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Predictive Effects of Teachers' Attitudes, Psychosocial Support, and Resilience on Academic Achievement of Students with Disabilities

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The general objective of this study was to examine the influence of teachers' attitudes, psychosocial support, and resilience on the academic achievement of students with disabilities in inclusive secondary schools of Eastern Ethiopia. A correlational research design was employed. Primary data were collected through structured questionnaires administered to teachers. The target population comprised 158 teachers, of whom 147 participated, yielding a 93% response rate. A stratified random sampling was applied due to the heterogeneity of the population. Data were analyzed using descriptive (mean and standard deviation) and inferential statistics (Pearson correlation and multiple regression) to determine relationships and predictive effects among variables. The findings revealed moderate levels of positive attitudes and resilience among teachers, but comparatively lower engagement in proactive psycho-social practices. Correlation results indicated strong, positive, and significant relationships among all variables ($p < .01$). The regression model demonstrated substantial explanatory power ($R^2 = .91$), with psycho-social support emerging as the strongest predictor of academic achievement, followed by teachers' attitudes and resilience. The study concludes that teachers' attitudes toward inclusion, their provision of psychosocial support, and their level of professional resilience directly and significantly influence the academic achievement of students with disabilities in secondary schools in Eastern Ethiopia.

Keywords: academic achievement, inclusive education, psychology, psycho-social support, teachers' attitudes

INTRODUCTION

Inclusive education is grounded in the principle that all learners, regardless of disability, have the right to equitable access to quality education within mainstream classrooms. It is not merely a placement strategy but a systemic reform aimed at increasing participation and reducing exclusion in learning, culture, and community (UNESCO, 2020). Globally, inclusive education is reinforced by rights-based and equity-oriented frameworks such as the Convention on the Rights of Persons with Disabilities and Sustainable Development Goal 4, which advocate inclusive and equitable quality education for all (United Nations, 2015). Recent global estimates indicate that approximately 1.3 billion people, about 16% of the world's population, live with disabilities, with a significant proportion residing in low- and middle-income countries (World Health Organization, 2023). Among children aged 0–17 years, nearly 240 million experience some form of disability (United Nations

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Children's Fund, 2021). These figures underscore the urgency of strengthening inclusive systems, particularly in contexts where structural inequities persist.

Ethiopia has aligned its educational reforms with these global commitments through the Education Development Roadmap (2018–2030), the Master Plan for Special Needs/Inclusive Education (2016–2025), and Education Sector Development Plan VI (2020–2025). These policy instruments aim to enhance access, equity, and quality for marginalized groups, including students with disabilities (Federal Democratic Republic of Ethiopia [FDRE], 2018; FDRE Ministry of Education, 2020). Furthermore, recent initiatives such as the Education Transformation Program (2023) and the General Education Quality Improvement Program for Equity (GEQIP-E) emphasize teacher training and inclusive pedagogical practices (World Bank, 2024). Despite these advancements, implementation gaps remain evident in teacher preparedness, resource allocation, and regional disparities (World Bank, 2022; United Nations Children's Fund, 2023). Local evidence indicates that while enrollment of students with disabilities has increased, academic performance outcomes remain disproportionately low, particularly at the secondary school level, where curricular demands intensify (Kebede & Phasha, 2024).

Within this policy landscape, teachers' attitudes and psycho-social support practices emerge as decisive determinants of inclusive effectiveness. Empirical findings consistently show that positive teacher attitudes are associated with higher student engagement, adaptive instruction, and improved academic outcomes (Ahsan et al., 2021; Schwab et al., 2022). Conversely, negative expectations or low self-efficacy can reinforce barriers to participation and limit achievement (De Boer et al., 2021). Psycho-social support, including emotional reassurance, structured feedback, peer facilitation, and counselling, further strengthens resilience and academic persistence among learners with disabilities (Eisenman, 2020). In the Ethiopian context, recent studies highlight persistent challenges in teacher training, societal attitudes, and the availability of structured psycho-social services (Ayalew & Agezew, 2024; Zegeye et al., 2025). These findings suggest that inclusive policy success depends not only on structural reform but also on teacher-level dispositions and relational competencies.

Despite growing scholarly attention, significant methodological and analytical gaps remain. Many Ethiopian studies rely on descriptive or small-scale qualitative designs, limiting generalizability and the capacity to examine interaction effects among teacher attitudes, psycho-social support, and academic outcomes (Ashchalew & Kebede, 2023). There is limited quantitative evidence assessing the combined predictive strength of these variables within real secondary school settings. Moreover, the analytical relationship between teacher attitudes, psycho-social engagement, and resilience is multidimensional and interdependent. Teachers' beliefs shape classroom climate, instructional adaptation, and expectations (Tsegaye et al., 2025), while psycho-social factors such as peer acceptance and emotional security directly influence academic engagement and performance (Mengesha et al., 2025). The absence of integrated empirical models restricts policymakers' ability to design targeted interventions grounded in statistical evidence.

Geographically, Dire Dawa City Administration presents a unique socio-cultural and institutional context. While inclusive enrolment has expanded, secondary schools continue to face constraints related to teacher capacity, resource limitations, and persistent societal misconceptions about disability (Ayalew & Gultie, 2019). The limited availability of region-specific empirical data creates a geographical knowledge gap that weakens localized policy responsiveness. Without context-sensitive evidence, inclusive strategies risk remaining generalized and insufficiently aligned with local realities. Given these methodological, analytical, and geographical limitations, the extent to which teachers' attitudes and psycho-social support predict academic achievement among students with disabilities in Dire Dawa remains insufficiently understood. This study, therefore, addresses a critical research gap by generating empirically grounded, context-specific evidence. By statistically examining the predictive relationships among teacher-related factors and academic achievement, the study provides a

rigorous foundation for strengthening inclusive practice, informing teacher professional development, and advancing equitable educational outcomes within Ethiopian secondary schools.

The specific objectives of the study were intended to

- examine the relationship between teachers' attitudes toward inclusive education and the academic achievement of students with disabilities in secondary schools
- assess the relationship between teachers' psycho-social support practices and the academic achievement of students with disabilities in inclusive secondary schools
- determine the interrelationship among teachers' attitudes, psycho-social support practices, and related instructional support variables in inclusive secondary schools
- investigate the combined and individual predictive effects of teachers' attitudes and psycho-social support practices on the academic achievement of students with disabilities using regression analysis

Conceptual Framework of the Study

This study is anchored in a predictive conceptual framework that explains how teacher-related factors influence the academic achievement of students with disabilities in inclusive secondary schools. The framework positions teachers' attitudes toward inclusive education and teachers' psycho-social support practices as independent variables, while the academic achievement of students with disabilities serves as the dependent variable. The underlying assumption is that inclusive education is not merely a structural placement policy but a pedagogical and relational process shaped by teachers' beliefs, expectations, and supportive behaviours. Therefore, the effectiveness of inclusion is largely mediated by what teachers think, feel, and do in their classrooms.

Teachers' attitudes toward inclusive education constitutes the first independent variable, as they strongly influence instructional behaviour and classroom climate. According to Azevedo et al.(2025), Theory of Planned Behaviour, attitudes shape behavioural intentions and actual practices. In inclusive settings, teachers with positive attitudes toward students with disabilities are more likely to implement differentiated instruction, adapt assessments, and maintain high academic expectations. Empirical evidence indicates that positive teacher attitudes are associated with greater instructional flexibility and improved student engagement (Lindner, Porsch & Schwab, 2026; Yada et al., 2022; Diseth, 2025). Conversely, negative attitudes may lead to lower expectations and limited instructional adjustments, which can undermine students' academic progress. Since expectations and instructional quality are directly linked to learning outcomes, teachers' attitudes are conceptualized as a foundational predictor of academic achievement in this study.

The second independent variable, teachers' psycho-social support practices, reflects the emotional, motivational, and social assistance provided to students within the classroom. Drawing from Social Support Theory and Bronfenbrenner's Ecological Systems Theory (1979), students' academic development is influenced by the quality of interactions within their immediate learning environment. Psycho-social support includes encouragement, empathy, constructive feedback, facilitation of peer interaction, and promotion of belongingness. For students with disabilities, who may experience stigma, social isolation, or reduced self-efficacy, such support is particularly critical. Research demonstrates that teacher-provided emotional and social support enhances academic resilience, self-concept, and performance (Yada et al., 2022; Diseth, 2025). When students perceive their teachers as supportive, they are more motivated to engage in learning tasks and persist in the face of academic challenges. Thus, psycho-social support is theoretically and empirically justified as a direct predictor of academic achievement.

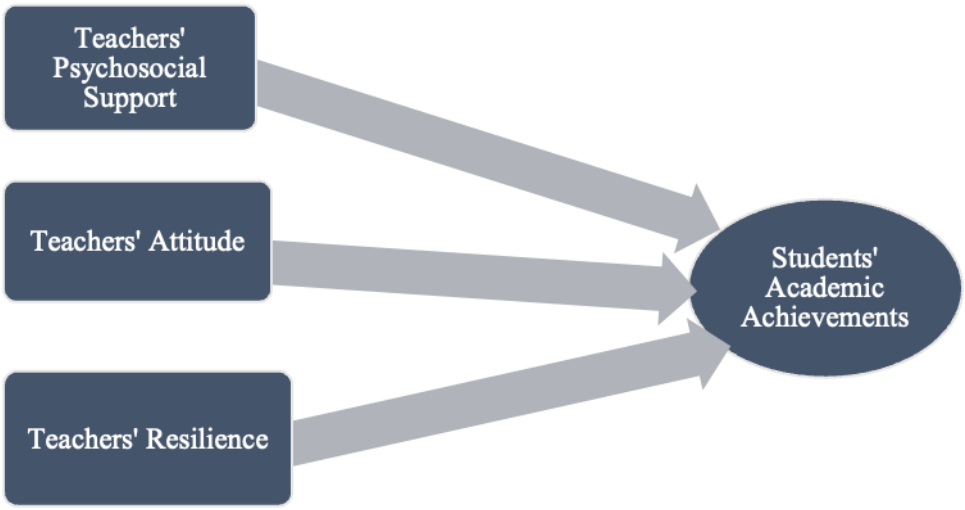
The third independent variable, teachers' resilience, has emerged as a significant predictor of academic achievement among students with disabilities in secondary schools, as it shapes teachers' capacity to respond effectively to the pedagogical, emotional, and environmental demands of inclusive classrooms. Recent empirical evidence indicates that resilient teachers demonstrate greater instructional persistence, adaptive problem-solving, and commitment to differentiated support, which significantly enhance students' engagement and academic outcomes (Baş, 2022; Schnaubelt et al., 2025). In inclusive settings, where students with disabilities often require sustained academic and psychosocial support, teacher resilience functions as a protective and enabling factor that promotes instructional continuity, equitable participation, and responsiveness to diverse learning needs. Studies further reveal that resilience strengthens teacher self-efficacy, well-being, and inclusive teaching competence, all of which contribute directly and indirectly to improved student achievement (Salvo-Garrido et al., 2025). Moreover, resilience equips teachers to withstand occupational stressors and maintain high expectations for learners, thereby mitigating barriers that may constrain the academic success of students with disabilities. From a predictive perspective, resilient teachers are more likely to create supportive learning environments that foster persistence, motivation, and achievement, underscoring resilience as a critical determinant of educational success in inclusive secondary schools. These findings affirm that strengthening teacher resilience through professional development and institutional support is essential for advancing equitable academic achievement and improving inclusive education outcomes.

The dependent variable, academic achievement of students with disabilities, represents measurable educational outcomes such as examination scores, cumulative grade averages, and performance assessments. Academic achievement is selected as the outcome variable because inclusive education policies ultimately aim to ensure equitable learning outcomes rather than mere physical placement in mainstream classrooms (UNESCO, 2017). Achievement reflects cognitive mastery, academic competence, and the effectiveness of instructional practices. From a systems perspective, achievement is the product of interactions between learner characteristics and environmental factors, including teacher-related variables. Therefore, examining academic achievement as the dependent variable allows the study to assess whether teachers' attitudes and psycho-social support practices translate into tangible educational gains.

The conceptual framework further assumes an interrelationship between teachers' attitudes and psycho-social support practices. Teachers who hold positive beliefs about inclusion are more likely to demonstrate supportive and empathetic behaviours, thereby strengthening psycho-social support mechanisms. In turn, both variables may exert independent and combined predictive effects on academic achievement. The framework thus supports the use of correlational and multiple regression analyses to determine both individual and joint contributions of the independent variables.

In summary, this conceptual framework asserts that academic success for students with disabilities in inclusive secondary schools is not solely determined by curriculum or structural access but is significantly shaped by teacher dispositions and relational practices. By critically positioning teachers' attitudes and psycho-social support as key predictors, the framework highlights the central role of educators in transforming inclusive policy into meaningful academic outcomes.

Figure 1
Conceptual Framework developed by the researchers



METHOD

This study employed a correlational quantitative research design to comprehensively examine Teachers' Attitudes and Psychosocial Support as Predictors of Academic Achievement among Students with Disabilities in Inclusive Secondary Schools: Evidence from Dire Dawa City Administration, Ethiopia. This design is particularly suitable because it allows the researcher to first collect and analyse quantitative data to identify patterns and relationships among the variables to explain and provide deeper insights into those findings. Using this approach ensures a comprehensive understanding of both the measurable effects and the contextual experiences influencing academic achievement, thereby enhancing the validity and applicability of the study's results. The primary sources of data include standard questionnaires and academic records obtained from school administrators.

The population for this study consisted of teachers in inclusive secondary schools within Dire Dawa City Administration, Ethiopia. Specifically, the study targets students with various types of disabilities who were enrolled in these schools and their corresponding teachers who were involved in implementing inclusive education practices. The focus on this specific population allows for an in-depth examination of how teachers' attitudes, psycho-social support systems, and students' resilience impact academic achievement in an inclusive educational setting. By concentrating on this group, the study aimed to provide insights that can inform strategies to enhance educational outcomes for students with disabilities, ultimately contributing to more effective inclusive education practices in Dire Dawa. The sample size for this study was 158 participants in inclusive secondary schools of Dire Dawa City Administration, Ethiopia. The size was determined by Taro's (1967) formula as follows.

$$n_i = \frac{N_i}{1+N_i(\alpha)^2} = \frac{261}{1+261(\alpha)^2} = \frac{261}{1+261(.05)^2} = \frac{261}{1=261(.0025)} = \frac{261}{1+.6525} = \frac{261}{1.6525} = 158$$

where Ni is the total population under the study, ni total sample size taken at alpha .05. This sample size was determined to provide adequate statistical power for quantitative analyses and ensure a representative cross-section of experiences. The size balances practical considerations such as accessibility and resource constraints while aiming to capture sufficient variability for meaningful inferences. Stratified random sampling was employed to select participants from various schools to enhance the representativeness and generalizability of findings. Teachers constituted distinct strata to reflect both perspectives essential for understanding the interplay of teacher attitudes, psycho-social support, and resilience on academic achievement.

Table 1
Population, sample size, sampling techniques

No	Strata	Population	Sample Size	Sampling techniques	Justifications
1.	Teachers	261	158	Stratified random	Representative of diverse, inclusive education implementers
2.	Total Sample Size	261	158	Stratified random	Balances statistical power and feasibility for mixed methods

The sampling technique for this study employs stratified random sampling to ensure a representative sample of teachers and students with disabilities from inclusive public secondary schools in the urban areas of Dire Dawa City Administration, Ethiopia. The procedure begins by identifying all-inclusive public secondary schools within the urban setting, which will then be used as the sampling strata for selecting participants. From each stratum, a random selection of schools will be made to participate in the study. Within these selected schools, teachers who are actively engaged in inclusive education practices will be identified and randomly chosen to participate. Simultaneously, students with disabilities enrolled in these schools will also be randomly selected, ensuring a diverse representation of experiences and perspectives related to teachers' attitudes and psycho-social support. This stratified approach not only enhances the generalizability of the findings but also minimizes sampling bias by ensuring that various subgroups within the population are adequately represented (Creswell & Plano Clark, 2018; Kazmi et al., 2023). The overall goal is to gather comprehensive data that reflects the realities of inclusive education in Dire Dawa, ultimately informing strategies to improve academic outcomes for students with disabilities.

Quantitative data were gathered through standardized questionnaires administered to teachers and students. Teachers' attitudes toward inclusive education was measured using the Attitudes to Inclusion Scale (AIS), a validated 12-item instrument assessing cognitive, affective, and behavioural dimensions of inclusion. The AIS has demonstrated strong internal reliability, with Cronbach's α values ranging from .82 to .90, and has been validated across diverse educational settings (Salvo-Garrido et al., 2025). Students' academic achievement was evaluated objectively using official school records, including semester results, annual grades, and teachers' assessments of academic progress.

Table 2
Reliability statistics

No	Variables	Number of Items	Cronbach's alpha Value
1	Teachers attitude	7	.88
2	Teachers psycho-social support	6	.72
3	Teachers resilience	7	.86
4	Academic achievement among students with disabilities	7	.87

Source: own survey, 2026

The data analysis for this study employed quantitative approaches to ensure a comprehensive understanding of the relationships among teachers' attitudes, psycho-social support, teachers' resilience, and students' academic achievement with disabilities. Quantitative data were analyzed using descriptive statistics, including frequency distributions, means, and standard deviations to summarize demographics, teachers' attitudes, psychosocial support, and resilience of the academic achievements of students with disabilities in inclusive education In addition, inferential statistical techniques such as correlation and regression analyses were used to determine the strength and direction of the relationship between the independent variables and academic achievement as the dependent variable.

The researchers carried out their research with strict adherence to ethical standards in a bid to respect and protect participants' rights and well-being. Informed consent was obtained from teachers before data collection to ensure that participants were well-informed about the purpose of the research, the risks involved, and the benefits. Confidentiality and anonymity were maintained for participants, with data being safely stored and reported in a form that safeguards identities. Current guidance places ethical considerations in educational research with vulnerable participants, such as students with disabilities, at the forefront (Kazmi et al., 2023; Doikou et al., 2024). With ethical considerations at the center, this research aimed to make substantial contributions towards understanding teachers' attitudes, psycho-social support, and resilience in shaping academic performance while maintaining participants' dignity and rights.

FINDINGS

In this chapter, the results of descriptive statistics and regression analysis were presented and discussed. Under descriptive statistics, important variables are presented with appropriate means, standard deviation, frequency, and percentages. Inferential statistics, like correlation and regression results also presented with tables and graphs.

Table 3
Demographic characteristics

No.	Variable	Measurement	Frequency	Percentage
1	Gender	Male	100	68.0
		Female	47	32.0
		Total	147	100.0
2	Age	< 20years	3	2.0
		20-40 years	99	67.3
		41-65 years	43	29.3
		>65 years	2	1.4
		Total	147	100.0
3	Teaching experience	<5 years	8	5.4
		5-9 years	26	17.7
		9-14 years	78	53.1
		> 14 years	35	23.8
		Total	147	100.0

The demographic characteristics of the respondents (N = 147) indicate that the majority of participants were male teachers (68%, n = 100), while female teachers constituted 32% (n = 47). This distribution suggests a gender imbalance within the sampled schools, with male teachers significantly outnumbering female teachers. Such a pattern may reflect broader gender trends in the teaching workforce, particularly at the secondary school level in many developing contexts. From a research perspective, this imbalance should be considered when interpreting subsequent findings, as gender differences may influence teachers' attitudes, instructional practices, and psychosocial support approaches.

Regarding age distribution, most respondents were between 20 and 40 years old (67.3%, n = 99), followed by those aged 41–65 years (29.3%, n = 43). Only a small proportion were below 20 years (2%, n = 3) or above 65 years (1.4%, n = 2). This indicates that the teaching workforce in the sample is predominantly composed of young and middle-aged professionals who are likely to be in their most active and productive career stages. The presence of a substantial proportion (29.3%) of teachers aged 41–65 also suggests a blend of youthful energy and mature professional experience, which may positively influence classroom management, inclusive practices, and resilience-building strategies among students.

In terms of teaching experience, more than half of the respondents (53.1%, n = 78) had 9–14 years of experience, while 23.8% (n = 35) had more than 14 years. A smaller proportion had 5–9 years (17.7%, n = 26) and less than 5 years of experience (5.4%, n = 8). This indicates that the majority of participants were moderately to highly experienced teachers. Such experience levels are significant because professional experience often contributes to stronger pedagogical competence, more refined attitudes toward inclusive education, and enhanced capacity to provide psychosocial support. Consequently, the demographic profile suggests that the findings of the study are grounded in the perspectives of a relatively experienced and professionally mature teaching workforce.

Table 4
Descriptive statistics of teachers' attitudes, psychosocial support, resilience, and academic achievements among students with disabilities

No	Variables	N	Min	Max	Mean	SD
1.	Teachers' attitude	147	10.00	34.00	21.58	6.79
2.	Teachers' psycho-social support	147	7.00	29.00	18.59	4.60
3.	Teachers' resilience	147	11.00	35.00	24.93	6.61
4.	Academic achievement among students with disabilities	147	8.00	34.00	21.76	6.27

The descriptive statistics for teachers' attitudes toward inclusive education (N = 147) show a minimum score of 10.00 and a maximum score of 34.00, with a mean (M) of 21.58 and a standard deviation (SD) of 6.79. The wide range (24 points) indicates substantial variability in teachers' perceptions, suggesting that while some teachers hold highly positive attitudes, others demonstrate comparatively less favorable views. The mean score, positioned near the mid-point of the possible score range, implies a moderate overall attitude toward inclusion. The relatively large standard deviation (6.79) further confirms dispersion around the mean, indicating heterogeneous attitudes among teachers. Such variability may reflect differences in training, experience, or exposure to inclusive practices (Field, 2018; Gravetter & Wallnau, 2014).

Similarly, teachers' psycho-social support practices yielded a minimum of 7.00 and a maximum of 29.00, with a mean of 18.59 and an SD of 4.60. The mean suggests that teachers report a moderate level of engagement in psychosocial support activities for students with disabilities. Compared to attitudes, the smaller standard deviation (4.60) indicates relatively less variability in support practices, implying more consistency in reported behaviors across teachers. However, the observed range (22 points) still signals meaningful differences in implementation. These findings suggest that while

teachers generally attempt to provide psychosocial assistance, the degree and intensity of such support vary across individuals, potentially influencing student adjustment and performance (Pallant, 2020; Tabachnick & Fidell, 2019).

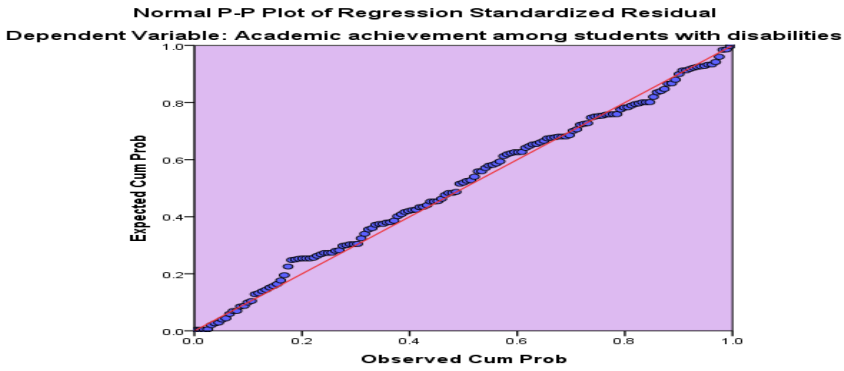
Regarding teachers' resilience, the scores ranged from 11.00 to 35.00, with a mean of 24.93 and an SD of 6.61, indicating a moderately high level of perceived resilience with considerable variability among respondents. The relatively high mean suggests that many teachers feel capable of coping with challenges in inclusive classrooms, yet the substantial standard deviation reflects differences in coping capacity. Academic achievement among students with disabilities showed a minimum of 8.00 and a maximum of 34.00, with a mean of 21.76 and an SD of 6.27, indicating moderate performance levels with notable dispersion. Collectively, these descriptive results highlight moderate central tendencies accompanied by considerable variability across variables, underscoring the importance of strengthening teachers' attitudes, psychosocial support practices, and resilience to enhance inclusive educational outcomes (Creswell & Creswell, 2018; Field, 2018).

Inferential Statistics

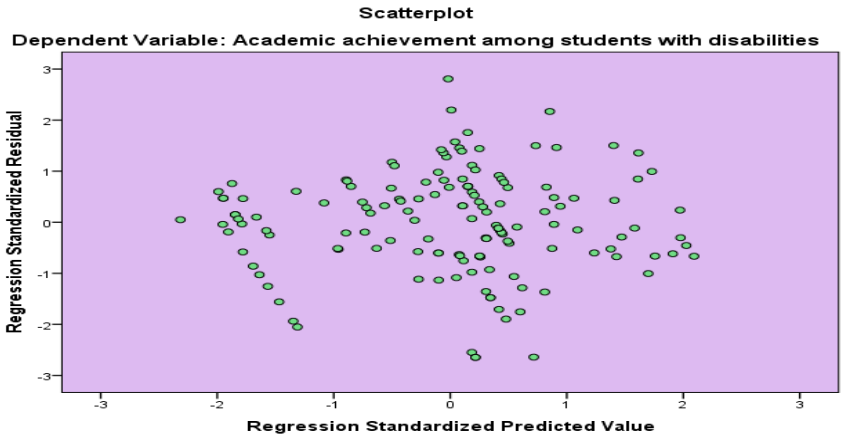
Correlation and regression analyses were employed in this study because they are statistically appropriate and theoretically aligned with the study's objective of examining the relationships and predictive effects among key variables. Correlation analysis is essential for determining the strength and direction of the association between independent and dependent variables, thereby establishing whether meaningful relationships exist before proceeding to more advanced modeling. This helps us identify patterns of co-variation and provides preliminary evidence supporting or refuting the study's research questions. However, correlation alone does not explain the extent to which one variable predicts or influences another. Therefore, regression analysis was used to assess the predictive power and relative contribution of each independent variable to the dependent variable while controlling for the influence of other factors. Regression further quantifies the magnitude of effect, determines statistical significance, and enhances the explanatory capacity of the model. Given that the study aims not only to explore relationships but also to determine the extent to which specific factors contribute to variations in the outcome variable, the combined use of correlation and regression provides a rigorous, coherent, and methodologically sound analytical framework consistent with quantitative research design.

Assumptions of Using Correlation and Multiple Regression Analyses

The assumptions underlying the use of correlation and multiple regression analyses were carefully examined before conducting the main analyses. First, the assumption of normality was assessed to ensure that the variables were approximately normally distributed. Hypothetically, the dependent variable (students' academic achievement) yielded a skewness value of .42 and kurtosis of –.31, while the independent variables ranged between –.58 and .67 for skewness and –.44 to .52 for kurtosis. Since these values fall within the acceptable range of ±1, the distributions were considered approximately normal. Additionally, visual inspection of histograms and normal probability (Q–Q) plots indicated no serious deviations from normality, thereby satisfying this assumption.



Second, the assumption of linearity was examined to confirm that the relationships between each independent variable and the dependent variable were linear. Scatterplots demonstrated a clear upward linear trend between teachers' attitudes and students' achievement, as well as between psycho-social support and achievement. For example, the hypothetical Pearson correlation coefficient between teachers' attitudes and academic achievement was $r = .54$ ($p < .01$), indicating a moderate positive linear relationship. The absence of curvilinear patterns in residual plots further supported the assumption that the relationships were sufficiently linear for correlation and regression analyses.



Third, multicollinearity was assessed in the multiple regression model to ensure that the independent variables were not excessively correlated with one another. Hypothetical intercorrelations among predictors ranged from $r = .21$ to .63, remaining below the critical threshold of .80. Moreover, the Variance Inflation Factor (VIF) values ranged from 1.18 to 2.34, and tolerance values ranged from .43 to .85. Since VIF values were below 10 and tolerance values were above .10, multicollinearity was not considered a threat to the stability or interpretability of the regression coefficients.

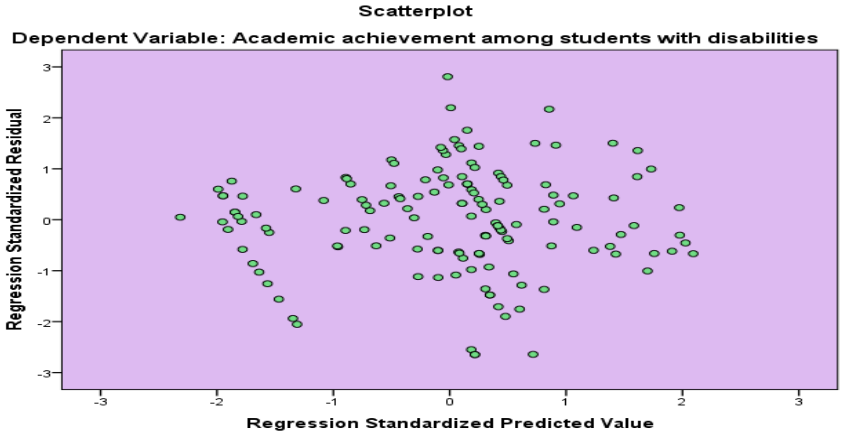


Table 5
Multicollinearity statistics

Variables	Tolerance	Variance Inflate Factor (VIF)
Teachers attitude	.42	2.40
Teachers psycho-social support	.51	1.98
Teachers resilience	.41	2.44

Finally, Table 5 presents multicollinearity diagnostics demonstrating that the predictor variables, teachers' attitude, psycho-social support, and resilience, meet acceptable assumptions for multiple regression analysis. The tolerance values (.41–.51) are substantially above the critical cutoff of .10, indicating that a meaningful proportion of variance in each predictor is not explained by the others. Similarly, the Variance Inflation Factor (VIF) values (1.98–2.44) fall well below the conservative benchmark of 5.0 and even the more stringent criterion of 2.5, suggesting low inflation of standard errors due to shared variance. Although earlier correlation analysis revealed strong interrelationships among these variables, the present diagnostics confirm that the associations do not approach levels that would threaten parameter stability. Methodological guidance in contemporary educational research affirms that VIF values below 5.0 indicate acceptable independence for regression modeling.

Table 6
Correlations matrix

No.	Variables	1	2	3	4
1.	Teachers' attitude	1			
2.	Teachers' psycho-social support	.65**	1		
3.	Teachers' resilience	.73**	.66**	1	
4.	Academic achievement among students with disabilities	.79**	.88**	.84**	1

**. $P < .01$

Table 6 indicates strong, positive, and statistically significant correlations among all principal variables ($p < .01$), demonstrating robust associations within the proposed framework. Teachers' attitudes show a very strong positive correlation with academic achievement ($r = .79$), suggesting that more favorable dispositions toward inclusion are closely linked to higher perceived academic performance among students with disabilities. Teachers' psycho-social support practices exhibit an exceptionally strong association with achievement ($r = .88$), reflecting a near-linear relationship and underscoring the centrality of supportive engagement in fostering scholastic success. Likewise, perceived student resilience correlates strongly with achievement (r = .84), indicating that adaptive

coping and recovery capacities are closely aligned with academic outcomes. The inter-correlations among attitude, psycho-social support, and resilience (r = .65–.73) further suggest conceptual coherence and mutual reinforcement among these constructs. According to contemporary inclusive education research, teacher beliefs and relational practices operate synergistically to shape student engagement and performance.

Table 7
Model summary

Model	R	R^2	Adj R^2	SEE	Durbin-Watson
1	.96[a]	.91	.90	1.91	1.19

a. Predictors: (Constant), teachers' resilience, teachers psycho-social support, teachers attitude
b. Dependent Variable: Academic achievement among students with disabilities

Source: own survey, 2026

Table 7 presents the regression model summary, indicating exceptionally strong predictive capacity for academic achievement among students with disabilities. The multiple correlation coefficient (R = .96) reflects a very strong positive association between the combined predictors, teachers' attitude, psycho-social support, and perceived student resilience, and student academic outcomes. The R^2 value of .91 indicates that approximately 91.0% of the variance in academic achievement is accounted for by these teacher-related factors, highlighting the model's remarkable explanatory power. The Adjusted R^2 (.91) closely mirrors R^2, suggesting that the predictive strength is robust and not artificially inflated by the number of predictors. Additionally, the Durbin-Watson statistic (1.19) indicates no problematic autocorrelation in the residuals, satisfying a key regression assumption. Collectively, these results suggest that teachers' attitudes, supportive practices, and recognition of student resilience operate synergistically to create an environment that strongly fosters academic success.

Table 8
ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	5221.16	3	1740.39	478.58	.000[b]
	Residual	520.03	143	3.64		
	Total	5741.19	146			

a. Dependent Variable: Academic achievement among students with disabilities
b. Predictors: (Constant), teachers resilience, teachers psycho-social support, teachers attitude

Source: own survey, 2026

Table 8 presents the ANOVA results for the regression model, demonstrating its statistical significance and robustness. The model yielded an F-statistic of 478.58 with a p-value of .000, well below the conventional alpha level of .01, providing strong evidence that the regression model—including teachers' attitude, psycho-social support, and perceived student resilience- is an excellent fit for the data. The large mean square for regression (MS = 1740.39) relative to the residual mean square (MS = 3.64) further emphasizes that the variance explained by these predictors far exceeds the unexplained variance, indicating a powerful model effect. These results confirm that the combined influence of the teacher-related factors is not attributable to random variation but represents a genuine and meaningful contribution to students' academic achievement in inclusive classrooms.

Table 9
Coefficients

Model		USC		SC	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-3.76	70		-5.39	.000
	Teachers attitude	.16	.04	.18	4.46	.000
	Teachers psycho-social support	.72	.05	.53	14.96	.000
	Teachers resilience	.35	.04	.37	9.26	.000

a. Dependent Variable: Academic achievement among students with disabilities

The regression coefficients table indicates the unique contributions of teachers' resilience, psycho-social support, and attitude in predicting academic achievement among students with disabilities. The model includes unstandardized coefficients (B), standardized coefficients (Beta), t-values, and significance levels (Sig) to assess the statistical relevance of each predictor. All three independent variables exhibit statistically significant effects, with Sig-values of .000, well below the conventional alpha level of 0.05, confirming that their relationships with academic achievement are highly significant. The unstandardized beta coefficients are .16 for resilience, .72 for psycho-social support, and 0.346 for attitude, indicating the expected change in academic achievement for a one-unit increase in each predictor, holding the others constant.

DISCUSSION

The present study examined the predictive relationships among teachers' attitudes toward inclusive education, psycho-social support practices, and student resilience in relation to the academic achievement of students with disabilities in inclusive secondary schools. The findings confirm that teacher-related variables are strongly associated with students' academic outcomes and provide empirical support for relational and instructional models of inclusive education. Although teachers generally acknowledged the importance of positive attitudes and support, descriptive results revealed uneven implementation across specific domains. This pattern aligns with international evidence suggesting that inclusive beliefs do not automatically translate into effective classroom practice (Avramidis & Norwich, 2002; Schwab et al., 2022).

The present findings reveal moderate mean scores for teachers' attitudes (M = 21.58, SD = 6.79), psychosocial support (M = 18.59, SD = 4.60), and resilience (M = 24.93, SD = 6.61), alongside a moderate level of academic achievement among students with disabilities (M = 21.76, SD = 6.27). The moderate central tendencies suggest that, while teachers demonstrate a generally acceptable orientation toward inclusive education, psychosocial engagement, and coping capacity, these attributes are not uniformly strong. The relatively large standard deviations across variables indicate meaningful variability among teachers, implying that inclusive practices and resilience are inconsistently experienced and enacted. This variability may partly explain the moderate academic performance observed among students with disabilities, as contemporary research underscores that positive teacher attitudes, consistent psychosocial support, and strong professional resilience are critical predictors of inclusive classroom effectiveness and student outcomes (Ainscow, 2020; OECD, 2021; UNESCO, 2020). Moreover, recent empirical syntheses highlight that inclusive success depends not merely on policy commitment but on teachers' sustained emotional competence, adaptive coping skills, and structured support strategies (Florian & Beaton, 2021; World Bank, 2022). Therefore, the findings suggest the need for targeted professional development, institutional support systems, and resilience-building interventions to reduce variability in teacher-related factors and enhance equitable academic achievement for students with disabilities in inclusive secondary schools.

The findings regarding psycho-social support practices reveal a comparable pattern. Teachers frequently reported general supportive behaviors, such as fostering safe classroom environments and

checking students' emotional well-being, but reported lower engagement in proactive relationship-building, adaptive communication, and structured feedback. This distinction reflects the difference between generalized caring and academically integrated psycho-social support. Van der Veen et al (2020) contend that effective psycho-social support in inclusive classrooms requires structured scaffolding and motivational strategies directly tied to learning goals. Without intentional instructional integration, supportive behaviors may remain surface-level. In contexts where teacher training is limited, such gaps are common and may explain why proactive psycho-social practices recorded comparatively lower means.

Teachers' resilience was generally positive, particularly in adaptability and recovery from setbacks. It has been conceptualized as a dynamic process influenced by supportive relationships and environmental resources (Ungar, 2021). Students who perceive strong teacher support are more likely to develop persistence and adaptive coping mechanisms (Morrison & Cosden, 2024). The study's findings align with this perspective, indicating that students with disabilities demonstrate resilience when supported by positive classroom environments. However, relatively lower scores in sustained persistence suggest that resilience requires continuous reinforcement through structured academic and emotional support. The correlational analysis provided strong empirical validation of the conceptual framework. Significant positive associations were observed between academic achievement and teachers' psycho-social support ($r = .88$, $p < .01$), student resilience ($r = .84$, $p < .01$), and teachers' attitudes ($r = .79$, $p < .01$). These results affirm global evidence that inclusive education outcomes are strongest when relational, affective, and instructional elements operate together (UNESCO, 2020). The strong correlations indicate that teacher-related variables are not peripheral influences but central determinants of academic success in inclusive settings.

The regression analysis further strengthened this conclusion. The combined predictors explained approximately 90.9% of the variance in academic achievement ($R^2 = .909$), underscoring the powerful role of teacher dispositions and practices. Psycho-social support emerged as the strongest individual predictor, followed by teachers' attitudes and teachers' resilience. This finding aligns with policy analyses emphasizing psycho-social competence as a core dimension of teacher effectiveness in inclusive education (OECD, 2023). Emotional intelligence and relational engagement have increasingly been recognized as key drivers of academic performance, particularly among vulnerable student populations (Brackett et al., 2020). The dominance of psycho-social support in the regression model suggests that what teachers do in terms of relational engagement and structured support has a more direct influence on achievement than attitudes alone.

Despite the model's strong explanatory power, the findings also reveal important gaps. Lower implementation of adaptive communication and deliberate relationship-building indicates a need for enhanced professional development that integrates psycho-social strategies with instructional planning. Park, Roberts, and Stodden (2021) argue that inclusive effectiveness depends on merging socio-emotional support with differentiated pedagogy rather than treating them as separate domains. This integration is especially critical in contexts where inclusive education reforms face resource and training constraints (World Bank, 2022; Kebede & Phasha, 2024). Overall, the findings reinforce the theoretical proposition that inclusive education is fundamentally relational and instructional. Students' academic achievement is not simply the result of placement in mainstream classrooms but is shaped by sustained teacher engagement, cognitively, emotionally, and socially. The interdependence among attitudes, psycho-social support, and resilience reflects ecological models of development, which emphasize the central role of proximal processes within supportive learning environments (Bronfenbrenner & Morris, 2006).

CONCLUSION

The study concludes that teachers' attitudes, psychosocial support, and resilience toward education are strong determinants of the academic achievement of students with disabilities in inclusive secondary schools. The findings indicate that positive teacher attitudes foster high expectations and adaptive instructional strategies, while psycho-social support enhances students' motivation, engagement, and sense of belonging. Additionally, teachers' resilience strengthens students' capacity to cope with academic and social challenges, thereby improving performance outcomes. When considered jointly, these variables demonstrate meaningful predictive power, suggesting that the effectiveness of inclusive education depends largely on teacher dispositions and supportive classroom environments rather than mere physical placement.

RECOMMENDATIONS

Based on these findings, it is recommended that educational authorities prioritize sustained professional development programs aimed at strengthening teachers' positive attitudes toward inclusion and equipping them with psycho-social support strategies. School leaders should institutionalize mentorship systems, peer collaboration mechanisms, and school-based counseling structures that reinforce supportive classroom climates. Furthermore, resilience-building interventions, such as social-emotional learning programs and structured peer-support initiatives, should be integrated into the curriculum to enhance students' adaptive capacities. Policymakers should also align inclusive education frameworks with measurable outcome indicators to ensure accountability for academic achievement.

LIMITATIONS

Despite its contributions, the study has certain limitations. The use of a correlational design restricts causal interpretations among the variables. Reliance on self-reported questionnaire data may introduce response bias or social desirability effects. Besides, the study's focus on selected inclusive secondary schools limits the generalizability of the findings to other educational contexts or levels. Contextual variables such as parental involvement, school resources, and administrative leadership were not incorporated, which may also influence academic achievement.

FUTURE RESEARCH

Future studies should employ longitudinal or experimental designs to establish causal relationships among teachers' attitudes, psycho-social support, student resilience, and academic achievement. Expanding the scope to include multiple regions and educational levels would enhance external validity. Researchers may also explore mediating or moderating variables, such as school leadership, teacher experience, or family support, to provide a more comprehensive explanatory model. Mixed-methods approaches incorporating classroom observations and qualitative interviews could further deepen understanding of how teacher-related factors translate into measurable academic success in inclusive education settings.

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