies could also assess the long-term impact of such stereotypes on

students' academic and career trajectories. Overall, this research contributes to the broader goal of fostering a more equitable education system by emphasizing the importance of awareness, inclusivity, and sustained action.

Acknowledgments

The successful completion of this research, "Examining Gender Stereotypes in Education: Secondary School Students' Perceptions and Performance," would not have been possible without the support and cooperation of various individuals and institutions.

I sincerely thank the school administrators and teachers who granted access to their students and accommodated the data collection process. Most importantly, I am deeply grateful to the participating secondary school students whose honest responses and personal insights gave meaning to this study.

I also extend my appreciation to the academic mentors and peers who offered thoughtful feedback and encouragement throughout the research process.

To my family and friends, thank you for your unwavering support, understanding, and motivation throughout the journey.

Finally, I acknowledge the contributions of scholars and researchers whose previous work provided the foundation for this study. Their commitment to advancing equity in education continues to inspire meaningful academic inquiry.

Funding Information

There is no funding involved in this study.

Author Contributions Statement

Name of Author	C	M	So	Va	Fo	I	R	D	O	E	Vi	Su	P	Fu
Dennis A. De Jesus	✓	✓	✓	✓	✓	✓		✓	✓	✓			✓	
Windel C. Austria			✓					✓		✓	✓	✓		

C : **C**onceptualization
M : **M**ethodology
So : **So**ftware
Va : **Va**lidation
Fo : **Fo**rmal analysis
I : **I**nvestigation
R : **R**esources
D : **D**ata Curation
O : Writing - **O**riginal Draft
E : Writing - Review & **E**diting
Vi : **Vi**sualization
Su : **Su**pervision
P : **P**roject administration
Fu : **Fu**nding acquisition

Conflict of Interest Statement

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper. Furthermore, they affirm that there are no political, personal, religious, ideological, academic, or intellectual competing interests related to this manuscript.

Informed Consent

You are being invited to participate in a research study titled "Examining Gender Stereotypes in Education: Secondary School Students' Perceptions and Performance." This study aims to explore how gender stereotypes influence students' perceptions and academic performance in secondary schools. Your participation in this study is entirely voluntary. You have the right to decline or withdraw at any point without any negative consequences.

If you choose to participate, you will be asked to complete a short survey and, if selected, join a focus group discussion. The survey will take approximately 15–20 minutes, while the focus group discussion, if applicable, will last around 30–45 minutes. There are no known physical or psychological risks involved in participating in this study. While there may be no direct benefit to you, your responses will contribute to a deeper understanding of gender-related issues in education and may help inform more inclusive and equitable policies in schools.

All information collected will be kept strictly confidential. Your identity will not be revealed in any report, publication, or presentation resulting from this research. The data will be anonymized and stored securely. The protection of privacy is a legal right that must not be breached without individual informed consent. In cases where the identification of personal information is necessary for scientific reasons, full documentation of informed consent, including written permission, will be obtained prior to the inclusion of any individual in the study.

By agreeing to participate, you acknowledge that you understand the purpose of the study and the procedures involved. You also affirm that your participation is voluntary and that you may stop at any time. If you are under the age of 18, your parent or guardian will be required to provide written consent on your behalf. We have obtained informed consent from all individuals included in this study.

Ethical Approval

The study was conducted in compliance with the ethical principles outlined in the Declaration of Helsinki and approved by the relevant institutional authorities.

Data Availability

Data availability is not applicable to this paper as no new data were created or analyzed in this study.

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How to Cite: Dennis A. De Jesus, Windel C. Austria. (2025). Perceptions and performance of secondary school students on gender stereotypes in education. Journal of Learning and Educational Policy (JLEP), 5(1), 34-42. https://doi.org/10.55529//jlep.51.34.42

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