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| RESEARCH ARTICLE

The Role of Teacher Expectations in the Relationship between Students' Socioeconomic Status and Mathematics Performance: A Mediation Analysis

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| ABSTRACT
This study explored how teacher expectations might help explain the link between students' socioeconomic status (SES) and their performance in mathematics in Junior High Schools across Ghana. Drawing on data from 243 students and their mathematics teachers, a quantitative, cross-sectional design and applied Structural Equation Modeling (SEM) was employed to test whether teacher expectations served as a mediator between students' backgrounds and their academic outcomes. The findings showed that students from higher socioeconomic backgrounds tended to do better in mathematics, and teachers generally held higher expectations for these students. However, in a surprising twist, higher teacher expectations were actually linked to lower student performance in mathematics. Furthermore, the study found no significant evidence that teacher expectations explained the SES achievement relationship. The study recommends providing targeted support for students from low-SES backgrounds, equipping teachers with training focused on equitable classroom practices, and strengthening school-level support systems to foster better outcomes for all learners.

| KEYWORDS

Socioeconomic status, Mathematics Performance, Higher education.

| ARTICLE INFORMATION

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1. Introduction

Mathematics is regarded globally as a critical subject due to its role in developing logical reasoning, problem-solving skills, and scientific thinking (Kilpatrick, Swafford, & Findell, 2001). It serves as a foundational subject for participation in science, technology, engineering, and mathematics (STEM) careers and supports individual empowerment in everyday decision-making, from financial literacy to civic engagement (National Council of Teachers of Mathematics [NCTM], 2014). While interacting with students, teachers often form expectations about their academic abilities and behavior, which in turn influence instructional decisions and classroom dynamics (Rubie-Davies, 2006). The impact of these expectations on student outcomes has been a topic of extensive research and debate for decades (Jussim & Harber, 2005). The seminal study by Rosenthal and Jacobson (1968), conducted in a low-income elementary school, demonstrated that students whose teachers were led to expect significant academic improvement showed greater gains in intelligence scores over the school year. This phenomenon became known as the *Pygmalion Effect*, illustrating how teacher expectations can function as self-fulfilling prophecies. Despite subsequent criticism regarding methodological rigor and replicability (Snow, 1995; Spitz, 1999), the study sparked a lasting scholarly interest in the role of expectations in educational settings and their potential to either widen or reduce achievement gaps

In many countries, including Ghana, mathematics serves as a "gateway" subject for higher education opportunities and employment. However, performance in mathematics is frequently unequal across social classes. Students from high socioeconomic status (SES) backgrounds often outperform those from low-SES homes due to differences in access to resources, parental involvement, and school quality (Sirin, 2005; Davis-Kean, 2005).

1.1 Factors influencing teacher's expectations

Research indicates that teachers' expectations are influenced by both objective factors such as students' prior academic achievement—and subjective judgments, which may include personal biases and stereotypes (Madon et al., 1998). Students who perform well early in the academic year, as well as female students, tend to receive higher expectations from teachers (Alvidrez & Weinstein, 1999; Tenenbaum & Ruck, 2007). Several studies have also identified students' socioeconomic status (SES) and ethnicity as influential predictors of teacher expectations (Burgess & Greaves, 2009; Rubie-Davies, Hattie, & Hamilton, 2006; Van den Bergh et al., 2010). In general, teachers tend to hold lower expectations for students from low-SES or minority backgrounds compared to their high-SES or majority peers. However, findings across studies have not always been consistent. While some studies support the idea that teacher expectations vary based on social class and ethnicity, others have found no significant differences (Madon et al., 1998; Tenenbaum & Ruck, 2007). Importantly, these characteristics—ethnicity and SES—are often intertwined, as minority students statistically tend to come from lower SES backgrounds (Van den Bergh et al., 2010). A study by Rubie-Davies et al. (2006) that included both ethnicity and social class as predictors found that ethnicity, rather than social class, significantly shaped teachers' expectations. These mixed findings highlight the need for further empirical exploration to determine how and when SES and ethnicity independently or interactively affect teacher judgment and behavior.

1.2 Problem Statement

Numerous studies have identified SES as a key predictor of students' academic performance, particularly in mathematics (Sirin, 2005; OECD, 2016). However, the mechanisms by which SES influences mathematics achievement are complex and not fully understood. Recent research suggests that teacher expectations formed based on perceptions of students' SES may partially mediate this relationship (Hinnant, O'Brien, & Ghazarian, 2009; Tenenbaum & Ruck, 2007). Teachers may, often unconsciously, hold lower expectations for students from lower SES backgrounds, affecting their instructional behavior and the learning opportunities they provide (Jussim & Harber, 2005).

In Ghana, this issue remains under-researched. Although performance gaps exist, few empirical studies have examined how teacher expectations interact with SES to influence students' mathematics outcomes. Investigating this dynamic is essential for improving equity in Ghanaian mathematics education.

This study adopts a structural equation modeling (SEM) approach to examine whether teachers' expectations serve as a mediating mechanism in the relationship between students' socioeconomic status (SES) and their academic outcomes, particularly in mathematics and language. Consistent with prior research, it is hypothesized that teachers form higher expectations for students from high-SES backgrounds and lower expectations for those from low-SES backgrounds (Madon, Jussim, & Eccles, 1997; Tenenbaum & Ruck, 2007). These expectations can in turn influence student achievement by shaping teacher behavior—such as the level of academic support, emotional encouragement, and instructional rigor provided to the student (Jussim & Harber, 2005). Thus, teacher expectations may reinforce or exacerbate existing achievement disparities rooted in social class (Van den Bergh et al., 2010).

1.3 Definition of Variables

This study involves three main variables: students' socioeconomic status (SES) as the independent variable, teacher expectations as the mediating variable, and mathematics achievement as the dependent variable. Each is defined below both conceptually and operationally**.**

Socioeconomic Status (SES) Socioeconomic Status refers to an individual's or family's social and economic standing within society, often determined by factors such as income, educational attainment, and occupational prestige (Bradley & Corwyn, 2002; Sirin, 2005). SES influences access to learning resources, parental involvement, and cognitive stimulation, all of which are associated with academic outcomes. In this study, SES is measured using a composite score derived from student self-reports on:

- Parental education level
- Parental occupation
- Number of household assets (e.g., books, electricity, internet access)
- Number of meals consumed per day
- Number of people sharing a bedroom

1.3.1 Teacher Expectations

Teacher expectations refer to the beliefs and assumptions teachers hold regarding the academic potential, effort, and likely performance of their students (Rubie-Davies, 2006; Jussim & Harber, 2005). These expectations can significantly influence how teachers interact with students, which in turn can affect students' motivation, self-concept, and performance—a phenomenon often referred to as the self-fulfilling prophecy or Pygmalion effect (Rosenthal & Jacobson, 1968). In this study, teacher expectations are measured using a 5-point Likert-scale questionnaire completed by mathematics teachers for each participating student. Items include:

- "I expect this student to perform well in mathematics."
- "This student is capable of achieving high grades in math."
- "This student demonstrates strong potential in solving math problems.

1.3.2 Mathematics Achievement

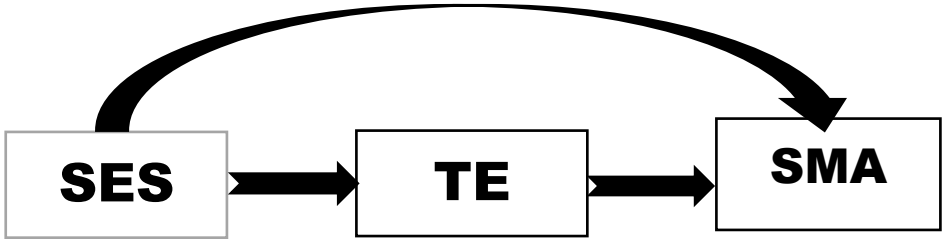
Mathematics achievement refers to students' demonstrated knowledge, skills, and competencies in mathematics, often assessed through formal testing or examinations (Kilpatrick, Swafford, & Findell, 2001). It reflects both cognitive understanding and the ability to apply mathematical reasoning. In this study, mathematics achievement is measured using students' end-of-term mathematics examination scores as provided by their respective schools. Scores are standardized to ensure comparability across schools and grade levels.

1.4 Research Objectives

1. To examine the relationship between students' socioeconomic status and their mathematics achievement.
2. To assess the influence of teacher expectations on students' mathematics performance.
3. To investigate whether teacher expectations mediate the relationship between socioeconomic status and mathematics achievement.

1.5 Research Questions

1. What is the relationship between students' socioeconomic status and their mathematics achievement?
2. How do teacher expectations influence mathematics performance?
3. Do teacher expectations mediate the relationship between students' socioeconomic status and their mathematics achievement?



Conceptual framework indicating the relationship between the variables

SES..... Students' Socioeconomic Status
TE..... Teacher Expectations
SMA.....Students Mathematics Achievement

1.6 Significance of the Study

This study will contribute to the understanding of educational equity in mathematics by identifying teacher expectations as a potential mechanism through which SES influences performance. It will inform teacher training programs to become more reflective and equitable in classroom practices. In the context of Ghana, where educational disparities are prominent, such insights can support reforms aligned with the Education Strategic Plan.

2. Method

2.1 Research Design

This study adopted a quantitative, explanatory, cross-sectional research design. The goal was to investigate the mediating role of teacher expectations in the relationship between students' socioeconomic status and their mathematics achievement. A survey approach was used to gather data from students and their mathematics teachers, while structural equation modeling (SEM) was employed to test the proposed mediation model. This design was appropriate given the study's focus on examining relationships and causal pathways among latent variables.

2.2 Population and Sampling

The target population comprised Junior High School (JHS) students and their mathematics teachers in public schools within Kwabre East Municipality. A multi-stage sampling procedure was employed. First, schools were stratified by geographical location, after which a random sample of schools was selected from each stratum. From the selected schools, students were chosen through systematic sampling, ensuring representation from different grade levels (JHS 1–3). Mathematics teachers of the selected students were also included. A sample size of 243 students and their corresponding teachers were employed.

2.3 Instrumentation

The study utilized three instruments developed and adapted from established sources:

2.3.1 Socioeconomic Status (SES) Questionnaire

Students completed a background questionnaire measuring SES using indicators such as:

- Parents' educational level and occupation
- Availability of household resources (e.g., books, electricity, internet access)
- Number of meals consumed per day
- Number of people sharing a bedroom

2.3.2 Teacher Expectations Scale

Mathematics teachers rated their expectations for each student using a Likert-scale questionnaire adapted from Rubie-Davies (2006). The instrument consisted of items such as:

- "I expect this student to perform well in mathematics."
- "This student is capable of achieving a high grade in mathematics."
- "This student puts in consistent effort in class."

Each item was rated on a 5-point scale (5 = Strongly Disagree to 1 = Strongly Agree).

2.3.3 Mathematics Achievement

Students' achievement in mathematics was measured using their most recent end-of-term examination scores, obtained from school records. These scores were standardized across schools to ensure comparability.

Table 1. Learners background information for a total of 243 learners

GENDER				
	Frequency	**Percent**	**Valid Percent**	**Cumulative Percent**
MALE	151	62.1	62.1	62.1
FEMALE	92	37.9	37.9	100.0
Total	243	100.0	100.0	

EDUCATION_LEVEL				
	Frequency	**Percent**	**Valid Percent**	**Cumulative Percent**
JHS 1	88	36.2	36.2	36.2
JHS 2	67	27.6	27.6	63.8
JHS 3	88	36.2	36.2	100.0
Total	243	100.0	100.0	

2.3.4 Validity and Reliability

The instruments were subjected to face and content validation by a panel of experts in mathematics education and educational psychology. A pilot study was conducted with 30 students and 5 teachers to test clarity, internal consistency, and item appropriateness. The instruments demonstrated acceptable reliability.

Table 2: Cronbach alpha values

Constructs	**Items**	**value**
Students' Socioeconomic Status (SES)	4	0.893
Teachers Expectation (TE)	5	0.876

***Source**: Field Survey,2025*

The Cronbach alpha value for the variables were computed to check the internal consistency of the measurement items. Students' Socioeconomic Status (SES) had four items loading with an alpha value of 0.893 which is within an acceptable range, the same as Teachers Expectation (TE) having five items with a value of 0.876. According to Appiah et al 2022, an alpha coefficient falling between 0.60 and 0.80 is considered sufficient.

3. Results

3.1 Results of the Exploratory Factor Analysis (EFA)

Rotated Component Matrix[a]

	Component 1	2
SSE3		.825
SSE5		.809
SSE6		.883
SSE7		.891
TE1	.822	
TE2	.833	
TE3	.833	
TE4	.879	
TE5	.814	

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.722
Bartlett's Test of Sphericity	Approx. Chi-Square	1468.101
	df	36
	Sig. Total variance explained	.000 71.522%,

An exploratory factor analysis (EFA) was conducted to assess the construct validity of the instrument used to measure Teacher Expectations and Students' Socioeconomic Status.

The Kaiser-Meyer-Olkin (KMO) Measure of Sampling Adequacy yielded a value of 0.722, indicating that the sample was suitable for factor analysis. According to Kaiser (1974), KMO values between 0.7 and 0.8 are considered "middling," suggesting acceptable adequacy of correlations among variables. Bartlett's Test of Sphericity was significant at χ^2 (36) = 1468.101, $p < .001$, indicating that the correlation matrix was not an identity matrix and that the variables were significantly correlated enough to proceed with factor extraction. The determinant of the correlation matrix was 0.002, which is well above the minimum threshold of 0.00001. This suggests that there is no multicollinearity problem among the variables and supports the factorability of the matrix (Field, 2013).

The factor extraction was performed using Principal Component Analysis (PCA) with Varimax rotation. The cumulative variance explained by the extracted factors was 71.522%, which exceeds the 60% benchmark commonly considered acceptable in social sciences. This indicates that the extracted components account for a substantial proportion of the variance in the dataset. Based on the rotated component matrix, two clear and distinct factors emerged: one representing Teacher Expectations and the other representing Socioeconomic Status. All retained items had strong loadings (> .80), and no cross-loading was detected, confirming a clean factor structure.

These results provide evidence that the instrument possesses adequate construct validity and internal consistency and is suitable for further confirmatory analysis using Structural Equation Modeling (SEM) in AMO

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
SSE7	243	1.00	5.00	3.3786	1.42465
SSE6	243	1.00	5.00	3.3292	1.37520
SSE3	243	1.00	5.00	3.1523	1.34743
SSE5	243	1.00	5.00	2.9342	1.40092
TE5	243	1.00	5.00	2.4280	1.30715
TE3	243	1.00	5.00	2.4156	1.28729
TE4	243	1.00	5.00	2.4115	1.28057
TE1	243	1.00	5.00	2.4115	1.23122
TE2	243	1.00	5.00	2.4033	1.20000
Valid N (listwise)	243				

Descriptive analysis was conducted to understand the central tendencies and variability of the key variables used in this study. As shown in Table X, the items measuring Socioeconomic Status (SSE) including access to electricity, books at home, number of meals, and bedroom sharing had mean values ranging from 2.93 to 3.38, indicating that most students reported moderately favorable socioeconomic conditions. The highest mean was observed for SSE7 (M = 3.38, SD = 1.42), suggesting relatively better access to electricity, while SSE5 (M = 2.93, SD = 1.40) had the lowest, indicating shared living spaces were more common.

Regarding Teacher Expectations (TE), mean scores ranged narrowly from 2.40 to 2.43, implying that on average, teachers held moderately high expectations for students. Given the Likert scaling (1 = Strongly Agree to 5 = Strongly Disagree), lower means reflect stronger agreement with positive expectation statements. The standard deviations (ranging from 1.20 to 1.31) show adequate response variability, affirming that perceptions of SES and teacher expectations varied across participants.

3.2 Results of the Confirmatory Factor Analysis (CFA)

A Confirmatory Factor Analysis (CFA) was conducted to validate the measurement model comprising two latent constructs: **Students' Socioeconomic Status (SSE)** and **Teachers' Expectation (TE)**. The analysis evaluated the reliability, convergent validity, and goodness-of-fit of the model using AMOS.

STUDENTS SOCIOECONOMIC STATUS (SSE) CA=0.893; CR=0.862; AVE=0.622	**FACTOR LOADINGS**
I usually eat two or more meals each day.	**0.613**
I have a bedroom that I do not have to share with many people	**0.580**
There is reliable access to electricity in my home.	**0.932**
There are at least 20 books available in my home.	**0.952**
TEACHERS EXPECTATION (TE) CA=0.876; CR=0.900; AVE=0.644.	
I expect this student to improve steadily in math.	**0.759**
I believe this student will do well in mathematics.	**0.777**
This student has the potential to excel in math	**0.875**
This student can completes math tasks with confidence.	**0.886**
I expect this student to improve steadily in math.	**0.701**

Note. CA: Cronbach's alpha; CR: Construct reliability; AVE: Average variance extracted; Source: Field Survey, 2025; & Model fit indices: Chi-square (CMIN)=28.468; Degree of freedom (df)=27 $CMIN/df$=1.054; (TLI) = 0.998; RMSEA=0.051; Comparative fit index (CFI)=0.999; & Goodness-of-fit index (GFI)=0.977, PCLOSE = 0.06

3.3 Measurement Model Validity

The reliability and validity indices showed strong evidence of internal consistency and convergent validity for both constructs. The Cronbach's Alpha (CA) for SSE was 0.893, and for TE, it was 0.876, both exceeding the 0.70 threshold recommended by Hair et al. (2010), indicating strong internal reliability. Construct Reliability (CR) values were 0.862 for SSE and 0.900 for TE, which also exceed the acceptable minimum of 0.70 (Fornell & Larcker, 1981), suggesting the constructs were consistently measured.

In terms of convergent validity, the Average Variance Extracted (AVE) values were 0.622 for SSE and 0.644 for TE well above the 0.50 benchmark (Fornell & Larcker, 1981). These results indicate that each latent variable accounted for more than 50% of the variance in its observed indicators. Individual standardized factor loadings were also strong, ranging from 0.580 to 0.952 for SSE items and 0.701 to 0.886 for TE items, indicating that each item significantly and substantially contributed to its respective latent variable.

3.4 Model Fit Indices

The CFA results demonstrated an excellent model fit with the following fit statistics:

- Chi-square (CMIN) = 28.468, df = 27, CMIN/df = 1.054
- Comparative Fit Index (CFI) = 0.999
- Tucker-Lewis Index (TLI) = 0.998
- Root Mean Square Error of Approximation (RMSEA) = 0.051
- Goodness-of-Fit Index (GFI) = 0.977

- PCLOSE = 0.060

According to Hu and Bentler (1999), a CFI and TLI value of 0.95 or higher indicate excellent fit, and RMSEA values less than 0.06 reflect a close model fit. The chi-square/df ratio was well below 3, confirming a very good fit (Byrne, 2010). The PCLOSE value greater than 0.05 further supports that the model fits the data well (MacCallum, Browne, & Sugawara, 1996). The GFI value of 0.977 also exceeds the minimum recommended threshold of 0.90 (Hooper, Coughlan, & Mullen, 2008), confirming an excellent fit.

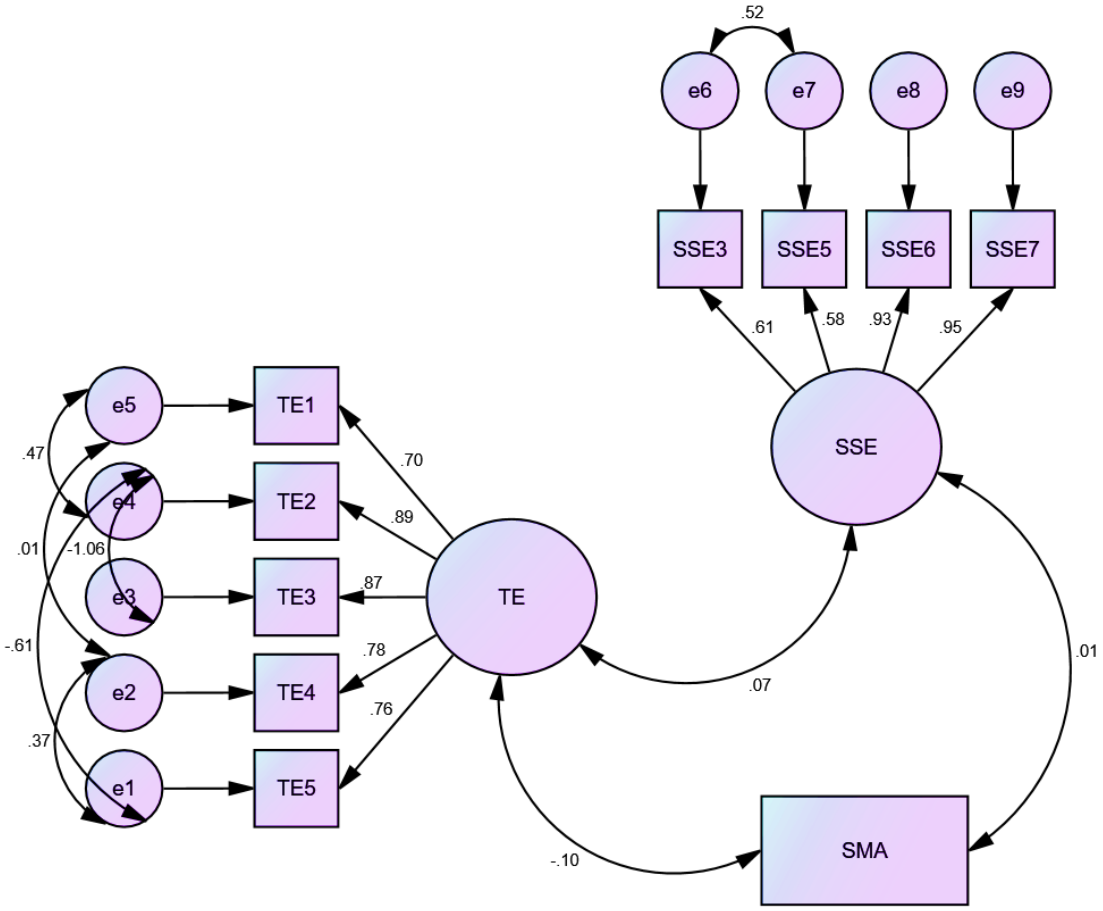


Figure 2: Confirmatory factor analysis (CFA) of the 3 variables.

3.5 Results of the path analysis

The results of the path analysis is displayed on the table below which provide insight into the relationships among students' socioeconomic status (SSE), teachers' expectations (TE), and students' mathematics achievement (SMA).

			Estimate	S.E.	C.R.	P
TE	<---	**SSE**	.0800	.406	1.97	.050
SMA	<---	**TE**	-1.860	.722	-2.576	.010
SMA	<---	**SSE**	.480	.292	1.643	.050

Path estimate	**Estimate**	**B.S.E.**	**BCp CI 95% CI** **LL**	**UL**	**P VALUE**
SSE→SMA	0.480	0.292	0.350	0.821	0.050
INDIRECT PATH					
SSE→TE→SMA	-0.149	0.042	-0.280	0.245	0.13

Model Fit Indices: *CMIN = 53.872; DF = 46; CMIN/DF = 1.171; CFI =0 .995; TLI = .922; NFI=0. 918; GFI= 0.995; RMSEA = 0.027; RMR=0.067 PCLOSE=0.072*

The direct effect of students' socioeconomic status (SSE) on mathematics achievement (SMA) was positive and statistically significant (β = 0.480, *p* = .050), indicating that students from higher socioeconomic backgrounds tend to perform better in mathematics. Similarly, SSE was a significant positive predictor of teachers' expectations (β = 0.080, *p* = .050), suggesting that teachers are more likely to hold higher expectations for students with higher SES.

Unexpectedly, the path from teachers' expectations to mathematics achievement was negative and significant (β = -1.860, *p* = .010). This result suggests that increased expectations were associated with lower mathematics performance, a finding that contradicts conventional theoretical assumptions. This may reflect possible pressure effects, student anxiety, or contextual influences where expectations are not effectively translated into supportive instructional strategies.

The indirect effect of SSE on SMA through TE was not statistically significant (β = -0.149, *p* = .130), as the 95% bias-corrected bootstrap confidence interval [–0.280, 0.245] included zero. This indicates that teachers' expectations did not mediate the relationship between socioeconomic status and students' achievement in mathematics.

Additionally, parental education level did not significantly predict students' mathematics achievement (β = –0.615, *p* = .641), suggesting that SES itself, rather than parental academic background, plays a more critical role in academic outcomes within this model.

The model demonstrated excellent fit to the data, supported by the following fit indices with $\chi^2/df = 1.171$ (CMIN = 53.872, df = 46), which is well below the recommended threshold of 3. CFI = 0.995 and GFI = 0.995, both exceeding the 0.95 threshold for good fit (Hu & Bentler, 1999) TLI = 0.922 and NFI = 0.918, indicating acceptable fit. RMSEA = 0.027, which is below the recommended cutoff of 0.06 (Browne & Cudeck, 1993). PCLOSE = 0.072, indicating the RMSEA is not significantly different from a perfect fit. RMR = 0.067, within an acceptable range.

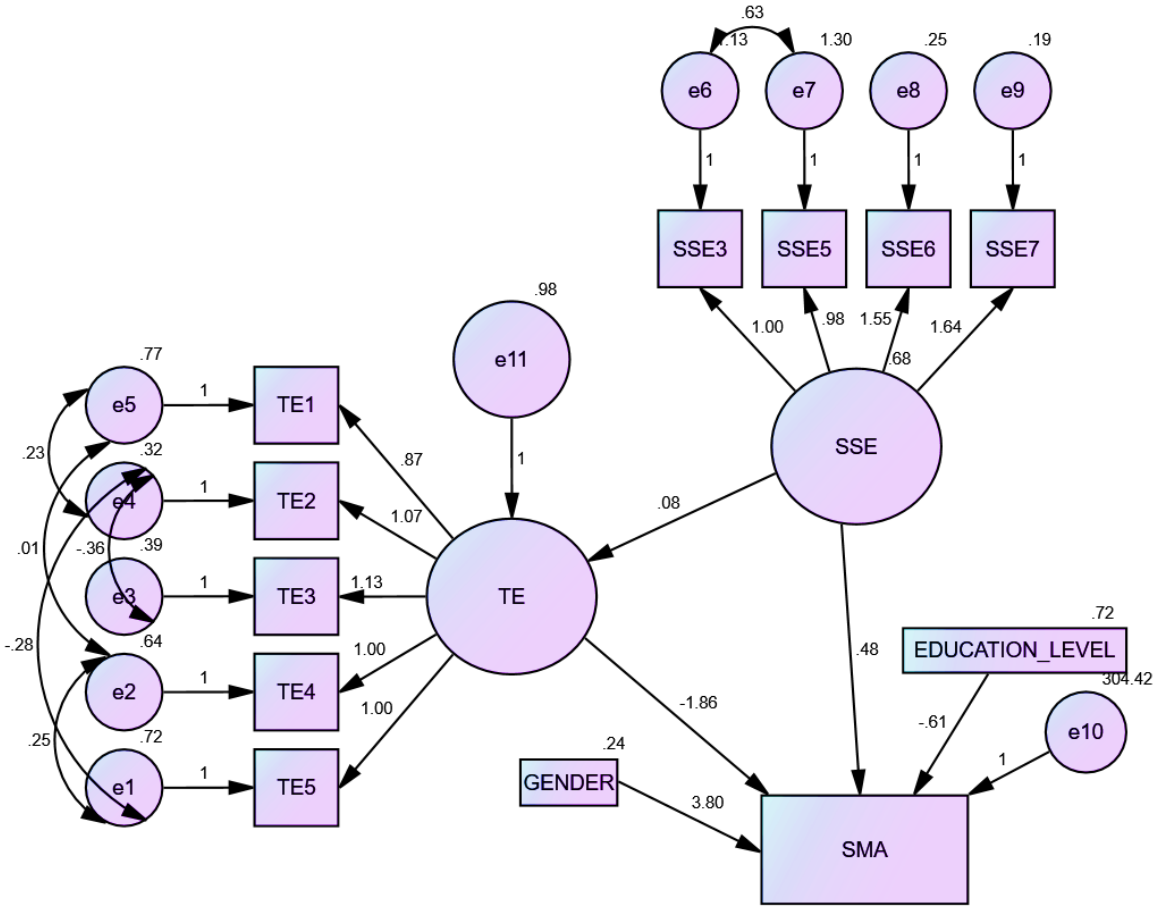


Figure 3: Path Analysis Diagram.

4. Discussion of Results

This section discusses the findings in relation to each research question, drawing from the current study's results and prior research literature.

4.1 Research Question 1: What is the relationship between students' socioeconomic status (SES) and their mathematics achievement?

The path analysis revealed a positive and statistically significant direct effect of students' socioeconomic status on their mathematics performance (β = 0.480, p = .050). This suggests that students from higher SES backgrounds tend to achieve better results in mathematics compared to their low-SES counterparts. This finding is consistent with earlier studies, such as those by Sirin (2005) and Davis-Kean (2005), who found that SES is one of the most consistent predictors of academic achievement globally. In the Ghanaian context, this may reflect disparities in access to educational resources such as textbooks, stable electricity, internet access, and quiet study spaces all of which are more likely to be available to students from wealthier families.

The implication is that socioeconomic inequalities directly contribute to performance gaps in mathematics, reinforcing the need for interventions that reduce such disparities, particularly in under-resourced communities.

4.2 Research Question 2: How do teacher expectations influence students' mathematics performance?

Contrary to theoretical assumptions, the study found a negative and statistically significant relationship between teacher expectations and students' mathematics performance (β = -1.860, p = .010). That is, higher expectations from teachers were unexpectedly associated with lower mathematics achievement. This contradicts the well-known

Pygmalion effect (Rosenthal & Jacobson, 1968), which suggests that students perform better when teachers expect them to do well. One possible explanation is that in the Ghanaian context, high expectations may inadvertently exert excessive pressure on students, particularly if not accompanied by adequate emotional or instructional support. This may cause increased anxiety and hinder performance, especially among students already struggling academically.

Similar findings have been reported by Yamamoto and Holloway (2010), who argued that in high-pressure educational environments, teacher expectations may become stressors rather than motivators. Furthermore, it is possible that some teachers, despite expressing high expectations, do not align their instructional strategies or classroom interactions with those expectations a disconnect noted in the work of Weinstein (2002).

4.3 Research Question 3: Do teacher expectations mediate the relationship between students' socioeconomic status and mathematics achievement?

The mediation analysis showed that teacher expectations did not significantly mediate the relationship between students' socioeconomic status and their mathematics performance. The indirect effect was not statistically significant ($\beta = -0.149$, $p = .130$), and the bias-corrected confidence interval included zero, confirming the absence of mediation. This indicates that while SES influences both teacher expectations and student achievement, teacher expectations do not serve as the underlying mechanism through which SES affects performance in this context. The direct pathway from SES to mathematics achievement remains the dominant predictor.

This finding aligns with the mixed results in the literature. While some studies (e.g., Tenenbaum & Ruck, 2007; Hinnant et al., 2009) support mediation, others have found teacher expectations to have limited or no mediating effect due to their inconsistent impact on student outcomes. In this study, it appears that SES-related advantages (e.g., home learning environment, access to resources) have a more direct and powerful influence on mathematics performance than teacher beliefs alone.

5. Conclusion

This study set out to examine the mediating role of teacher expectations in the relationship between students' socioeconomic status (SES) and mathematics achievement among junior high school students in Ghana. Using structural equation modeling, the findings revealed three key insights:

1. Socioeconomic status significantly predicted mathematics achievement, confirming that students from more advantaged backgrounds tend to perform better academically. This underscores the pervasive role of economic and social capital in shaping learning outcomes, as established in previous studies (Sirin, 2005; Davis-Kean, 2005).
2. Teacher expectations were negatively associated with students' mathematics performance, an unexpected finding that challenges classical theories like the Pygmalion effect. This suggests that expectations alone are not sufficient to improve performance and may even exert undue pressure on students if not supported with adequate teaching practices and socio emotional guidance.
3. Teacher expectations did not mediate the relationship between SES and mathematics performance. This implies that while both variables individually influence outcomes, the effect of SES on performance operates more directly rather than being channeled through teachers' perceptions.

5.1 Recommendations

Based on the findings of this study, the following recommendations are offered:

1. Targeted Interventions for Low-SES Students

The Ministry of Education and Ghana Education Service should provide additional support to students from low-SES backgrounds through school feeding programs, book provision schemes, and learning resource subsidies to bridge the opportunity gap.

2. Teacher Training on Equity-Based Practices

In-service training programs should include modules on equitable classroom practices and the psychological impact of expectations. Teachers should be encouraged to translate high expectations into constructive support, not pressure, especially for students who may already face external disadvantages.

3. Holistic Student Support Systems

Schools should adopt a whole-child approach, combining academic support with mentorship, counseling, and motivation programs. This could help students handle the pressure of expectations more effectively and unlock their full potential.

5. Further Research

Given the surprising negative relationship between teacher expectations and achievement, further qualitative studies are recommended to explore how students interpret and respond to teachers' expectations in different classroom environments. This could offer deeper insights into the psychological and cultural factors influencing this dynamic in Ghana.

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