

The role of teachers and administrators in supporting the adaptation of students with special needs in mainstream high schools

37

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*College of Education, Zhejiang Normal University, Jinhua, China*Received 28 June 2024
Revised 20 November 2024
Accepted 20 November 2024

Abstract

Purpose – In 2002, Pakistan made a notable advancement toward inclusive education by approving the national policy for people with disabilities (Durrani *et al.*, 2017). This policy, advised by the Ministry of Women's Development, Social Work, and Special Education, aimed to integrate students with special needs into mainstream schools, emphasizing the significance of inclusive learning environments (Ashfaq and Rana, 2015). Despite these efforts, the practical application of this policy in high schools has encountered numerous obstacles. Effective integration of students with special needs requires more than just policy implementation; it demands effective educational practices. Teachers are crucial in this process as they are the primary facilitators of learning and significantly influence these students' academic and social adaptation. Administrative support is essential in fostering an environment conducive to including and adapting students with special needs. This study aims to investigate these dynamics in high schools, focusing on the role of teacher interactions and administrative frameworks in supporting or hindering the adaptation process for students with special needs. Understanding these relationships is crucial for identifying gaps, challenges and opportunities within the current educational system, thereby contributing to the development of more effective strategies for inclusive education in Pakistan.

Design/methodology/approach – This study used a correlational research strategy to investigate the effects of administrative and teacher support on the adaptation capabilities of high school students with special needs. The correlational design was chosen to explore the relationships between different types of support and students' adaptation capabilities without manipulating any variables (Seeram, 2019). The study involved 230 participants, comprising 170 educators and 60 support staff. Stratified random sampling ensured that the sample represented various school types and experience levels (Sharma *et al.*, 2017). This sampling method helps provide a more accurate and comprehensive understanding of the population under study. The demographic characteristics of the sample are summarized in Table 1. Participants were categorized based on sex, level of education, age and experience level to ensure a comprehensive understanding of the sample's diversity.



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Quality Education for All
Vol. 2 No. 1, 2025
pp. 37-56
Emerald Publishing Limited
2976-9310
DOI 10.1108/QEA-06-2024-0054

Findings – This study reveals that teacher and administrative support significantly impact students' adaptation capabilities. Teacher support emerged as a strong predictor ($\beta = 0.502, p < 0.001$), highlighting its crucial role in enhancing students' adaptability. Administrative support also showed a positive and significant effect ($\beta = 0.211, p < 0.001$), and its interaction with teacher support ($\beta = 0.102, p < 0.001$) suggests that administrative support amplifies the positive effects of teacher support. These findings underscore the importance of a holistic support system within schools. While teachers provide direct instructional support and foster an inclusive learning environment, administrative support ensures teachers have the necessary resources and institutional backing to support students effectively (Carter *et al.*, 2022). The interaction between these forms of support suggests that administrative efforts to support teachers can significantly enhance the overall adaptation capabilities of students (Gibbs, 2023b).

Research limitations/implications – Several limitations should be considered when interpreting the findings of this study. First, the data were collected using self-reported questionnaires, which may be subject to biases such as social desirability or recall bias. Second, the study's cross-sectional design limits the ability to establish causality between the variables. Longitudinal studies would be beneficial in exploring the causal relationships between teacher and administrative support and students' adaptation capabilities. In addition, the study was conducted within a specific context and population, which may limit the generalizability of the findings to other settings. Future research should aim to replicate this study in different educational contexts to validate and extend the findings.

Practical implications – The practical implications of these findings are significant. Schools should prioritize developing comprehensive support systems that include robust teacher support mechanisms and strong administrative backing. Professional development programs should focus on enhancing teachers' skills in differentiated instruction, formative assessment and the use of technology in the classroom. Moreover, administrative policies should aim to provide continuous support for teachers through resources, training and collaborative opportunities. This dual approach ensures that teachers are well-equipped to address the diverse needs of students with special needs and that students receive consistent, high-quality support across their educational experience.

Originality/value – This study uniquely explores the combined effects of administrative and teacher support on the adaptation of high school students with special needs in mainstream education, highlighting the synergistic relationship between these support systems. Using a robust correlational design and stratified random sampling, it provides valuable insights into the dynamics of inclusive education within a Pakistani context. The findings emphasize the critical role of holistic support systems, offering practical implications for enhancing educational policies and practices. By addressing gaps in existing research, this study contributes significantly to the discourse on inclusive education and the development of effective support frameworks for special needs students.

Keywords Inclusive education, Teachers support, Administrative support, Mainstream schools

Paper type Research paper

Introduction

Inclusive education has evolved significantly since the 1990s, although global efforts to recognize education as a human right date back to 1948. Since then, educating children with disabilities has remained a critical concern for the global community (Armstrong *et al.*, 2010; Haug, 2017; Rapp and Corral-Granados, 2024). Through the persistent advocacy of disabled individuals and the dedicated efforts of the international community, numerous conventions and declarations have been established, including the Convention on the Rights of the Child (Pappas *et al.*, 2018). Since Sapon-Shevin (2017), the vision of inclusion has been seen as a model of social equity, providing a blueprint for a society where everyone, regardless of their abilities or needs, can thrive and contribute. This ideal transcends traditional educational paradigms and necessitates reflection on what inclusivity truly means for our schools and societies (Basit and Arif, 2022).

Despite its noble goals, inclusive education presents challenges in definition and implementation (Teller and Ogawa, 2020). There is a notable gap in research concerning the collaboration between teachers and special needs officials to create more inclusive classrooms, which is vital for making special students feel comfortable in mainstream settings (Ackah-Jnr, 2020). Administrators and teachers play interdependent roles in decision-making, policy implementation and curriculum development, yet their impact on adapting special needs students to mainstream education has not been thoroughly studied. Achieving truly

inclusive educational practices requires more than adding new elements to existing systems (Dickey, 2017). It demands a significant shift in how we understand and implement education. According to Al-Shammari *et al.* (2019), inclusion must be integrated into the core of educational institutions, encompassing their foundational missions and values, as well as the daily routines that shape students' experiences. Full inclusion involves redesigning educational structures to be inherently accommodating and supportive rather than trying to fit preexisting students' particular needs into preexisting frameworks (Warrior *et al.*, 2020).

The effectiveness of inclusive education for children with special needs is influenced by multiple factors, including the attitudes and beliefs of key stakeholders such as administrators, teachers, peers, society and parents (Barton and Tan, 2020). The commitment of school stakeholders, including principals, administration and teachers, is crucial for the success of inclusive education (Dalton *et al.*, 2012; Dreyer, 2017; Freeman and Alkin, 2000; Nelis *et al.*, 2023; Peters, 2003). Despite policies promoting inclusion at the school level in Pakistan, the number of special needs children in mainstream education remains low (Kamran and Bano, 2023). Inclusion should be an integral part of a school's mission, values and everyday practices, designed to allow all students to learn and participate together without fear, prejudice or stereotyping (Khalid *et al.*, 2021).

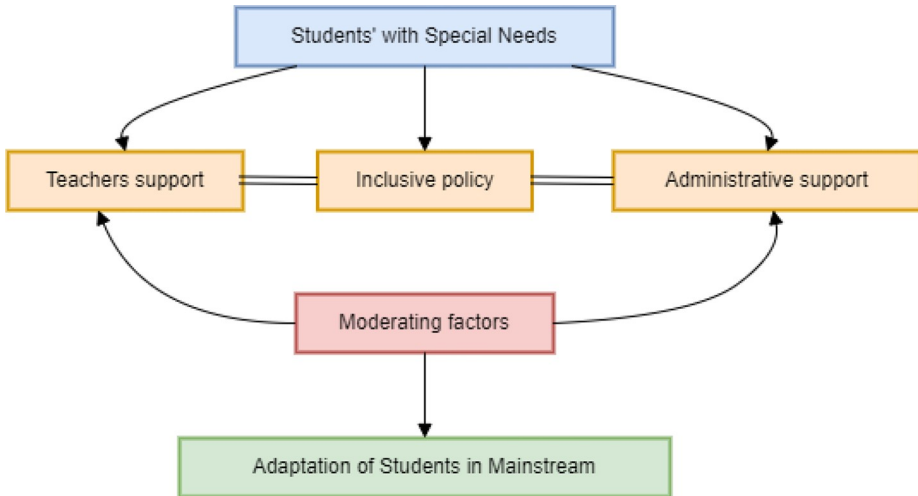
Inclusive education aims to improve teaching quality and address all learners' diverse needs (Nilsen, 2020). It seeks to ensure that all special needs students are included in regular educational settings, regardless of their differences (Kefallinou *et al.*, 2020). Inclusion is distinct from mere integration, as it strives to avoid the marginalization that minority groups often experience under dominant educational models (Nilholm, 2021).

Overview of previous studies

A considerable body of research has examined how best to support students with special needs in mainstream educational settings. Zahid *et al.* (2023) explored these students' behavioral challenges and discovered that structured activities, established school routines and behavioral checklists significantly aid their adaptation. Teachers concurred that mainstream schools provide a conducive environment for students with special needs to forge friendships and develop social and life skills (Crispel and Kasperski, 2021; Mahmood *et al.*, 2024). Inclusive education, which involves students with and without disabilities learning and interacting together, has brought about beneficial socio-economic, ethical and legal changes for children with disabilities, enhancing their overall personality development (Lucas *et al.*, 2018; Thakur and Abbas, 2017). Amjad *et al.* (2023) underscored the importance of respecting marginalized students' rights, values and traditions to cultivate a tolerant society. They argued that such respect facilitates students' acceptance of diversity and peaceful cooperation. Various factors affect students' adaptability in mainstream schools, including teachers' knowledge and ability to tailor the curriculum to meet their developmental levels (see Figure 1). Effective teaching, classroom management and behavioral interventions necessitate that teachers are well-informed and skilled (Collie, 2020).

Bannister *et al.* (2018) emphasized that teachers play a crucial role in successfully implementing inclusive policies in mainstream schools. Mouchritsa *et al.* (2022) highlighted the necessity for professional development to equip teachers with the pedagogical skills required to address the learning needs of students with special needs. The study also revealed that teachers lacking adequate pedagogical skills often hesitate to include students with special needs in mainstream settings. In addition, some teachers remain unaware of inclusive policies and practices, with less qualified and older teachers typically holding negative perceptions of inclusive education and struggling to manage such students (Granziera *et al.*, 2016).

The collective research provides an in-depth understanding of inclusive education. While studies like those by Zahid *et al.* (2023) showcase the advantages of inclusive practices, they



Source: Authors' own creation

Figure 1. Factors affecting students with special needs adaptability

also illuminate the challenges within mainstream educational environments. The findings highlight the critical role of teacher preparedness and mindset in shaping the educational experiences of students with special needs. It is not solely about having the appropriate tools and strategies; fostering an inclusive attitude among educators is equally vital. The research underscores the pressing need for targeted professional development and a shift in perspective toward students with special needs. This transformation is essential for creating an inclusive environment that embraces diversity and enables every student to reach their full potential.

Background and context

Inclusive education is a relatively new concept in Pakistan compared to other regions globally. Presently, only a tiny fraction, approximately 5%, of children with disabilities are enrolled in educational institutions in Pakistan (Hameed and Manzoor, 2019). Several schools in Islamabad, such as the government school in Islamabad, The Explorer School System, Annie's ELC and Apples the Grooming School, have implemented inclusive education programs (Khan *et al.*, 2017). The societal context and policies for individuals with disabilities in Pakistan differ markedly from those in Western countries. People with disabilities in Pakistan often face severe marginalization and societal stigma (Parveen *et al.*, 2022). This exclusion is mainly due to a pervasive lack of awareness, inadequate regulations and a shortage of rehabilitation centers and specialized services for individuals with disabilities (Aftab and Pasha, 2020).

In addition, societal perceptions, especially among the less educated, often view disability as a curse or divine punishment, with many seeing disabled individuals as societal burdens. This stigma stems from a general lack of awareness. Upon diagnosis, parents often remain in denial, hoping their children will outgrow their symptoms and believing that diagnosis is unnecessary, which delays timely intervention (Sajid *et al.*, 2024). This lack of awareness among parents, particularly mothers, complicates effective diagnosis and intervention.

In 2002, Pakistan made a notable advancement toward inclusive education by approving the national policy for people with disabilities (Durrani *et al.*, 2017). This policy, advised by

the Ministry of Women's Development, Social Work, and Special Education, aimed to integrate students with special needs into mainstream schools, emphasizing the significance of inclusive learning environments (Ashfaq and Rana, 2015). Despite these efforts, the practical application of this policy in high schools has encountered numerous obstacles. Effective integration of students with special needs requires more than just policy implementation; it demands effective educational practices. Teachers are crucial in this process as they are the primary facilitators of learning and significantly influence these students' academic and social adaptation (Rehman *et al.*, 2022).

Administrative support is essential in fostering an environment conducive to including and adapting students with special needs. This study investigates these dynamics in high schools, focusing on the role of teacher interactions and administrative frameworks in supporting or hindering the adaptation process for students with special needs. Understanding these relationships is crucial for identifying gaps, challenges and opportunities within the current educational system, thereby contributing to the development of more effective strategies for inclusive education in Pakistan. The study will address the following research questions (RQs):

- RQ1. What is the impact of teacher support on the adaptability of students with special needs in mainstream education?
- RQ2. How does administrative support affect the adaptability of students with special needs?
- RQ3. Does administrative support play a moderating role in the relationship between teacher support and students' adaptability?
- RQ4. How do the age, education level and gender of respondents influence the relationships between teacher support, administrative support and students' adaptability?

Theoretical framework

This study investigates the relationship between administrative support and teacher well-being and effectiveness in aiding the adaptability of students with special needs in mainstream schools. The "Job characteristics" theory proposed by Bettini *et al.* (2021) is integral to understanding the role of administrative support in special education. According to this theory, job characteristics such as task significance, autonomy and feedback are critical for job satisfaction and effectiveness (Billingsley and Bettini, 2019). In special education, administrative support enhances these key job characteristics for teachers, thereby reducing attrition and improving their efficacy (Billingsley *et al.*, 2020). When teachers perceive their work as meaningful, have autonomy in their teaching methods and receive constructive feedback, their job satisfaction and effectiveness increase (Bettini *et al.*, 2020a). Hence, administrative support is foundational to the educational ecosystem, particularly in special education (Bettini *et al.*, 2020b).

Furthermore, the "Social support" theory by Aldosiry (2020) supports the notion that support from social networks, including work environments, is vital for psychological well-being. This study highlights that emotional and appraisal support from administrators reduces stress and increases job satisfaction among special education teachers. A supportive administrative framework that addresses both practical and emotional needs fosters a positive work environment conducive to effective teaching for students with special needs (Aldosiry, 2020, 2023; Aldosiry *et al.*, 2021). Teacher attrition in special education, often driven by a lack of robust administrative support, negatively impacts both students and the schooling system. Administrators are crucial in providing logistical, emotional and appraisal support, significantly reducing teacher stress, enhancing job satisfaction and fostering

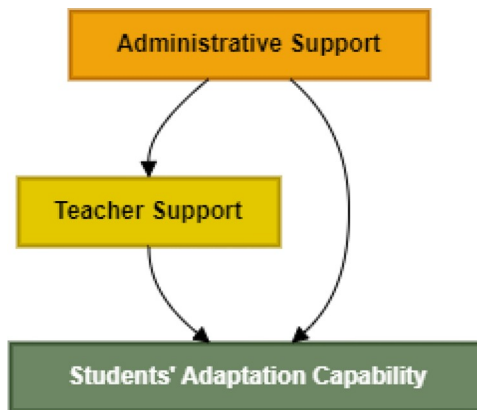
commitment to teaching (Bettini *et al.*, 2015). This dynamic underscores the interdependence between administrative functions and teaching efficacy, illustrating how administrative support directly influences teachers' abilities to address the needs of students with special needs and their intent to remain in this essential field.

Conceptual framework

This study envisions a framework where teacher support, administrative backing and the unique needs of students with special needs create an educational environment conducive to adaptation and growth. This dynamic system (see Figure 2) emphasizes the pivotal roles of teachers and administrators in shaping the educational experiences of students with special needs. Teacher support involves delivering tailored educational content and fostering a supportive and inclusive atmosphere. Meanwhile, administrative support provides the necessary resources, training and policy framework to facilitate effective and empathetic educational approaches. The synergy between teacher and administrative efforts is crucial for adapting educational practices to meet the diverse needs of students with special needs. This framework illustrates how these elements work together to create a responsive and nurturing educational environment, ensuring that all students can thrive within the mainstream educational system.

Teachers support

The support provided by teachers is vital in valuing learner diversity, supporting all learners and collaborating with others (Zagona *et al.*, 2017). Ongoing professional development for inclusive teachers is essential to promote academic, social and emotional learning for all students and to implement effective teaching approaches in diverse classrooms (Pit-ten Cate *et al.*, 2018). Classroom teachers play a key role in implementing inclusive principles and removing barriers to inclusion (Ewing *et al.*, 2018). Their support can facilitate the successful implementation of inclusive policies due to their direct involvement in the classroom. Thus, inclusive pedagogy, which focuses on what inclusive teaching looks like and how it is



Notes: Teacher and administrative support are independent variables influencing students' adaptation capability

Source: Authors' own creation

Figure 2. Conceptual framework

achieved, is a crucial concept (Yeo *et al.*, 2018). This pedagogy involves teachers' skills and knowledge in making inclusion work, emphasizing that ability is not fixed and all students can develop and learn (Şimşek and Kılcan, 2019). This approach encourages teachers to take ownership of the process, commit to all students and adopt positive attitudes and beliefs that all students can learn and contribute meaningfully to the classroom. In addition, teachers must be highly skilled practitioners (Ketenoğlu Kayabaşı, 2020).

To support inclusive education, it is essential to outline the skills, knowledge and experiences teachers need (Mngo and Mngo, 2018). Teachers must be knowledgeable in areas such as teacher education and in-service learning, quality teaching, adaptive curricula, technology, universal design for learning and individual planning for special students' needs (Saloviita, 2020). Key instructional practices include promoting access to the general curriculum, student peer support, assistive technology, administrative support, professional development training for educators and effective involvement and support of parents or families in inclusive settings (Zagona *et al.*, 2017). This study will explore how teacher support affects the adaptability of mainstream school students with special needs.

Administrative support

Research indicates that a lack of administrative support is a significant barrier for teachers and parents in supporting children with special needs in mainstream schools (DeMatthews *et al.*, 2020). Insufficient administrative support greatly influences teachers' willingness to take risks in supporting these children (Titrek *et al.*, 2017). Factors such as a lack of teaching materials and resources, and insufficient support from central and building office personnel, often fall under administrative responsibilities and indicate a lack of support (D.E. DeMatthews *et al.*, 2021; Moriña, 2018; Rehman *et al.*, 2021b). Studies have shown that administrative support is crucial for the adaptability of students with special needs in mainstream settings (Hansen, 2018). Conversely, teachers who support students with special needs often face hurdles from the administration, including unsupportive and discouraging behavior (Demchenko *et al.*, 2021; Rehman *et al.*, 2021a). However, when administrative support is evident, teachers feel more autonomous and confident in decision-making. Higher levels of administrative support correlate with higher commitment and confidence among teachers. This study examines the combined influence of teacher and administrative support on the adaptation capabilities of high school students with special needs in mainstream schools. By exploring the synergistic effects of these two types of support, the study aims to uncover critical insights into how administrative backing enhances the effectiveness of teacher support, thus fostering a more inclusive and supportive educational environment. This dual focus provides a nuanced understanding of teacher and administrative roles' interaction and collective impact on students' adaptability, which has not been thoroughly explored in previous research.

Methodology

This study used a correlational research strategy to investigate the effects of administrative and teacher support on the adaptation capabilities of high school students with special needs. The correlational design was chosen to explore the relationships between different types of support and students' adaptation capabilities without manipulating any variables (Seeram, 2019).

Participants

The study involved 230 participants, comprising 170 educators and 60 support staff. Stratified random sampling ensured that the sample represented various school types and experience levels (Sharma *et al.*, 2017). This sampling method helps provide a more accurate and

comprehensive understanding of the population under study. The demographic characteristics of the sample are summarized in [Table 1](#). Participants were categorized based on sex, level of education, age and experience level to ensure a comprehensive understanding of the sample's diversity.

Data collection

Data were collected using questionnaires adapted from validated scales in the literature. The “Teacher support” scale ([Ní Bhroin and King, 2020](#)) and the “Administrative support” scale ([Ileri et al., 2020](#)) were used to measure the support provided to students. The “Students’ adaptation capability” scale was modified based on established research findings ([Spörer et al., 2020](#)). Adapted from [Ní Bhroin and King \(2020\)](#), this scale measures various dimensions of teacher support provided to students. The scale includes items that assess teachers’ encouragement and assistance to students with special needs. Adapted from [Ileri et al. \(2020\)](#), this scale evaluates the support provided by school administration to both teachers and students. It includes items related to the availability of resources, administrative responsiveness and overall support for educational activities. Based on established research findings by [Spörer et al. \(2020\)](#), this scale measures how well students adapt to their educational environment. It assesses factors such as emotional adjustment, academic performance and social integration.

Ethical approval for the study was obtained from the institutional review board, and informed consent was collected from all participants. The study adhered to strict confidentiality protocols and maintained high ethical standards throughout. Several statistical analyses were performed to ensure the instruments’ reliability and validity. Cronbach’s alpha coefficients ($\alpha = 0.89$) demonstrated satisfactory internal consistency. Content validity was established through a review by a panel of experts in special education and school administration. These experts evaluated the relevance and comprehensiveness of the scale items, providing critical feedback used to refine the instruments.

The reliability and validity of the instruments used in this study were assessed to ensure robust measurement. The analysis revealed strong psychometric properties for the teacher support, administrative support and students’ adaptation capability scales. The chi-square (χ^2) values for teacher support (220.512), administrative support (195.634) and students’

Table 1. Demographic characteristics of the sample

Demographic variables	Category	Frequency (people)	%
Sex	Male	170	73.91
	Female	60	26.09
Level of education	Graduate/postgraduate	120	52.17
	Master’s degree	70	30.43
	PhD	40	17.39
Age	20–30	100	43.48
	31–40	80	34.78
	41–50	30	13.04
	51 and above	20	8.70
Experience level	1–5 years	60	26.09
	6–10 years	100	43.48
	11–15 years	50	21.74
	16 years and above	20	8.70

Source: Authors’ own creation

adaptation capability (205.410) indicate a good model fit when considered alongside their degrees of freedom (df) of 85, 72 and 85, respectively. The χ^2/df ratios were all below the acceptable threshold of 3 (teacher support: 2.595, administrative support: 2.717, students' adaptation capability: 2.417), suggesting a reasonable fit between the hypothesized model and the observed data. The comparative fit index (CFI) values for the scales were high (teacher support: 0.978, administrative support: 0.975, students' adaptation capability: 0.982). Values exceeding 0.95 demonstrate excellent fit, indicating that the scales accurately capture the constructs they are intended to measure. The Tucker–Lewis Index (TLI) values were similarly high (teacher support: 0.970, administrative support: 0.971, students' adaptation capability: 0.973), further confirming the strong model fit. TLI values above 0.95 suggest that the models are well-suited to the data. The root mean square error of approximation (RMSEA) values (teacher support: 0.049, administrative support: 0.050, students' adaptation capability: 0.043) were all below 0.06, reflecting a close fit in small samples. In addition, the standardized root mean square residual (SRMR) values (teacher support: 0.032, administrative support: 0.033, students' adaptation capability: 0.027) were well below the threshold of 0.08, suggesting a good fit between the hypothesized model and the observed data. Goodness of fit index (GFI) values (teacher support: 0.960, administrative support: 0.965, students' adaptation capability: 0.968) and adjusted goodness of fit index (AGFI) values (teacher support: 0.925, administrative support: 0.934, students' adaptation capability: 0.957) were all above 0.90, indicating a good model fit. Finally, the factor loadings (FL) for the scales were high (teacher support: 0.893, administrative support: 0.878, students' adaptation capability: 0.884), indicating that the items on each scale were good indicators of the underlying constructs. Overall, these reliability and validity indicators demonstrate that the instruments used in this study are both reliable and valid, ensuring the robustness of the findings related to the impact of teacher and administrative support on students' adaptation capabilities (see [Table 2](#)).

Data analysis

To explore the relationships between variables such as teacher and administrative support on students' adaptation in mainstream education, correlation and descriptive statistics were used to establish a foundational understanding of the relationships between respondent demographics and key variables: students' adaptation capability, teacher support and administrative support. The correlation and descriptive statistics provide a foundational understanding of the relationships between respondent demographics and the key variables: students' adaptation capability, teacher

Table 2. Questionnaire reliability and validity indicators

Indicator	Teacher support	Administrative support	Students' adaptation capability
χ^2	220.512	195.634	205.410
df	85	72	85
χ^2/df	2.595	2.717	2.417
CFI	0.978	0.975	0.982
TLI	0.970	0.971	0.973
RMSEA	0.049	0.050	0.043
SRMR	0.032	0.033	0.027
GFI	0.960	0.965	0.968
AGFI	0.925	0.934	0.957
FL (factor loadings)	0.893	0.878	0.884

Source: Authors' own creation

support and administrative support. The correlation matrix shows the relationships between respondent age, education, gender, students' adaptation capability, teacher support and administrative support. Notably, all the main variables have significant correlations at various significance levels. Respondent age positively correlates with students' adaptation capability ($r = 0.21, p < 0.001$), indicating that older respondents tend to have better adaptation capabilities. Education level has a significant positive correlation with both students' adaptation capability ($r = 0.31, p < 0.001$) and teacher support ($r = 0.41, p < 0.001$), suggesting that higher educational attainment is associated with better support and adaptation outcomes. Gender is also positively correlated with students' adaptation capability ($r = 0.42, p < 0.001$) and teacher support ($r = 0.12, p < 0.001$), indicating some differences based on gender in these areas (see Table 3).

Regression analysis was used to explore the predictive power of teacher and administrative support on students' adaptation capability (see Table 4). Three models were tested to examine these relationships:

Model 1: Examined the effect of demographic variables (age, education, gender) on students' adaptation capability. Results showed that respondent age ($\beta = 0.102, p < 0.05$), education ($\beta = 0.002, p < 0.01$) and gender ($\beta = 0.112, p < 0.05$) were significant predictors.

Model 2: Added teacher support to the demographic variables. Teacher support emerged as a significant predictor ($\beta = 0.502, p < 0.001$), highlighting its strong influence on students' adaptation capability.

Table 3. Correlation and descriptive statistics of variables

Variable	Correlation and descriptive statistics							
	Mean	SD	(1)	(2)	(3)	(4)	(5)	(6)
(1) Respondent age	0.11	0.12	1.000					
(2) Respondent education	0.14	0.31	0.250***	1.000				
(3) Respondent gender	0.10	0.15	0.19***	0.27**	1.000			
(4) Students' adaptation capability	2.13	3.98	0.21***	0.31***	0.424***	1.000		
(5) Teacher support	3.31	1.15	0.302**	0.410***	0.124***	0.171**	1.000	
(6) Administrative support	3.07	2.76	0.250***	0.224**	0.254**	0.251**	0.410**	1.000

Notes: $p < 0.10$; $*p < 0.05$; $**p < 0.01$; $***p < 0.001$
Source: Authors' own creation

Table 4. Regression analysis while examine teacher support and administrative support on students' adaptation capability

Variable	Model 1	Model 2	Model 3
Respondent age	0.102*	0.110**	0.102**
Respondent education	0.002**	0.010*	0.302**
Respondent gender	0.112*	0.154***	0.108**
Teacher support	0.502***		0.302**
Administrative support		0.102**	0.211***
Teacher support			0.102***
*Administrative support			
Adjusted R^2	0.121	0.055	0.451
F-value	1.084***	1.019**	3.011***

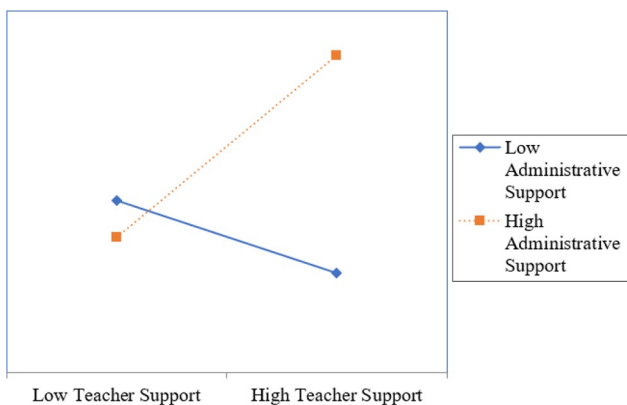
Notes: $p < 0.10$; $*p < 0.05$; $**p < 0.01$; $***p < 0.001$
Source: Authors' own creation

Model 3: Included both teacher and administrative support, along with their interaction term. Administrative support was also a significant predictor ($\beta = 0.211, p < 0.001$), and the interaction between teacher support and administrative support was significant ($\beta = 0.102, p < 0.001$), indicating that administrative support moderates the relationship between teacher support and students' adaptation capability.

The adjusted R^2 values for the models show an increase from 0.121 in Model 1 to 0.451 in Model 3, indicating that the inclusion of support variables significantly improves the explanatory power of the models. The F -values for all models are significant, suggesting that the models fit the data well.

The moderation role of administrative support in the relationship between teacher support and students' adaptability is shown in Figure 3. The results demonstrate a positive and significant relationship between teacher support and students' adaptability ($\beta = 0.502, p < 0.001$). Similarly, administrative support also has a positive and significant impact on students' adaptability ($\beta = 0.211, p < 0.001$). Moreover, administrative support positively moderates the relationship between teacher support and students' adaptability ($\beta = 0.102, p < 0.001$). These results suggest that while both teacher and administrative support independently contribute to students' adaptation capabilities, the presence of administrative support enhances the positive effect of teacher support on students' adaptation capabilities. The analyses provide robust evidence that both teacher and administrative support play critical roles in enhancing the ability of high school students with special needs to adapt. The findings underscore the importance of a supportive educational environment, which includes both instructional and administrative support systems, to foster students' adaptation and overall success.

The findings of the study demonstrate that there is a positive and significant relationship between teacher support and students' adaptability ($\beta = 0.502, p < 0.001$). Similarly, the results indicate that administrative support also has a positive and significant impact on students' adaptability ($\beta = 0.154, p < 0.001$). When examining the beta coefficients for both teacher and administrative support, it becomes clear that the effects of these two types of support on students' adaptability are significantly different. Specifically, the coefficient for teacher support ($\beta = 0.502, p < 0.001$) is notably higher compared to the coefficient for administrative support ($\beta = 0.154, p < 0.001$), highlighting the distinct roles each type of



Source: Authors' own creation

Figure 3. The moderation role of administrative support between teacher support and a students' adaptation capability

support plays in enhancing students' adaptability. Moreover, the study posits that administrative support serves as a positive moderating factor in the relationship between teacher support and students' adaptability. The data show that administrative support enhances the positive effect of teacher support on students' adaptability ($\beta = 0.102, p < 0.001$). This moderating effect is visually confirmed in [Figure 3](#), which clearly illustrates how administrative support strengthens the relationship between teacher support and students' adaptability.

Discussion

The primary objective of this study was to analyze the extent to which teacher and administrative support contribute to the adaptation capabilities of high school students with special needs. The results provide valuable insights into the roles these forms of support play in facilitating students' successful adaptation to mainstream school environments.

Teacher and administrative support

The study reveals that teacher and administrative support significantly impact students' adaptation capabilities. Teacher support emerged as a strong predictor ($\beta = 0.502, p < 0.001$), highlighting its crucial role in enhancing students' adaptability. Administrative support also showed a positive and significant effect ($\beta = 0.211, p < 0.001$), and its interaction with teacher support ($\beta = 0.102, p < 0.001$) suggests that administrative support amplifies the positive effects of teacher support.

These findings underscore the importance of a holistic support system within schools. While teachers provide direct instructional support and foster an inclusive learning environment, administrative support ensures teachers have the necessary resources and institutional backing to support students effectively ([Carter et al., 2022](#)). The interaction between these forms of support suggests that administrative efforts to support teachers can significantly enhance the overall adaptation capabilities of students ([Gibbs, 2023b](#)).

Recent studies have highlighted the critical role of administrative and teacher support in enhancing students' adaptation capabilities ([Sparreskog, 2023](#)). One study found that administrative support predicts teachers' job satisfaction and intent to remain in the profession, indirectly benefiting students through improved teaching quality and stability ([Gibbs, 2023a](#); [Tickle et al., 2011](#)). In addition, a study examining teachers of students with emotional and behavioral disorders found that perceived administrative support correlated with reduced teacher stress, higher job satisfaction and more outstanding school commitment, all of which contribute to a better learning environment for students ([Aljabri et al., 2023](#); [Cancio et al., 2013](#)). These findings underscore that solid administrative support is essential for teacher retention and well-being and for creating an environment conducive to student adaptation. Moreover, teacher support has been shown to directly impact students' learning and adaptability. For instance, a study exploring teacher-student relationships found that better teacher support significantly enhances students' learning adaptation, with the degree of adaptation varying with the quality of the teacher-student relationship ([Pastore and Luder, 2021](#)). Another study highlighted that teachers' perceptions of administrative support and their self-efficacy are crucial in managing job-related stress, further impacting their ability to support students effectively ([Katsantonis, 2020](#)). These studies collectively emphasize that teacher and administrative support play pivotal roles in fostering an adaptive and supportive educational environment, which is crucial for student success.

Administrative support is crucial in reducing teacher stress, increasing job satisfaction and fostering school commitment, all of which indirectly benefit students with special educational needs (SEN) by creating a stable and supportive learning environment. This

aligns with the finding that administrative support mediates the effects of teaching experience and satisfaction, emphasizing its role in teacher retention and effectiveness in supporting SEN students (Cancio *et al.*, 2013). Koonkongsatian (2017) also emphasizes that special education teachers often face extensive workloads that can lead to stress and burnout. Administrative support, particularly in reducing non-teaching duties and providing necessary resources, is critical for these teachers. This support helps maintain their motivation and ability to effectively manage their classrooms, directly impacting SEN students' quality of education and adaptation capabilities. Aldosiry (2020) further supports this by highlighting that administrative support significantly correlates with lower stress levels, higher job satisfaction and more outstanding commitment among special education teachers, positively affecting student outcomes.

Variations in support across demographics

The study also examined how demographic factors such as age, education and gender relate to students' adaptation capabilities. Results indicated that older respondents and those with higher educational attainment tend to have better adaptation outcomes. This suggests the need for targeted professional development programs that equip educators with strategies tailored to the specific needs of their student populations. Demographic factors such as age, education level and gender also play a crucial role in the dynamics of teacher and administrative support for SEN students. For instance, Combee (2014) found that more experienced teachers tend to have higher self-efficacy, further enhanced by strong administrative support. This suggests that older teachers with more educational attainment are better equipped to support SEN students effectively. In addition, administrative support is vital in reinforcing teacher self-efficacy, particularly for those teaching in challenging environments.

Understanding the specific roles and training needs of support teachers in mainstream settings is essential. Their study highlights that teachers and parents have different perceptions of what support teachers should do, indicating a need for comprehensive training and clear role definitions. Effective collaboration between support teachers, mainstream teachers and administrators is essential for successfully integrating SEN students, ensuring they receive the necessary support to adapt and thrive in mainstream classrooms (Iqbal *et al.*, 2021; Voinea and Topala, 2018).

Practical implications

The practical implications of these findings are significant. Schools should prioritize developing comprehensive support systems that include robust teacher support mechanisms and strong administrative backing. Professional development programs should focus on enhancing teachers' skills in differentiated instruction, formative assessment and the use of technology in the classroom. Moreover, administrative policies should aim to provide continuous support for teachers through resources, training and collaborative opportunities. This dual approach ensures that teachers are well-equipped to address the diverse needs of students with special needs and that students receive consistent, high-quality support across their educational experience.

Limitations

Several limitations should be considered when interpreting the findings of this study. First, the data were collected using self-reported questionnaires, which may be subject to biases such as social desirability or recall bias. Second, the study's cross-sectional design limits the ability to establish causality between the variables. Longitudinal studies would be beneficial in exploring the causal relationships between teacher and administrative support and students' adaptation capabilities. In addition, the study was conducted within a specific

context and population, which may limit the generalizability of the findings to other settings. Future research should aim to replicate this study in different educational contexts to validate and extend the findings.

Conclusion

In conclusion, this study highlights the critical roles of teachers and administrative support in enhancing the adaptation capabilities of high school students with special needs. The findings suggest that a comprehensive support system that integrates both instructional and administrative support is essential for fostering an inclusive and adaptive educational environment. By prioritizing professional development and providing continuous administrative support, schools can better equip their teachers to meet the diverse needs of their students, ultimately improving educational outcomes for all learners. The findings of this study align with existing research, highlighting the critical role of teacher support in student adaptation (Irerí *et al.*, 2020; Ní Bhroin and King, 2020). In addition, the study extends the literature by demonstrating the moderating role of administrative support, which has been less explored in previous research. This adds a new dimension to understanding how different forms of support interact to influence student outcomes. Students with special needs often rely heavily on the support provided by their teachers. Teachers' support is crucial because teachers have direct and daily interactions with these students. They need to be well-equipped with the knowledge and skills to cater to the unique needs of students with special needs. This includes understanding how to implement specialized instructional strategies and providing emotional and academic support.

Moreover, the role of administrative support cannot be understated. Teachers need to receive backing from the administration to implement new and innovative teaching strategies effectively to support students with special needs. This includes facilitating access to special learning aids, modifying classrooms to be more inclusive and ensuring that the physical infrastructure of schools, such as ramps for wheelchairs, is conducive to all students. Teachers and administrators must collaborate to create a supportive and conducive learning environment. Their joint efforts are crucial in decision-making processes that affect the educational experiences of students with special needs. Any negligence by teachers or administrators can significantly impact these students' educational trajectories and future opportunities. This study underscores the importance of a dual support system where both instructional and administrative frameworks work to enhance the learning environment for students with special needs. Effective collaboration between teachers and administrators ensures that all students, regardless of their abilities, have access to quality education and are prepared to thrive in inclusive mainstream schools. Moving forward, educational policies and practices must continue to evolve to support this integrated approach, recognizing the significant impact that well-supported teachers and administrators can have on the educational outcomes of students with special needs.

Acknowledgement

Funding: This work has received funding from Zhejiang Provincial Philosophy and Social Sciences Planning Project (+22LLXCO3Z).

Data availability statement: The data supporting findings are not publicly available due to confidentiality and privacy concerns. The data contains information that could compromise the privacy of research participants. For inquiries about the study, please contact the corresponding author.

Ethical statement: This study received ethics approval from the Institutional Ethical Board (IEB) of Zhejiang Normal University. All participants were informed about the purpose of the

study and the confidentiality of their personal information. Written informed consent was obtained from each participant before their involvement in the research. Participants were assured that their participation was voluntary, and they had the right to withdraw from the study at any time without any consequences. All data collected for this study were anonymized and securely stored to protect participants' privacy. The research team adhered to the ethical guidelines and principles set forth by Zhejiang Normal University throughout the study to ensure responsible and respectful treatment of all participants involved.

Informed consent: For the present study, informed consent was obtained, and all participants provided written consent. In addition, the ethics committee reviewed and approved of the need for consent.

Competing interests: The author(s) declared no potential conflicts of interest concerning this article's research, authorship and/or publication.

Declaration of AI assistance: Upon completing this manuscript, the authors used ChatGPT and Grammarly for final language polishing, coherence and readability enhancement. Post-editing with these tools, the authors thoroughly reviewed and made necessary modifications, assuming full responsibility for the content presented in this publication.

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