The Mediating Roles of Social Connectedness and Ego Resilience on the Impact of Classroom Anxiety and Growth Mindset on Student Performance through Structural Equation Modeling Approach

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DOI: https://doi.org/10.51244/IJRSI.2026.1304000163

Received: 13 April 2026; Accepted: 18 April 2026; Published: 25 April 2026

ABSTRACT

This study investigated the direct and indirect effects of classroom anxiety and growth mindset on student performance, with social connectedness and ego resilience as mediating variables, using a Structural Equation Modeling (SEM) approach. A total of 200 Junior High School learners from a public school participated by completing validated scales measuring classroom anxiety, growth mindset, social connectedness, and ego resilience. Academic performance was assessed using students' general average grades. The model demonstrated excellent fit indices, validating the hypothesized relationships. Findings revealed that classroom anxiety negatively affected student performance both directly and indirectly through social connectedness. Growth mindset had a direct positive effect on performance and ego resilience, but not on social connectedness. Moreover, while ego resilience showed a significant direct effect on performance, it did not mediate the relationship between growth mindset and academic outcomes. Social connectedness emerged as a key mediator, significantly linking both classroom anxiety and growth mindset to student performance. These results highlight the importance of addressing emotional and social factors in educational settings. Reducing classroom anxiety, fostering supportive peer relationships, and cultivating a growth mindset are essential strategies for improving academic achievement. The study underscores the value of holistic approaches to student development, integrating cognitive, emotional, and social dimensions of learning.

Keywords: classroom anxiety, growth mindset, social connectedness, ego resilience, SEM

INTRODUCTION

Student performance remains a central concern in educational systems, particularly as academic success is influenced by a variety of cognitive, emotional, and social factors. Understanding the interplay of these elements is vital in developing effective interventions and instructional strategies that support learners in achieving their full potential. Despite numerous reforms and innovations in curriculum and pedagogy, disparities in student outcomes persist, prompting researchers and educators to explore the psychological and environmental conditions that contribute to academic success or failure.

Among the psychological constructs that significantly affect student performance are classroom anxiety and growth mindset. Classroom anxiety, characterized by feelings of tension, worry, and apprehension during academic tasks, has been shown to hinder learning, reduce concentration, and impair overall academic achievement (Burnette et al., 2023; Zhang et al., 2020). Such anxiety can create a psychological barrier where students may underperform or disengage from academic opportunities, resulting in negative academic outcomes (Wu et al., 2022). On the other hand, growth mindset—the belief that intelligence and abilities can be developed through effort and persistence—has emerged as a powerful predictor of academic resilience and motivation. Students with a growth mindset are more likely to embrace challenges, persist through difficulties, and show improved performance over time (Claro et al., 2016; Zhao et al., 2018). This relationship is underscored by research indicating that those who endorse a growth mindset perform better academically than their fixed mindset counterparts (Tabassum et al., 2024; Zeng et al., 2016). Furthermore, interventions aimed at fostering a growth mindset have been linked to enhanced academic performance, suggesting that a supportive environment

promoting a growth mindset can mitigate the impacts of anxiety and promote greater academic success (Limeri et al., 2020).

In addition to internal psychological factors, social connectedness and ego resilience play crucial roles in how students cope with academic stressors. Social connectedness, or the sense of belonging and support from peers and significant others, fosters emotional security and engagement, which are essential for academic success. Research demonstrates that students who perceive substantial social support from their networks experience less academic stress and display improved well-being, highlighting the protective nature of social support in educational settings (Kamila & Ramadhani, 2024; Muhtar & Wijaya, 2024; Rosyid & Laili, 2024). Furthermore, social support has been shown to mediate relationships between academic stress and various psychological outcomes, reinforcing its importance in educational contexts (Padmanabhanunni et al., 2023; Zhang et al., 2022).

Meanwhile, ego resilience—the capacity to adapt flexibly and effectively in response to changing or adverse circumstances—enables learners to bounce back from setbacks and maintain academic motivation under pressure. Studies indicate that higher levels of resilience are associated with improved coping strategies in the face of stressors, such as academic demands (Handara & Irafahmi, 2022; Yao et al., 2024). The interplay of social support and ego resilience not only enhances students' coping mechanisms but also facilitates better academic performance through improved mental health outcomes (Suwajo et al., 2024; Mosanya, 2020). Together, these mediating variables may help explain how the effects of anxiety and mindset are transmitted to learning outcomes, suggesting that fostering social connectedness and resilience could significantly mitigate academic stress and promote success.

The importance of learner wellbeing and the holistic development of students are strongly emphasized in the policies of the Department of Education (DepEd). In particular, DepEd Order No. 21, s. 2019 (Policy Guidelines on the K to 12 Basic Education Program) underscores the need to develop learners who are not only academically competent but also emotionally and socially well-adjusted. Furthermore, DepEd Order No. 31, s. 2020 highlights the importance of socio-emotional learning and mental health support in response to growing concerns about learners' emotional wellbeing, especially in the context of challenges such as academic pressure and social isolation.

To capture the dynamic relationships among these variables, this study employs Structural Equation Modeling (SEM), a robust statistical technique that allows for the simultaneous examination of multiple dependent and independent variables, including latent constructs. SEM is especially valuable for testing theoretical models that involve both direct and indirect effects, as it provides insights into the underlying mechanisms through which psychological and social factors influence student performance. By applying SEM, this research aims to develop a comprehensive model that illustrates the pathways from classroom anxiety and growth mindset to student performance, mediated by social connectedness and ego resilience.

Theoretical and Conceptual Framework

This study is anchored on established psychological and educational theories that provide a strong foundation for understanding the interrelationships among classroom anxiety, growth mindset, social connectedness, ego resilience, and student performance. These theoretical frameworks support the conceptual model that guides the development of hypotheses and the application of Structural Equation Modeling (SEM) in this research.

Self-Determination Theory (SDT), developed by Deci and Ryan (1985), asserts that individuals are more motivated to engage in learning when their basic psychological needs—autonomy, competence, and relatedness—are satisfied (Ryan & Deci, 2020). This theoretical framework underpins the concepts of growth mindset and ego resilience in academic contexts. A growth mindset corresponds closely with the principles of autonomy and competence, promoting a belief in personal improvement through effort and perseverance (Raboca & Cărbunărean, 2024). Similarly, ego resilience relates to a learner's ability to regulate emotions and maintain goals in the face of challenges; it helps individuals adapt and demonstrates competence, further supporting their academic pursuits (Chen et al., 2021). Essentially, both constructs facilitate a learner's capacity to navigate academic environments effectively, emphasizing the interplay between motivation and emotional regulation in educational outcomes (Oram et al., 2022).

The Control-Value Theory (CVT) proposed by Pekrun emphasizes the interaction between students' perceived control over academic tasks and the value they ascribe to these tasks in shaping their emotional experiences, particularly in relation to classroom anxiety. Research supports the notion that reduced perceived control correlates with heightened anxiety in academic settings, adversely affecting motivation, engagement, and performance (Huang, 2023; , Nazish & Kang, 2024). Specifically, CVT suggests that emotions such as anxiety can impede academic achievement, highlighting the necessity of understanding emotional influences on learning (Fardian et al., 2022; , Suzuki & Tonegawa, 2020). Furthermore, studies illustrate how emotional states, both positive and negative, are critical in navigating academic challenges, indicating that fostering a supportive learning environment may enhance student success (Bordbar, 2021; , Fuente et al., 2024).

Social Support Theory underscores the protective role of interpersonal relationships in buffering against psychological stress and promoting mental health and well-being. In academic contexts, social connectedness—the feeling of belonging and being supported by peers, teachers, and family—plays a key role in enhancing learner confidence, engagement, and resilience (Rehman et al., 2021). Studies show that school connectedness contributes significantly to mental health, even beyond peer relationships, highlighting the critical role of educational environments in supporting students' psychological welfare (Perkins et al., 2021; Widnall et al., 2022). Furthermore, positive relationships within school settings, including strong attachments to educators and peers, correlate with lower levels of anxiety and higher motivation, thereby mediating the adverse effects on student performance (Zeinalipour, 2021; Samson, 2021). Such interconnectedness is essential in fostering an academic environment conducive to learners' emotional and psychological support, directly influencing their overall performance (Hou et al., 2022).

Based on these theoretical foundations, the study proposes a structural equation model where Classroom Anxiety (Clas_Anx) and Growth Mindset (GMS) are Exogenous variables; Social Connectedness (Soc_Con) and Ego Resilience (ER) are Mediating variables; and Student Performance (SP) is Endogenous variable.

The conceptual framework hypothesized that Classroom Anxiety (Test anxiety, Writing anxiety, Public speaking anxiety, & Group work anxiety) negatively affects Social Connectedness (Belongingness, Closeness, Support, & Satisfaction) and student performance, while Growth Mindset positively influences both mediators and ultimately, Student Performance. Social Connectedness and Ego Resilience, in turn, are expected to mediate the relationships between the exogenous variables and the outcome.

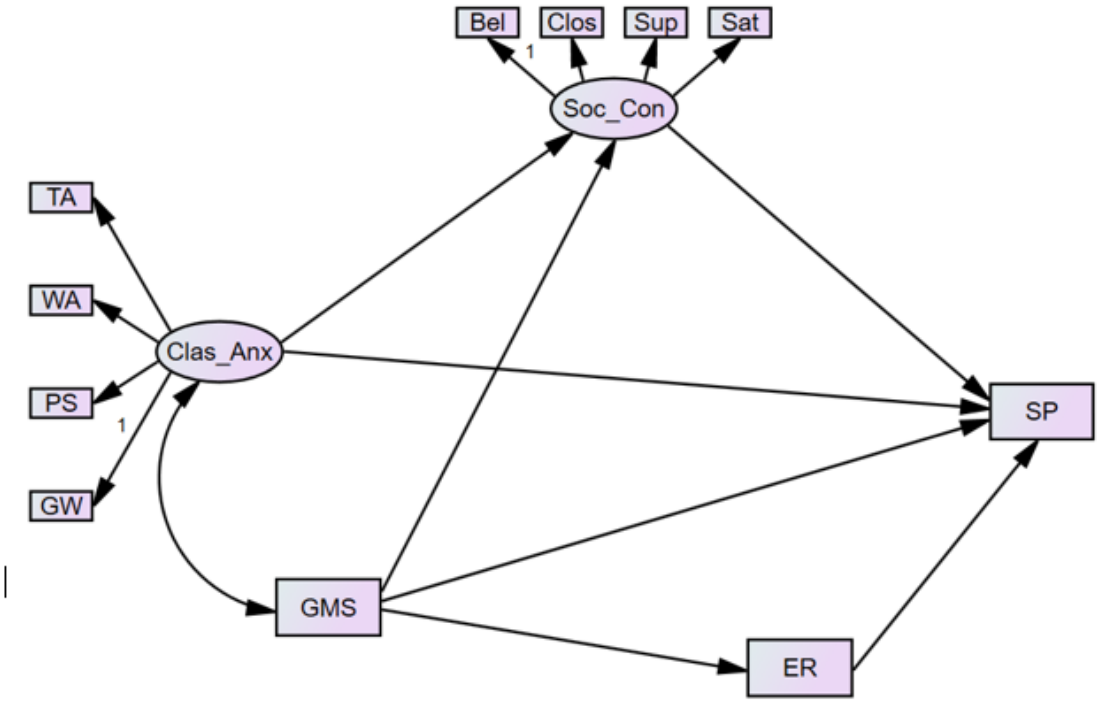

Figure 1. Hypothesized Model

Research Questions

This study aims to examine the direct and indirect relationships among classroom anxiety, growth mindset, social connectedness, ego resilience, and student performance using a Structural Equation Modeling (SEM) approach. Specifically, it seeks to answer the following research questions:

1. Does classroom anxiety have a significant direct effect on student performance?
2. Does growth mindset have a significant direct effect on student performance?
3. Does classroom anxiety significantly influence social connectedness?
4. Does growth mindset significantly influence the mediating variables, namely social connectedness and ego resilience?
5. Does social connectedness have a significant direct effect on student performance?
6. Does ego resilience have a significant direct effect on student performance?
7. Does social connectedness mediate the relationship between:
   a. Classroom anxiety and student performance?
   b. Growth mindset and student performance?
8. Does ego resilience mediate the relationship between growth mindset and student performance?

Hypotheses

Based on the research questions and conceptual framework, the following hypotheses are formulated:

Direct Effects

H1: Classroom anxiety has a significant negative direct effect on student performance.

H2: Growth mindset has a significant positive direct effect on student performance.

H3: Classroom anxiety has a significant negative effect on social connectedness.

H4: Growth mindset has a significant positive effect on social connectedness.

H5: Growth mindset has a significant positive effect on ego resilience.

H6: Social connectedness has a significant positive direct effect on student performance.

H7: Ego resilience has a significant positive direct effect on student performance.

Mediating Effects

H8: Social connectedness significantly mediates the relationship between classroom anxiety and student performance.

H9: Social connectedness significantly mediates the relationship between growth mindset and student performance.

H10: Ego resilience significantly mediates the relationship between growth mindset and student performance.

METHODOLOGY

Research Design

This study employed a quantitative approach utilizing Structural Equation Modeling (SEM) to examine the relationships between classroom anxiety, growth mindset, social connectedness, ego resilience, and student performance. Specifically, a descriptive-correlational and path analysis design was used to determine both the direct and indirect effects among the variables.

Respondents

The respondents consisted of 200 Junior High School learners from a formal public school setting using a convenience sampling method with 51% female and 49% male. Most of the students were within the 14 to 15-year-old age range (56%), which aligns with typical age placement in Grades 8 and 9. Learners were fairly distributed across Grade 7 to Grade 10, with each level representing approximately one-fourth of the sample.

Instruments

Classroom Anxiety Scale (CAS) developed by Raykov and Martinelli (2019). The scale consists of 12 items grouped into four subscales: test/exam anxiety, writing anxiety, public speaking anxiety, and group work anxiety. Items are rated on a 7-point Likert scale ranging from 1 (Strongly Agree) to 7 (Strongly Disagree), with lower scores indicating higher anxiety. The CAS has demonstrated strong psychometric properties, with Cronbach's alpha values ranging from .80 to .89.

Growth Mindset Scale (GMS) developed by Dweck et al. (1995). This scale comprises three items, each rated on a 6-point Likert scale ranging from 1 (Strongly Disagree) to 6 (Strongly Agree), with higher scores indicating a stronger growth mindset. The scale has demonstrated good internal consistency, with Cronbach's alpha values typically around 0.85. It has been widely used in research to explore the relationship between growth mindset and various educational outcomes.

Social Connectedness Scale (SCS) developed by Lee, Richard M. and Robbins, Steven B. (1998). The scale consists of 20 items designed to assess individuals' feelings of belongingness, closeness, support, and satisfaction within their social relationships. Participants rate each item on a 6-point Likert scale, ranging from 1 (Strongly Disagree) to 6 (Strongly Agree). Higher scores indicate greater social connectedness. The reported Cronbach's alpha for the full 20-item scale typically ranges from $\alpha = 0.91$ to 0.94, indicating very high reliability.

Ego Resiliency Scale developed by Block and Kremen (1996). This instrument assesses an individual's ability to adapt flexibly to changing circumstances and recover from stress. The scale consists of 14 items, each rated on a 4-point Likert scale ranging from 1 (Does not apply at all) to 4 (Applies very strongly). Higher scores indicate greater ego resilience. The scale has demonstrated good internal consistency, with reported Cronbach's alpha values ranging from 0.76 to 0.84. It has been widely used in studies related to personality, coping, and well-being.

Student performance was measured using learners' general average grades from their most recent academic quarter, as recorded in official school documents. These grades reflect cumulative academic achievement across core subjects and serve as a standardized indicator of academic performance in the formal Junior High School curriculum. Using actual grade data provides an objective and quantifiable measure of student outcomes.

Data Gathering Procedure

Prior to data collection, permission was obtained from the school principal and other relevant authorities. A letter of informed consent was distributed to participants and, where necessary, to their parents or guardians. The purpose of the study was clearly explained, and participation was strictly voluntary. Learners were assured that they could withdraw from the study at any point without any consequences. After securing consent, the researcher administered the survey instruments during a scheduled session within school hours. Participants completed the self-report questionnaires, which included the Classroom Anxiety Scale, Growth Mindset Scale, Social Connectedness Scale, and Ego Resiliency Scale, in a quiet and supervised environment. Student performance data were collected through access to academic records with the approval of school authorities. Throughout the process, confidentiality and anonymity were strictly maintained. All collected data were used solely for research purposes and stored securely to protect participant privacy.

Data Analysis

Data were analyzed using JASP for descriptive statistics and correlation, and AMOS for Structural Equation Modeling (SEM). Descriptive statistics included measures of central tendency, dispersion, skewness, and

kurtosis. Correlation analysis was used to examine relationships among variables. SEM was conducted to test the hypothesized model, using key fit indices such as Chi-square (χ^2), Comparative Fit Index (CFI), Tucker-Lewis Index (TLI), Root Mean Square Error of Approximation (RMSEA), and Standardized Root Mean Square Residual (SRMR). Mediation effects were tested using bootstrapping procedures with bias-corrected confidence intervals, ensuring robust estimation of indirect effects.

Results and Discussion

Descriptive Statistics

The descriptive statistics presented in Table 1 provide an overview of the central tendencies and distribution characteristics of the study variables, including anxiety dimensions, psychological traits, and student performance indicators.

Table 1 Means, Standard Deviations, Skewness and Kurtosis of study variables.

Variables	Mean	SD	Skewness	Kurtosis
TA	5.716	.780	-.676	.544
WA	4.164	.973	-.162	-.660
PS	4.109	.914	.340	-.683
GW	5.422	.827	-.865	.182
Bel	4.365	.723	-1.268	1.595
Clos	4.328	.445	.006	-.462
Sup	4.499	.491	-.130	-.622
Sat	4.546	.407	-.047	-.543
ER	3.397	.516	-1.650	3.781
GMS	4.997	1.303	-1.299	-.171
SP	3.015	.792	.034	-1.251

Note: Test anxiety (TA), Writing anxiety (WA), Public speaking anxiety (PS), & Group work anxiety (GW), Ego Resilience (ER), Growth Mindset (GMS), Student Performance (SP)

Among the anxiety variables, Test Anxiety (TA) recorded the highest mean (M = 5.716, SD = 0.780), suggesting that participants experienced higher levels of anxiety in test situations compared to Writing Anxiety (WA), Public Speaking Anxiety (PS), and Group Work Anxiety (GW). In contrast, Public Speaking Anxiety had the lowest skewness (0.340), indicating a slight positive skew, while Group Work Anxiety was negatively skewed (–0.865), reflecting a concentration of higher scores.

Psychological constructs such as Belongingness (Bel), Closeness (Clos), Support (Sup), and Satisfaction (Sat) show moderate means, with Satisfaction being the highest (M = 4.546, SD = 0.407). Notably, Ego Resilience (ER) showed a relatively low mean (M = 3.397) and the highest kurtosis value (3.781), indicating a leptokurtic distribution with most values clustering around the mean and some extreme values. Similarly, Growth Mindset (GMS) exhibited a high mean (M = 4.997) with a substantial negative skew (–1.299), suggesting that most participants endorsed high levels of growth mindset beliefs.

Student Performance (SP) had the lowest mean score (M = 3.015, SD = 0.792), which may indicate generally moderate to low performance among the participants. The skewness (0.034) is close to zero, implying a relatively normal distribution, although the kurtosis (–1.251) indicates a platykurtic shape, with scores more spread out than a normal distribution.

In assessing the normality of the data for Structural Equation Modeling (SEM), skewness and kurtosis are critical indicators. According to widely accepted guidelines in SEM, particularly those by Kline (2016), data are considered approximately normal if skewness values fall within the range of –3 to +3, and kurtosis values lie between –10 and +10. Upon examining the variables in this study, all skewness values range from –1.650 to 0.340, and kurtosis values range from –1.251 to 3.781, all of which fall within Kline's recommended thresholds. Although variables such as Ego Resilience and Growth Mindset exhibit relatively higher levels of negative skewness and leptokurtic distribution, they are still within acceptable bounds and do not significantly threaten the assumption of normality. Therefore, the data can be deemed suitable for SEM.

Structural Model and Hypotheses Testing

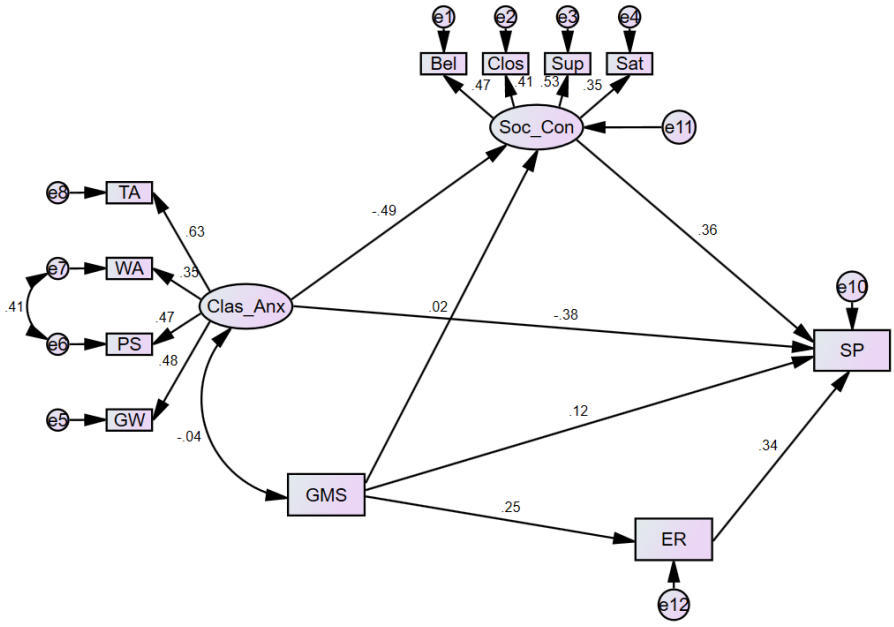

Figure 2. Final Model of the Study

Table 2 presents the results of the model fit indices used to evaluate the hypothesized Structural Equation Model. A variety of fit indices were examined to ensure a comprehensive assessment, including absolute, incremental, and parsimonious fit measures. Overall, the final model demonstrates a strong and acceptable fit based on the suggested thresholds.

The Chi-square (χ^2) value of 47.266 with 38 degrees of freedom (df) yields a χ^2/df ratio of 1.244, which is well below the commonly accepted cut-off of 3.0, indicating a good model fit. Additionally, the associated p-value of .144 is greater than the conventional threshold of 0.05, suggesting that the difference between the observed and the model-implied covariance matrices is not statistically significant. This supports the conclusion that the model fits the data well.

The Goodness-of-Fit Index (GFI) and Comparative Fit Index (CFI) are .959 and .967, respectively, both exceeding the recommended threshold of 0.90, with the CFI even surpassing the 0.95 mark, which indicates excellent model fit. Similarly, the Incremental Fit Index (IFI = .969) and Tucker-Lewis Index (TLI = .952) both suggest a very good fit of the data to the model, further validating the strength of the hypothesized relationships.

Moreover, the Root Mean Square Error of Approximation (RMSEA) is .035, which is below the cut-off value of 0.05, indicating a close fit. The Standardized Root Mean Square Residual (SRMR) is .059, also within the acceptable range ($\leq$ 0.08), confirming that the residuals between the observed and predicted correlations are minimal. The high-quality model fit justifies proceeding with the interpretation of the structural paths and mediation effects within the SEM framework.

Table 2 The results of model fit Indices.

Model Fit Indices	Suggested Threshold	Final Model	Interpretation
X^2	-	47.266	-
df	-	38	-
X^2/df	≤ 3.0	1.244	Excellent fit
p-value	> 0.05	.144	supports model fit
GFI	≥ 0.90	.959	Good fit
CFI	≥ 0.90	.967	Excellent fit
IFI	≥ 0.90	.969	Excellent fit
TLI	≥ 0.90	.952	Excellent fit
RMSEA	≤ 0.05	.035	Close fit
SRMR	≤ 0.08	.059	Acceptable fit

Source: Kline (2016), Hu & Bentler (1999), Byrne (2016), Bollen (1989), Browne & Cudeck (1993)

Table 2 provides insights into the direct effects of various psychological constructs—Classroom Anxiety (Clas_Anx), Growth Mindset (GMS), Ego Resilience (ER), and Social Connectedness (Soc_Con)—on Student Performance (SP) and related socio-cognitive outcomes. The standardized regression weights, supported by p-values, confirm the statistical significance of most hypothesized relationships, except for one path.

Classroom Anxiety (Clas_Anx) demonstrated a significant negative effect on Student Performance (β = –0.380, p = .002), supporting H1. This is consistent with the findings of Henry et al. (2021) and Hajdúk et al. (2022), who reported that heightened anxiety disrupts social interpretation and impairs academic performance. Similarly, Lin et al. (2020) emphasized that anxiety fosters cognitive distortions that negatively influence how students process and respond to classroom stimuli, which may explain the adverse impact on performance.

In support of H2, Growth Mindset (GMS) was positively associated with Student Performance (β = 0.120, p = .045), indicating that learners who believe in their ability to grow through effort tend to achieve better outcomes. Duan et al. (2023) support this finding by demonstrating how mental states and self-beliefs affect cognitive and social engagement, highlighting the importance of nurturing positive mindsets in learning environments.

For H3, a strong negative effect of Clas_Anx on Social Connectedness (β = –0.487, p = .005) was found, affirming that anxiety hinders interpersonal interactions and feelings of belonging. This is reinforced by Lammer et al. (2023) and Lin et al. (2020), who showed that social isolation and anxiety are predictors of cognitive and social difficulties, particularly in educational and group settings.

Contrary to expectations, GMS did not significantly predict Social Connectedness (β = 0.025, p = .802), leading to the rejection of H4. This finding suggests that while growth mindset enhances academic outcomes and emotional resilience, it may not directly translate to stronger social bonds. Baksh et al. (2020) offer an explanation by noting that social cognition involves multiple cognitive mechanisms beyond mindset, such as empathy, perspective-taking, and executive functions.

In support of H5, GMS positively influenced Ego Resilience (β = 0.245, p < .001), reinforcing that individuals with a growth mindset are more likely to exhibit emotional strength and adaptive coping strategies. This aligns with Wu and Zhou (2024) and Isernia et al. (2022), who assert that psychological flexibility and resilience are cultivated through optimistic self-beliefs and emotional regulation practices.

Both Social Connectedness (Soc_Con) and Ego Resilience (ER) had strong, significant effects on Student Performance, supporting H6 (β = 0.362, p = .004) and H7 (β = 0.337, p < .001), respectively. These findings

emphasize the mediating and reinforcing roles of interpersonal and intrapersonal competencies in academic success. As Brady et al. (2020) and Ferrer-Quintero et al. (2021) noted, effective emotional and cognitive regulation are crucial for social functioning, which in turn supports academic outcomes.

Table 2 Standardized regression weights.

Direct Effects	**β coefficient**	**S.E**	**p-value**	**Decision**
Clas_Anx → SP	-.380	.237	.002*	Support H1
GMS → SP	.120	.035	.045*	Support H2
Clas_Anx → Soc_Con	-.487	.150	.005*	Support H3
GMS → Soc_Con	.025	.026	.802	Decline H4
GMS → ER	.245	.027	<.001*	Support H5
Soc_Con → SP	.362	.288	.004*	Support H6
ER → SP	.337	.083	<.001*	Support H7

Note: * significant at $p < 0.05$ level; Standard Error (SE)

Table 3 presents the results of the mediation analysis using the bootstrapping method with 2000 resamples, providing estimates of indirect effects along with 95% confidence intervals (CIs) and p-values. This analysis examines the mediating roles of Social Connectedness (Soc_Con) and Ego Resilience (ER) in the relationship between psychological variables such as Classroom Anxiety (Clas_Anx) and Growth Mindset (GMS) and their outcome on Social Performance (SP).

Table 3 Results of mediation analysis using bootstrapping.

Indirect Effects	**Bootstrapping**		**95% Confidence Interval**		**p-value**	**Decision**
	Estimate	**Bootstrap SE**	**Lower**	**Upper**		
Clas_Anx → Soc_Con → SP	-.344	.283	-.918	-.086	.017*	Support H8
GMS → Soc_Con → SP	.049	.015	.025	.082	.001*	Support H9
GMS → ER → SP	.005	.028	-.047	.065	.825	Decline H10

Note: * Significant at $p < 0.05$ level; Standard Error (SE)

The analysis supports H8, showing a significant negative indirect effect (estimate = –0.344, p = .017) of Classroom Anxiety on Social Performance via Social Connectedness. The confidence interval (–0.918 to –0.086) does not include zero, confirming the mediation effect. This negative relationship indicates that higher levels of class-related anxiety can diminish social connections, which in turn adversely affects performance in social scenarios. The negative impact of anxiety on social functioning has been well-documented in previous research. For example, Kim and Kweon (2020) demonstrated that psychological capital serves as a mediating factor between stressors and psychological outcomes, suggesting that enhanced psychological factors may buffer anxiety's negative influences. Similarly, Alev (2022) examined how psychological well-being acts as a mediator affecting engagement, confirming that anxiety can disrupt optimal functioning if social well-being is compromised. The immediate significance of these findings underlines the extent to which psychological constructs interact and emphasizes the importance of fostering social connections as buffers against anxiety-driven underperformance.

Hypothesis H9 is also supported, with a significant positive indirect effect of Growth Mindset on Social Performance through Social Connectedness (estimate = 0.049, p = .001). The confidence interval (0.025 to

0.082) affirms the mediation. This relationship suggests that individuals with a growth mindset cultivate better social connections, facilitating enhanced performance in social tasks. This supports existing literature illustrating the profound impact of growth mindset on social psychological aspects. Research has indicated that individuals with a growth mindset approach challenges with resilience, leading to improved interpersonal relationships and collaborative engagement He et al., 2024). The findings from Chen et al. (2022) provide additional support for the necessity of fostering a growth mindset to improve not only individual performance but also social well-being and interaction. The emphasis on boosting social connections appears crucial in enhancing the implications of a growth mindset, indicating that psychological constructs should not be viewed in isolation.

However, H10 is not supported, as the indirect effect from GMS to SP through Ego Resilience is minimal (estimate = 0.005, p = .825) and the confidence interval (–0.047 to 0.065) includes zero. This result leads to the conclusion that ER does not serve as a mediator in the context examined. The lack of significance highlights the complexity of psychological constructs, where the expected relationships do not always manifest as hypothesized. This observation resonates with findings from Zhao et al. (2020) who have highlighted the complexities and nuances in mediating frameworks involving psychological constructs. Moreover, while Mehmood et al. (2021) discussed psychological factors influencing creativity in organizations, it is crucial to note that their focus differs from the psychological constructs examined in the present study. Thus, while a growth mindset may influence SP, reliance on emotional resilience as a mediating factor may require reevaluation to fully capture the interplay of these constructs.

CONCLUSION

This study explored how classroom anxiety and growth mindset influence student performance, with social connectedness and ego resilience as mediating variables. Using Structural Equation Modeling, the findings revealed that classroom anxiety significantly hinders academic achievement, both directly and indirectly through reduced social connectedness. This suggests that anxiety not only affects academic focus but also disrupts students' ability to form meaningful social relationships, which are vital for emotional support and engagement in school.

On the other hand, growth mindset was positively linked to both student performance and ego resilience. While it did not directly enhance social connectedness, it contributed indirectly to academic success by promoting a more adaptive and resilient mindset. Interestingly, ego resilience did not mediate the relationship between growth mindset and performance, indicating its effect may operate independently in this context.

Social connectedness and ego resilience both showed strong direct effects on academic achievement, reinforcing their importance as key factors in student success. Among these, social connectedness served as a critical mediator, buffering the negative effects of classroom anxiety and supporting the benefits of a growth mindset.

RECOMMENDATIONS

Based on the study's findings, it is recommended that schools implement targeted interventions to reduce classroom anxiety. Teachers should be trained to recognize signs of academic stress and adopt teaching strategies that create a supportive and low-pressure classroom environment. Activities that encourage open communication, mindfulness, and emotional regulation can help students manage anxiety and perform better academically.

Given the strong influence of social connectedness on student performance, schools should foster a sense of belonging among learners. This can be achieved by promoting peer collaboration, building positive teacher-student relationships, and organizing activities that strengthen group identity. Establishing a school culture that values inclusion and mutual support is essential in buffering the negative effects of anxiety and enhancing motivation.

Finally, promoting a growth mindset should be an integral part of instructional practices. While growth mindset alone may not directly enhance social bonds, it positively influences resilience and academic outcomes. Teachers

can embed growth mindset principles in classroom discussions, feedback, and goal-setting to help students develop persistence, adaptability, and self-belief in their academic journey.

Limitations and Future Research

This study has several limitations that should be considered when interpreting the findings. First, the use of convenience sampling from a single public school limits the generalizability of the results. The sample may not fully represent the broader population of junior high school learners, particularly those from different geographic regions, school types, or socio-economic backgrounds. Future studies are encouraged to employ more rigorous sampling techniques, such as stratified or random sampling, and to include participants from multiple schools or regions to enhance external validity.

Second, while Structural Equation Modeling (SEM) provides a robust framework for examining complex relationships, the model tested in this study represents only one possible configuration of the relationships among the variables. Alternative model structures, including different mediating or moderating variables, may also explain student performance. Additionally, the possibility of omitted variable such as teacher support, parental involvement, or learning environment factors may influence the observed relationships and should be explored in future research.

Third, the study relied on self-report measures for most constructs, which may introduce response bias, including social desirability and subjective interpretation of items. Although validated instruments were used, incorporating mixed methods approaches or behavioral data could strengthen future investigations.

Finally, while the study demonstrated acceptable measurement properties, further validation of the constructs across diverse populations is recommended. Future research may also examine additional psychological and contextual variables to refine and extend the proposed model, thereby providing a more comprehensive understanding of the factors influencing student performance.

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