Check for updates

The effect of teacher's attitudes in supporting inclusive education by catering to diverse learners

Anjum Bano Kazmi[1], Mahwish Kamran[1] and Sohni Siddiqui[2]*

[1]Department of Educational Sciences, Iqra University, Karachi, Pakistan, [2]Department of Educational Psychology, Technische Universität Berlin, Berlin, Germany

Several countries around the world, including Pakistan, are determined to achieve successful inclusion but are facing some major and minor challenges. For example, the dearth of physical and human resources and a lack of understanding, expertise, and attitudes. The present research was carried out to find out the role that teachers' attitudes play in educating children suffering from behavioral disorders. Using the quantitative research design data were gathered from 230 randomly selected sample cases of teachers working in 10 traditional (non-inclusive) and 10 inclusive schools in Karachi, Pakistan. The teachers were asked to respond to items on the semantic differential scale and five-point Likert scale, respectively, to gauge their attitudes toward inclusive education. The analyses were carried out through Smart Partial Least Squares (Smart PLS) 3.0. The results from the Structural Equation Modeling analysis revealed that teachers have positive attitudes toward the education of children with behavioral disorders. Directly significant positive correlations indicated that teachers are prepared to cater students with mild behavioral disorders in their classrooms. The current study suggested the development of a support mechanism by the school administration and also the provision of guiding principles for increasing teachers' self-efficacy to increase the chances of inclusion of students with behavioral disorders.

KEYWORDS

behavioral disorder, inclusive education, quantitative research, self-efficacy, teacher's attitudes

1. Introduction

Society as a whole wish for physically and emotionally healthy individuals for progressing in various socio-economic and educational realms. In developing countries such as Pakistan, 50 percent of the population comprises children and thus the welfare of this population is considerably significant for the well-being and prosperity of society (Hameed and Manzoor, 2019). Behavioral disorders, particularly emotional disorders, are common problems that cause many troubles for children and their families across the globe and particularly in developing countries. It is, therefore, crucial to take some measures to cater children with emotional and behavioral disorders (Anna and Angharad, 2021). There are a multitude of behavioral problems including short attention spans, low self-confidence, lack of social adjustment, along with communication difficulties within the social circle. Most complaints and behavioral instabilities are the outcomes of overlooking the delicate period of childhood and a dearth of precise regulation during the developmental stages (Anuruddhika, 2018). The inception of many behavioral difficulties is during the kindergarten age and they affect the further stages of

development. If these children are not catered to, then there is a great possibility of severe behavioral disorders and social maladjustments. One way to handle this undeniable problem is to include them in a regular non-inclusive classroom setup. Inclusive education is the best way to solve this issue as inclusion discourages exclusion (Gupta et al., 2017).

Inclusive education is based on the notion of societal impartiality; where all learners are permitted the same right of access to every learning opportunity, regardless of disability. As Cassady (2011) states, educators all over the world are now raising their voices for disabled children to be integrated into regular non-inclusive classroom settings, but simply raising one's voice does not assure that the policy is accepted by classroom teachers. Research studies have shown that the attitude of teachers is the biggest hurdle to the effective execution of inclusive classroom practices (Carrington et al., 2019). The drive behind this research study is that there is a need to study teachers' attitudes toward inclusive education as the assertiveness of teachers toward the idea of an inclusive classroom can be vital for catering to and accepting diversity. Kazmi et al. (2021) also argue that instructors' self-efficacy is important to enhancing student learning and creating a positive learning environment. Bandura (1977) defined self-efficacy as "one's capabilities to prepare and execute the actions necessary to manage possible conditions." In this regard, the role of self-efficacy is also studied as it can help to promote inclusion.

Hypothesis of the Study:

> *H1*: Teachers 'attitude toward behavioral disorders is positively related to inclusive settings in schools.

> *H2*: Teachers' sense of self-efficacy mediates the relationship between behavioral disorders and inclusive settings in schools.

2. Literature review

2.1. Behavioral disorders

Behavioral disorder (BD) is an umbrella term that includes various conditions, such as emotional disturbance (Individuals with Disabilities Education Act, 1997). According to the Individuals with Disabilities Education Act (IDEA), children with emotional and behavioral disorders display characteristics such as an incapability to acquire or sustain satisfactory personal relationships with peers and teachers. Socially unacceptable behavior or emotional state under usual circumstances is a sign of a behavioral disorder. A persistent mood of melancholy or depression is also a sign of psychological problems. Research has shown that behavior disorders are more prevalent in developing countries than in the United States, with three to 6% of children reporting them (Butt and Khalid, 2015). In Pakistan, there are few studies that have looked at behavioral disorders, which makes it difficult to get accurate data. However, a study in a metropolis city found that 36% of teachers rated students as having behavioral problems, much higher than in developed nations (Syed et al., 2009). Children with behavior issues indulge in activities that are disruptive for children in a regular non-inclusive classroom setup (Gupta et al., 2017). The IDEA gives students guaranteed access to a Free and Appropriate Public Education (FAPE) in the Least Restrictive

Environment (LRE) possible. As such, learners identified with behavioral disorders are often included in a regular non-inclusive classroom setup. Yet, severe cases often require students to be taught in special education schools. Behavioral disorder (BD) as the primary disability is a great challenge for an inclusive teacher (Cassady, 2011). In order to cater to such disorders, it is important to be familiar with all the factors that govern the restrictiveness of special education settlements for these learners. Hameed and Manzoor (2019) stated that comparatively little is known about the behavior issues and academic development of children with a behavioral disorder in an inclusive classroom, and the promising differential impact of instructional setting on progress outcomes. Furthermore, an understanding of the causes that are related to the educational and behavioral functioning of such learners in inclusive education is required (Gaines and Barnes, 2017). Learning more about educational environments that can suit the special needs of children with a behavioral disorder is important for the enhancement of interventions and instructional strategies that will support the intellectual and social development of learners with behavioral disorders (Carrington et al., 2019). According to the classic literature, there is strong evidence that children learn in various ways for example through close observations or through imitating others, specifically those having learning and behavioral disabilities learn rapidly among their peers. The main point of the research study is that when different learners interact with one another, they acquire knowledge, skills, and attitudes. This creates a shared learning environment in which diversity can be celebrated promoting a sense of empathy (Bandura, 1977).

2.2. Inclusive education

By including all learners in the mainstream education system, regardless of their disability, inclusive education aims to eliminate all barriers to their inclusion (Hamenoo and Dayan, 2021). Diversity and differences among all individuals should be accepted, respected, and valued as part of inclusion. It also targets the development of school systems for every individual (Ghosh, 2022). The worldwide movement toward inclusive education has made it possible for children with disabilities to be included in mainstream schools (Özokcu, 2018). The drive toward inclusive education places an emphasis on teaching children with disabilities in regular non-inclusive classrooms. The current reauthorization of the Individuals with Disabilities Education Act (Individuals with Disabilities Education Act, 1997) also includes wide-ranging provisions that boost the enrollment of students with disabilities in mainstream classrooms. In a qualitative study conducted by Ehsan (2018) in Pakistan, it is reported that despite efforts made regarding inclusion there is an insufficient level of knowledge. In addition, there are many challenges to be overcome, including lack of knowledge about inclusion, the attitudes of teachers, and the lack of adequate resources to achieve inclusive education. Thus, a lot of work is required to be done regarding infrastructure development and to prepare teachers for inclusion so that schools can be made accessible for such students.

2.3. Teachers' sense of self-efficacy

A teacher's sense of self-efficacy (TSES) is the confidence that an individual's teaching can have an impact on certain instructional

outcomes. A teacher's efficacy philosophies are determined by the amount of determination they devote to teaching and their performance in the classroom. A teacher's sense of self-efficacy has two dimensions: efficacy of teaching and efficacy in person. Bandura (1977) social learning theory states that "psychological procedures, whatever their form, serve as means of creating and strengthening expectations of personal efficacy" (p. 194). An efficacy expectation is the "conviction that one can successfully execute the behavior required to produce outcomes" (Bandura, 1977, p. 193). According to Bandura's Self-Efficacy Theory (1977), "[it is] an individual's belief in his or her capacity to execute the behaviors necessary to produce specific performance attainments. Self-efficacy reflects confidence in the ability to exert control over one's motivation, behavior, and social environment." The teacher's belief plays a vital role in determining the effective execution of an inclusive course of action. It is also significant to acknowledge that the opinion of the teacher plays a pivotal role in accommodating disabilities, as it directly impacts the learning and development of students (Raath and Hay, 2016). The role of teachers in inclusive educational settings differs from their conventional role. Adapting instruction plans to accommodate the diversity of learning styles within a classroom is a skill that traditional non-inclusive school teachers require (Abbas et al., 2016). Many studies have found that teachers need a high level of self-efficacy to successfully run inclusive education programs for children with disabilities (Tümkaya and Miller, 2020). The study conducted in Pakistan also supports international literature that teachers' positive attitudes and self-efficacy influence their intentions to include children with disabilities in the mainstream education setup and there is a strong correlation between efficacy and intention ($r = 0.75$) (Ayub et al., 2019). The presence of a significant positive relationship between self-efficacy and teachers' attitudes toward inclusive education, specifies that improved self-efficacy among teachers increases the likelihood of the presence of students suffering from mild behavioral disorders, in the typical classroom setup (Wray et al., 2022).

As teachers' responsibilities diversify, they usually experience more stress and become hesitant to accommodate students with disabilities, according to Hameed and Manzoor (2019). It is also reported that there is a lack of preparation among teachers responsible for teaching children with disabilities in both inclusive and non-inclusive schools (Shaukat and Rasheed, 2015). Despite supporting inclusive educational settings, Khan and Behlol (2014) found that teachers lack confidence about teaching children with disabilities, finding appropriate resources, and managing their classrooms. Therefore, it is very relevant to know the relationship between teachers' sense of self-efficacy and their attitude toward behavioral disorders, as it helps to determine the role of teachers' self-awareness in promoting inclusive education of children with behavioral disorders (Ghosh, 2022).

3. Methodology

3.1. Research design

Teachers' attitudes toward the education of students with mild learning disabilities in an inclusive classroom setting were examined in the research study. Following a quantitative research approach, cross sectional research design was adopted where all necessary steps were taken into consideration during the planning and execution of the project. In order to peruse interrelated research papers and research studies, a comprehensive questionnaire was outlined. The questionnaire used for data collection is adopted after seeking permission. The questionnaire along with the consent letter was first sent to the respective schools and once permission was granted the questionnaires were handed over to the school heads and coordinators.

3.2. Research instrument

3.2.1. Teachers' attitude toward inclusion

Previously, this research instrument was used in a study examining teachers' attitudes (Avramidis et al., 2000) and provided reliable and valid results. A three-component attitude model is used to select the tool that will be used to measure teachers' attitudes toward inclusion. The attitudes are measured in terms of belief (Cognitive component), emotions (Affective component), and intentions (Conative component). As per the tri-component attitude model, attitudes are composed of three components: knowledge (cognitive), feelings and emotions (affect), and action (conative). The knowledge or cognitive component involves the cognitive processes that direct the development of attitudes (Example statement: *I would accept responsibility for teaching children with MLD).* A person's conative component analyzes their tendency to act (Example statement: *I am supportive toward the idea of including children with MLD in my classroom*). Teachers' intentions toward inclusion are assessed using both of these components. For teachers from regular non-inclusive school setups, questions were formulated to check their readiness toward inclusion (for example, I will accommodate children with disabilities in my classroom), but statements from teachers already working in inclusive settings said, "I have accommodated children with disabilities in a classroom." The final questionnaire was constructed on a 6-point Likert scale, with 1 representing strongly disagreement and 6 representing strongly agreement.

As part of the affective component, teachers are assessed on their emotional reactions to a mild learning disability (MLD) or behavioral disorder (BD). Teachers' emotional reactions to teaching children with mild learning disabilities were measured using a semantic differential scale in this study *(Example statement: If a new student who was described as having mild learning disability (MLD)[1] was about to join your class tomorrow, how would you feel…).* Among the bipolar adjectives included on the semantic differential scale were "anxious-relaxed," "uncomfortable-comfortable," and "pessimistic-optimistic." Final questionnaire was constructed on a 7-point Likert scale, with 1 representing discomfort and 7 representing comfort.

---

1 *Mild learning disability (MLD)*: Children with mild learning disabilities have considerable difficulty with basic literacy and numeracy. Their language, communication, personal and social development is affected. Many students with mild learning disabilities have great difficulty concentrating on tasks and transferring what they learn from one situation to another. They need simple, direct and clear instruction in order to benefit from the classroom situation. Some children with mild learning disabilities can have additional disabilities or conditions, including autistic spectrum disorders, medical conditions, physical and/or sensory disabilities, and emotional/behavioural difficulties (NCSE).

3.2.2. Teachers' self-efficacy

In order to better understand the factors that cause problems for teachers while teaching learners with learning disabilities, the Teachers' Self-Efficacy scale is used with the adopted questionnaire. Researchers used the scale to measure self-efficacy as a single factor, even though it has sub variables for evaluating instructional strategies (4 items), classroom management (4 items), and student engagement (4 items). It is already a valid and reliable instrument where factor loadings ranged from 0.61 to 0.83 and reliability was higher than 0.87 for all variables (Tschannen-Moran and Hoy, 2001). The survey questionnaire has 12 items related to a teacher's ability to engage students, to develop instructional strategies, and to manage a classroom (Example statements: *How much can you do to calm a student who is disruptive or noisy? How well can you establish a classroom management system with each group of students?*). The questionnaire was constructed on a 5-point Likert scale (1 = Nothing, 2 = Very little, 3 = Some influence, 4 = Quite a bit and 5 = A great deal).

Final Instrument after factor analysis based on the following variables (Table 1):

Conative Component (Current Practices toward inclusive settings IS) = 6 items

Cognitive Component (Intentions toward inclusive settings IS) = 6 items

Affective Component (Emotional Reaction Scale 2 BD) = 7 items
Teachers' Sense of Self Efficacy (TSES) = 10 items

3.3. Sampling

Teachers at private primary schools in either inclusive or non-inclusive settings participated in the survey. The inclusive school population includes children with mild learning disabilities. In Karachi, Pakistan, inclusive schools were identified through a non-profit organization. An organization also provided a list of schools that are inclusive. Research data were collected using a stratified sampling technique based on quantitative research methods. A stratified sampling method involves dividing the population into strata and then randomly selecting individuals from each stratum. By doing so, researchers can select the sample population that represents the entire population most accurately (Creswell, 2002). This final study considered 230 (115 from inclusive and 115 from non-inclusive setup) valid cases for data analysis as seven univariate and multivariate outliers were removed as a part of the data screening process. Through smart PLS (Partial Least Square Method) 3.0, 230 teachers' data were analyzed.

3.4. Piloting of the sample

A pilot study was carried out using Fink (2003) explanation where it is expressed that the minimum number for a pilot study is 10. The questionnaire was distributed to 10 teachers. The small-scale pilot study was conducted in order to improve the wording of items in order to resolve issues related to ambiguous statements and to improve research questions.

The data were entered into SPSS for screening purposes, then exported to Smart PLS. The data of the quantitative study were

analyzed through Smart PLS 3.0 and were subjected to statistical analysis. SEM involves incorporating both observed and unobserved variables to solve complex problems (Hair et al., 2006). There are two common approaches to SEM: covariance-based and variance-based (VB), with the most commonly used statistical packages being AMOS and SmartPLS 3. It is possible to handle both normal and nonparametric data with SmartPLS 3, as opposed to only normal data with AMOS. Due to the complexity of the model and the mediation involved, PLS-SEM proved very useful in predicting the results.

4. Data analysis and results

4.1. Respondents' profile

To carry out the main study analysis it is necessary to analyze respondents' profiles. Demographic information for 230 respondents is shown in Table 2.

4.2. Evaluation of outer model

The outer (or measurement model) was established through PLS-SEM. Smart PLS version 3.0 was used for carrying out the analysis because this statistical package not only creates a graphical model of the data but can also apply the PLS algorithm for assessing the model. The PLS-SEM is an effective method that has fewer problems of identification, can easily work with very small as well as very large samples, when data are not normally distributed, and can measure both formative and reflective latent constructs (Hair et al., 2011).

4.3. Reliability and validity

4.3.1. Convergent validity

Convergent validity is based on the concept in which a set of items or variables are combined to compute the same construct. Fornell and Larcker (1981) and Tseng et al. (2006) recommended the composite Reliability (CR) of each construct, and the Average Variance Extracted (AVE) methods of calculating convergent validity.

Items' validity can be measured by examining the outer loadings of every individual item into its basic constructs. The outer loadings in this research as seen in Table 1 were above the threshold of 0.60 set by Chin (1998), thus indicating convergent validity. The reliability of each construct was assessed by using Cronbach's alpha, a threshold considered acceptable above 0.6 indicating a high internal consistency (reliability) with their corresponding measurement items or indicators as shown in Table 1 where the threshold is higher than 0.7. The AVE in this research as seen in Table 1 was between 0.5 and 0.659 which exceeds the threshold of 0.50 set by Fornell and Larcker (1981). Similarly, Tseng et al. (2006) suggested that value of composite reliability greater than 0.6 confirms convergent validity of the instrument. This shows that the construct is explaining more than 50 percent of the variance of its variables (Hair et al., 2012), thus establishing convergent validity at the construct level.

TABLE 1 Outer loadings, reliability, and convergent validity.

Construct	Items	Statements	Outer loadings	Cronbach's alpha	Composite reliability	Average variance extracted
Current practices toward inclusive settings	CPIS1	I am supportive toward the idea of including children with MLD in my classroom.	0.769			
	CPIS2	I am willing to engage in in-service teacher programs on teaching children with MLD.	0.855			
	CPIS3	I am engaging in developing my skills to teach children with MLD in my classroom.	0.840	0.953	0.959	0.659
	CPIS4	I accept responsibility for teaching children with MLD.	0.860			
	CPIS5	Regular self-evaluation will improve my teaching in inclusive settings.	0.871			
	CPIS7	I co-operate with the parents of the children with MLD for the benefit of their children.	0.776			
Emotional reaction scale 2	ERS2a	If a new student, who was described as having MLD and behavioral disorder was about to join your class tomorrow, how would you feel… **Likert Scale (Uncomfortable to Comfortable)**	0.865			
	ERS2b	If a new student, who was described as having MLD and behavioral disorder was about to join your class tomorrow, how would you feel … **Likert Scale (Negative to Positive)**	0.886			
	ERS2c	If a new student, who was described as having MLD and behavioral disorder was about to join your class tomorrow, how would you feel…. Likert Scale (Unconfident to Confident)	0.908			
	ERS2d	If a new student, who was described as having MLD and behavioral disorder was about to join your class tomorrow, would you feel….**Likert Scale (Pessimistic to Optimistic)**	0.913	0.959	0.966	0.800
	ERS2e	If a new student, who was described as having MLD and behavioral disorder was about to join your class tomorrow, how would you feel…. **Likert Scale (Worried to Self-assured)**	0.889			
	ERS2f	If a new student, who was described as having MLD and behavioral disorder was about to join your class tomorrow, how would you feel…. **Likert Scale (Disinterested to Interested)**	0.905			
	ERS2g	If a new student, who was described as having MLD and behavioral disorder was about to join your class tomorrow, how would you feel…. **Likert Scale (Unhappy to Happy)**	0.903			
Intentions toward inclusive settings	IIS1	I would be supportive toward the idea of including children with MLD in my classroom.	0.750			
	IIS2	I would be willing to engage in in-service teacher programs on teaching children with MLD.	0.865			
	IIS3	I would engage in developing my skills to teach children with MLD in my classroom.	0.907	0.953	0.959	0.659
	IIS4	I would accept responsibility for teaching children with MLD.	0.877			
	IIS5	Regular self-evaluation will improve my teaching in inclusive settings.	0.831			
	IIS7	I would co-operate with the parents of the children with MLD for the benefit of their children.	0.802			

(Continued)

TABLE 1 (Continued)

Construct	Items	Statements	Outer loadings	Cronbach's alpha	Composite reliability	Average variance extracted
Teachers' sense of self-efficacy	TSES10	To what extent you can provide an alternative explanation for example when students are confused?	0.728			
	TSES11	How much can you assist families in helping their children do well in school?	0.693			
	TSES2	How much can you do to motivate students who show low interest in school work?	0.742			
	TSES3	How much can you do to get students to believe they can do well in school work?	0.736			
	TSES4	How much can you do to help your students' value learning?	0.678			
	TSES5	To what extent you craft good questions for your students?	0.663	0.896	0.913	0.5
	TSES6	How much can you do to get children to follow classroom rules?	0.732			
	TSES7	How much can you do to calm a student who is disruptive or noisy?	0.685			
	TSES8	How well can you establish a classroom management system with each group of students?	0.688			
	TSES9	How much can you use a variety of assessment strategies?	0.694			

4.3.2. Discriminant validity

Discriminant validity existence can be estimated in various ways. Hair et al. (2012) stated that discriminant validity is the amount to which a construct is empirically different from all the other constructs in research. It can be measured by using the square root of the AVE estimated for that construct (Fornell and Larcker, 1981). The Heterotrait-Monotrait Ratio of Correlations (HTMT) is another measure to determine discriminant validity. The HTMT criterion is a better criterion to assess discriminant validity than the classical approaches such as the Fornell-Larcker criterion and (partial) cross-loadings because the rest are mostly not able to detect the absence of discriminant validity. Another benefit of HTMT is that it determines that the theorized structural paths are genuine and are not just the product of statistical inconsistencies. To check discriminant validity, the HTMT ratio must be less than 0.85 (Henseler, 2012). As shown in Table 3 all HTMT ratios are less than 0.85, confirming the discriminant validity of the research model.

4.4. Predictive relevance of the model

The inner model's precision can be measured through the "coefficient of determination," which is denoted by R^2. Hair et al. (2012) stated that R^2 represents the combined effect of independent (exogenous) variables on the dependent (endogenous) variables. This effect varies from 0 (no predictive accuracy) to 1 (perfect predictive accuracy) with 0.25, 0.50, and 0.75 representing weak, moderate, and substantial levels of predictive accuracy (Hair et al., 2012). As seen in Table 4, in this

research the values of R^2 (Inclusive settings, 0.565, Teacher's Sense of Self-Efficacy, 0.301) as well as adjusted R^2 (Inclusive settings, 0.555, Teacher's Sense of Self-Efficacy, 0.289) were greater than 0.25 indicating predictive accuracy, but on a moderate level.

4.5. Inner model testing

After studying the outer or measurement model, the next step is the evaluation of the inner or structural model (Figure 1). Hair et al. (2012) stated that the assessment of the structural model after carrying out the measurement model ensures the validity and reliability of the model. This step includes many sub-steps within the structural model to assess the postulated relationship, therefore known as hypothesis testing. The Smart PLS does not compute the conventional t-test (Barclay et al., 1995) but rather produces "path coefficients" which are its structural model estimations and signify the hypothesized relationships connecting the constructs. Path coefficient is one of the standards to evaluate the structural model's quality and threshold values range from −1 (strongly negative) to +1 (strongly positive) relationships (Hair et al., 2012). For the current research, the significance of these values was tested by running bootstrapping with the re-sampling procedure of 5,000 sub-samples (Hair et al., 2012) producing a precise estimation of path coefficients. There were two hypotheses in the research which needed to be analyzed. Hair et al. (2012) emphasized that to confirm whether the research hypotheses are supported or not, a t-value needs to be produced and the threshold is 1.96 at a 5% significance level ($p < 0.05$) (Figure 1).

TABLE 2 Respondents' profile.

Demographic	Indicators	Frequency	Percentage
Gender	Male	22	9.6
	Female	208	90.4
Age	18–25	73	31.7
	26–35	94	40.9
	36–45	49	21.3
	46–55	8	3.5
	55 above	6	2.6
Qualification			
College student		10	4.3
Bachelor		116	50.4
Higher diploma		8	3.5
Master's degree		94	40.9
Doctorate		2	0.9
Type of initial teacher program			
ADE		2	0.9
B.Ed.		8	3.5
B.Ed. Hons.		2	0.9
M.Ed.		1	0.4
Professional		24	10.4
Development			
Courses			
No courses		193	83.9

TABLE 3 Heterotrait-Monotrait Ratio (HTMT).

	Inclusive setting	Behavioral disorder	Teachers' sense of self-efficacy
Inclusive setting			
Behavioral disorder	0.454		
Teachers' sense of self-efficacy	0.468	0.429	

TABLE 4 R square.

	R square	R square adjusted
Inclusive settings	0.565	0.555
Teacher's sense of self-efficacy	0.301	0.289

4.6. Hypothesis testing and path coefficient for direct and indirect hypothesis

Path coefficient was generated by running the PLS algorithm, followed by bootstrapping with 5,000 bootstrap samples to generate p-values and to be able to meet the conditions suggested by Hair et al. (2012). Based on the p-values, a decision is made about whether the hypothesis is supported or not. To assess the first hypothesis, a direct relationship was established between teachers' attitudes toward behavioral disorders (BD) and inclusive settings (IS) in schools and found a statistically significant relationship between the two ($p < 0.05$) ($\beta = 0.232$, $p = 0.044$) hence hypothesis 1 was supported. Figure 2 also represents hypothesized relationship stating that teachers' sense of self-efficacy (TSES) mediates a relationship between emotional attitude toward behavioral disorder (BD) and inclusive setting (IS). Paths a and b have significant p-values ($p > 0.05$), whereas path c also has a significant value of p, suggesting complementary mediation, as the mediated effect (a * b) and direct effect (c) both exist as they point in the same direction (Zhao et al., 2010; Table 5).

5. Discussion

Teachers have different opinions about the inclusion of learners with disabilities in a regular non-inclusive classroom setup. In contrast, a teacher's readiness to accommodate students with disabilities and self-confidence in managing these students with

disabilities in a non-inclusive classroom is influenced by the type and severity of the children with disabilities (Hameed and Manzoor, 2019). The same idea resonates with the findings of the present research study. It has been found that teachers who exhibit courage and assertiveness are more likely to demonstrate organizational planning abilities, maintain self-confidence and enthusiasm, and cope better with stress and negative opinions. In addition, it has also revealed that the belief in oneself of teachers affects the instructional practices of teachers in inclusive classroom settings, according to Sharma et al. (2015). Thus, it is concluded that an inclusive approach to mainstream classrooms requires a high level of self-confidence and self-efficacy in line with the recommendations provided by Ayub et al. (2019), Tümkaya and Miller (2020), and Wray et al. (2022).

Many teachers do not have confidence that they can teach learners with mild behavioral disorders successfully while at the same time instructing a large group of typically developing students. Educators' attitudes toward learners with special needs intensely affect the success and effectiveness of their instruction (Al-khresheh et al., 2022). Using a stratified random sampling method, 20 inclusive and non-inclusive schools were surveyed about their inclination to take in a child with a behavioral disorder in their classroom to determine whether teachers' attitude concerning behavioral disorders is positively related to inclusive settings in schools or not. The findings suggested that there is a statistically significant relationship between the two and that teachers in our context are ready to accommodate learners with behavioral disorders in a classroom. It is also consistent with earlier studies as the US Department of Education stated that 80% of all pupils identified as having emotional and behavioral disorders are included in the regular classroom setup. According to statistics, these learners with behavioral and emotional disorders are steadily becoming the most represented disability group in a regular classroom setting (Anna and Angharad, 2021). The current study also supported the conclusion that, despite many limitations, Pakistani teachers are willing to accommodate children with mild disabilities and have intentions to participate in an inclusive education setting, contrary to the Pakistani studies by Ehsan (2018) and Noreen et al. (2019).

According to hypothesis 2, self-efficacy plays a significant role in the relationship between the emotional attitudes of teachers toward

FIGURE 1
Inner model testing.

FIGURE 2
TSES mediated the relationship between BD and IS. TSES, Teacher's sense of self-efficacy; BD, Behavioral disorders; IS, Inclusive setting.
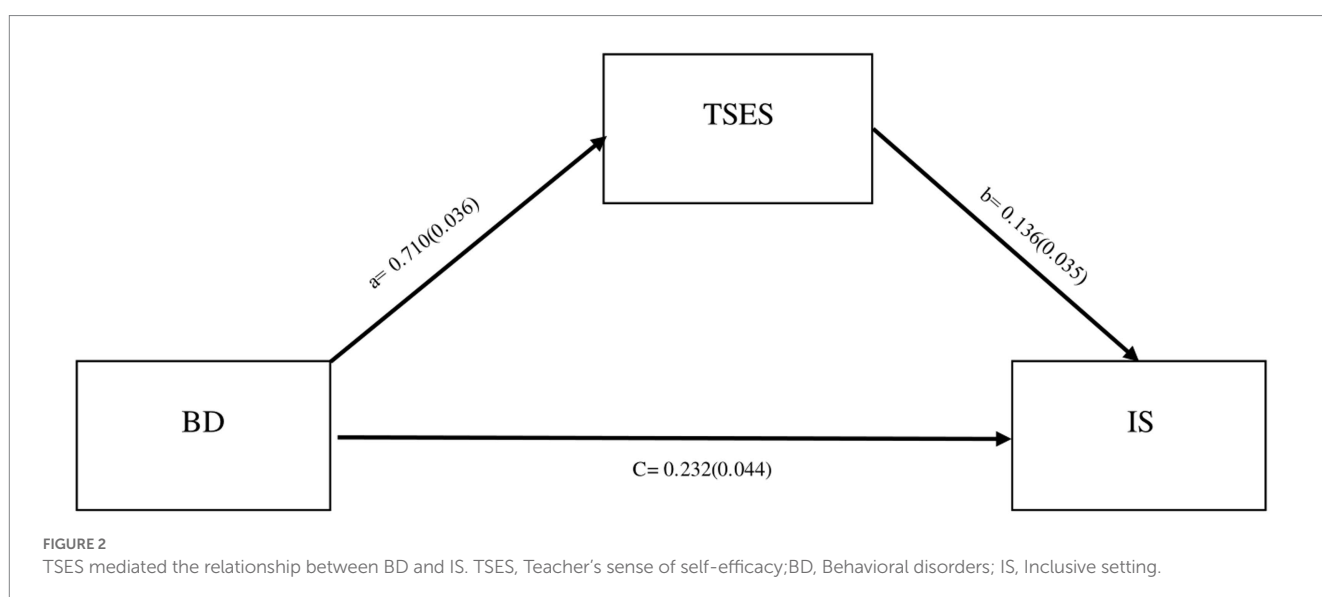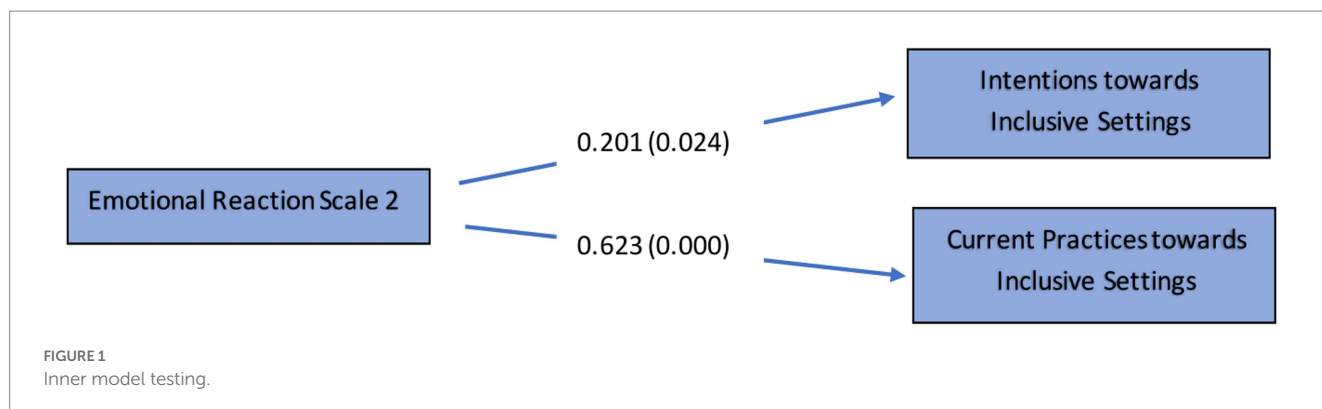
behavioral disorders and promoting inclusive education. It can thus be concluded that encouraging teachers to work with their emotional attitudes and self-efficacy can contribute to the development and promotion of a successful inclusive education setting in line with previous studies by Özokcu (2018), You et al. (2019), and Kuyini et al. (2020).

6. Recommendations

6.1. Modification of the content and strategies

It is suggested to modify instructional strategies to cater to children with disabilities. For this purpose, development of individualized instructional programs must be offered and the students with disabilities must be facilitated by providing them with the LRE. This involves modifying strategies to cater to the needs of the learners having behavioral disorders. It is suggested for school management to modify the content and strategies according to the type and intensity of disability and by creating a conducive learning environment. In addition, professional development courses can contribute to motivating teachers in developing a positive attitude toward students with disabilities.

6.2. Professional development courses in an inclusive setting

The educators who received professional development courses were found to be more assertive toward the inclusive environment in a mainstream classroom setup (Noreen et al., 2019). Moreover, appropriate consideration should be given to the professional development of teachers in order to develop their self-efficacy. The non-inclusive teachers must be provided the opportunities for professional development courses that will add to their self-efficacy beliefs and this can be possible if the school administration shows a positive attitude. The professional development courses can be in terms of pre-service and in-service professional development and brainstorming sessions must be conducted for developing knowledge, skills, and attitudes toward managing disabilities successfully.

TABLE 5 Inner model results.

Hypothesis	Path	Original sample	*T*-value	*p*-Value	Decision
H1	BD → IS	0.232	2.011	0.044	Supported
H2	TSES → IS	0.136	2.105	0.035	Supported

6.3. Supporting inclusive education in schools

It is recommended that mainstream schools can become inclusive schools if all stakeholders in the educational sector work in collaboration. It is a challenging endeavor that needs thoughtful targeted effort, reassurance, and commitment from principal stakeholders. The researchers of the current study also endorsed the recommendation of Noreen et al. (2019) that policymakers work together in collaboration to address the challenges associated with including children with behavioral disorders effectively. Inclusion for all learners must become a reality, as international policies are working toward inclusion (Starczewska et al., 2012).

7. Limitations and directions for future research

This study was conducted in primary schools only and focused on primary school teachers. However, the study can be carried out in secondary and other higher educational institutes as well. The present study is limited as it focuses on the attitudes of teachers toward children with behavioral disorders and the role of self-efficacy in gaining pedagogical knowledge. Gaining pedagogical knowledge can help educators become more effective in their teaching practice and better support the learning of their students. Other aspects related to curriculum development for teachers who cater for children with special educational needs can also be investigated. More in-depth knowledge can be gained by carrying out qualitative research methods.

Researchers in the current study also recommend measuring teachers' attitudes, hesitations, and responsibilities in their approaches to professional development for inclusion in order to facilitate future research. In addition, the study only examined the attitudes of teachers in inclusive and non-inclusive private schools. Authors recommend including teachers from special education schools as well as the public sector in replicative studies in order to identify their perceptions and intentions toward inclusion.

8. Conclusion

Generally, teachers perceive that different types of disabilities present challenges as learners suffering from these disorders are incapable of meeting educational and social expectations. In such cases, learners require some sort of special education intervention, which can be given in a regular classroom if teachers have strong self-efficacy beliefs. It is challenging for a teacher to remain confident in dealing with children with emotional and behavioral disorders, but it has been observed that strong self-efficacy beliefs can make inclusion a successful reality. A teacher's positive attitude

can make a world of difference to these children with special educational needs. According to the present study, teachers who have more faith in their abilities are more likely to try out creative techniques for treating behavioral disorders in their students. Keeping in view the growing demand for implementing inclusive educational practices and, above all, Pakistan being a signatory to the Sustainable Development Goals, this paper provides a recommendation to meet the demands of the Sustainable Development Goals. All children deserve quality education, which is emphasized in Sustainable Development Goal 4 (SDG 4). Moreover, it emphasizes the inclusion of persons with disabilities and eliminating all differences in education (United Nations, 2015).

Data availability statement

The raw data supporting the conclusions of this article will be made available by the authors, without undue reservation.

Author contributions

ABK supervised the entire project, and analyzed the design of the project critically and provided feedback periodically to improve it. MK assisted the authors in collecting data for the research project and contacting educational institutions for data collection and analysis, completed the literature review part of the manuscript. SS under the supervision of ABK, analyzed the collected data and improved the manuscript before final submission. SS assisted the author in obtaining funding for this project and in completing the final draft. All authors contributed to the article and approved the submitted version.

Funding

Conflict of interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

Publisher's note

All claims expressed in this article are solely those of the authors and do not necessarily represent those of their affiliated

organizations, or those of the publisher, the editors and the reviewers. Any product that may be evaluated in this article, or

claim that may be made by its manufacturer, is not guaranteed or endorsed by the publisher.

References

Abbas, F., Zafar, A., and Naz, T. (2016). Footstep towards inclusive education. *J. Educ. Pract.* 7, 48–52.

Al-khresheh, M., Mohamed, A. M., and Asif, M. (2022). Teachers' perspectives towards online professional development programs during the period of COVID-19 pandemic in the Saudi EFL context. *FWU J. Soc. Sci.* 16, 1–17. doi: 10.51709/19951272/Summer2022/1

Anna, L., and Angharad, E. B. (2021). The social and human rights models of disability: Towards a complementarity thesis. *Int. J. Hum. Rights* 25, 348–379. doi: 10.1080/13642987.2020.1783533

Anuruddhika, B. (2018). Teachers' instructional behaviors towards inclusion of children with visual impairment in the teaching learning process. *Eur. J. Spec. Educ. Res.* 3, 164–182. doi: 10.46827/ejse.v0i0.1648

Avramidis, E., Bayliss, P., and Burden, R. (2000). A survey into mainstream teachers' attitudes towards the inclusion of children with special educational needs in the ordinary schools in one local education authority. *Educ. Psychol.* 20, 191–211. doi: 10.1080/713663717

Ayub, U., Shahzad, S., and Ali, M. S. (2019). University teachers' attitude towards inclusion, efficacy and intentions to teach in inclusive classrooms in higher education. *Glob. Soc. Sci. Rev.* IV, 365–372. doi: 10.31703/gssr.2019(IV-I).47

Bandura, A. (1977). Self-efficacy: Toward a unifying theory of behavioral change. *Psychol. Rev.* 84, 191–215. doi: 10.1037/0033-295X.84.2.191

Barclay, D. W., Higgins, C. A., and Thompson, R. (1995). The partial least squares approach to causal modeling: Personal computer adoption and use as illustration. *Technol. Stud.* 2, 285–309.

Butt, A. A., and Khalid, R. (2015). Behavioral problems in children: A systematic review of research. *J. Behav. Sci.* 25, 146–161.

Carrington, S., Tangen, D., and Beutel, D. (2019). Inclusive education in the Asia Indo-Pacific region. *Int. J. Incl. Educ.* 23, 1–6. doi: 10.1080/13603116.2018.1514727

Cassady, J. M. (2011). Teachers' attitudes toward the inclusion of students with autism and emotional behavioral disorder. *Electr. J. Incl. Educ.* 2, 1–23.

Chin, W. W. (1998). "The partial least squares approach to structural equation modeling" in *Modern methods for business research*. ed. G. A. Marcoulides (Mahwah, NJ: Lawrence Erlbaum), 295–358.

Creswell, J. W. (2002). *Educational research: Planning, conducting, and evaluating quantitative and qualitative research*. Upper Saddle River, NJ: Merrill.

Ehsan, M. (2018). Inclusive education in primary and secondary schools of Pakistan: Role of teachers. *Am. Acad. Sci. Res. J. Eng. Technol. Sci.* 40, 40–61.

Fink, A. (2003). *The survey handbook*. London: Sage.

Fornell, C. G., and Larcker, D. F. (1981). Evaluating structural equation models with unobservable variables and measurement error. *J. Mark. Res.* 18, 39–50. doi: 10.1177/002224378101800104

Gaines, T., and Barnes, M. (2017). Perceptions and attitudes about inclusion: Finding across all grade levels and years of teaching experience. *Cogent Educ.* 4, 1–11. doi: 10.1080/2331186X.2017.1313561

Ghosh, N. (2022). CBR practice and inclusion: Persons with disabilities in north East India. *Disabil. CBR Incl. Dev.* 32, 114–133. doi: 10.47985/dcidj.516

Gupta, A. K., Mongia, M., and Garg, A. K. (2017). A descriptive study of behavioral problems in school going children. *Industr. Psychiatr. Educ.* 26, 91–94. doi: 10.4103/ipj.ipj_39_17

Hair, J. F., Black, W. C., Babin, B. J., Anderson, R. E., and Tatham, R. L. (2006). *Multivariate data analysis*. 6th. Upper Saddle River, NJ: Pearson Prentice Hall.

Hair, J. F., Ringle, C. M., and Sarstedt, M. (2011). PLS-SEM: Indeed a silver bullet. *J. Mark. Theory Pract.* 19, 139–152. doi: 10.2753/MTP1069-6679190202

Hair, J. F., Sarstedt, M., Ringle, C. M., and Mena, J. A. (2012). An assessment of the use of partial least squares structural equation modeling in marketing research. *J. Acad. Mark. Sci.* 40, 414–433. doi: 10.1007/s11747-011-0261-6

Hameed, A., and Manzoor, A. (2019). Similar agenda, diverse strategies: A review of inclusive education reforms in the subcontinent. *Bull. Educ. Res.* 41, 53–66. doi: 10.33015/dominican.edu/2018.EDU.ST.01

Hamenoo, E. S., and Dayan, V. (2021). Inclusive education and disabilities: Narratives from Ghana. *Disabil. CBR Incl. Dev.* 32, 37–51. doi: 10.47985/dcidj.385

Henseler, J. (2012). Why generalized structured component analysis is not universally preferable to structural equation modeling. *J. Acad. Mark. Sci.* 40, 402–413. doi: 10.1007/s11747-011-0298-6

Individuals with Disabilities Education Act (1997). Amendments of 1997, P.L. 105-117, 20 U.S.C.

Kazmi, A. B., Siddiqui, U. N., and Siddiqui, S. (2021). Emotional intelligence: Source of self-efficacy among college-level instructors of Pakistan. *Perform. Improv.* 60, 21–32. doi: 10.1002/pfi.21969

Khan, I. K., and Behlol, M. G. (2014). Inclusive education at primary level: Reality or phantasm. *J. Educ. Educ. Dev.* 1, 1–19. doi: 10.22555/joeed.v1i1.14

Kuyini, A. B., Desai, I., and Sharma, U. (2020). Teachers' self-efficacy beliefs, attitudes and concerns about implementing inclusive education in Ghana. *Int. J. Incl. Educ.* 24, 1509–1526. doi: 10.1080/13603116.2018.1544298

Noreen, H., Intizar, F., and Gulzar, S. (2019). Teachers' multidimensional attitude towards inclusive education. *UMT Educ. Rev.* 02, 72–89. doi: 10.32350/uer.22.04

Özokcu, O. (2018). The relationship between teacher attitude and self-efficacy for inclusive practices in Turkey. *J. Educ. Train. Stud.* 6, 6–12. doi: 10.11114/jets.v6i3.3034

Raath, S., and Hay, A. (2016). Self-efficacy: A south African case study on teachers' commitment to integrate climate change resilience into their teaching practices. *Cogent Educ.* 3, 1–13. doi: 10.1080/2331186X.2016.1264698

Sharma, U., Simi, J., and Forlin, C. (2015). Preparedness of pre-service teachers for inclusive education in the Solomon Islands. *Aust. J. Teach. Educ.* 40, 103–116. doi: 10.14221/ajte.2015v40n5.6

Shaukat, S., and Rasheed, K. (2015). Student teachers' attitudes towards inclusion in Pakistan. *Bahria J. Prof. Psychol.* 14, 72–89.

Starczewska, A., Hodkinson, A., and Adams, G. (2012). Conceptions of inclusion and inclusive education: A critical examination of the perspectives and practices of teachers in Poland. *J. Res. Spec. Educ. Needs* 12, 162–169. doi: 10.1111/j.1471-3802.2011.01209.x

Syed, E. U., Hussein, S. A., and Haidry, S. E. Z. (2009). Prevalence of emotional and behavioural problems among primary school children in Karachi, Pakistan—multi informant survey. *Indian J. Pediatr.* 76, 623–627. doi: 10.1007/s12098-009-0072-7

Tschannen-Moran, M., and Hoy, A. W. (2001). Teacher efficacy: Capturing an elusive construct. *Teach. Teach. Educ.* 17, 783–805. doi: 10.1016/S0742-051X(01)00036-1

Tseng, W. T., Dörnyei, Z., and Schmitt, N. (2006). A new approach to assessing strategic learning: The case of self-regulation in vocabulary acquisition. *Appl. Linguis.* 27, 78–102. doi: 10.1093/applin/ami046

Tümkaya, G. S., and Miller, S. (2020). The perceptions of pre and in-service teachers' self-efficacy regarding inclusive practices: A systematised review. *Ilkogretim Online* 19, 1061–1077. doi: 10.17051/ilkonline.2020.696690

United Nations (2015). *Transforming our world: The 2030 agenda for sustainable development*. New York: UN Publishing.

Wray, E., Sharma, U., and Subban, P. (2022). Factors influencing teacher self-efficacy for inclusive education: A systematic literature review. *Teach. Teach. Educ.* 117:103800. doi: 10.1016/j.tate.2022.103800

You, S., Kim, E. K., and Shin, K. (2019). Teachers' belief and efficacy toward inclusive education in early childhood settings in Korea. *Sustainability* 11:1489. doi: 10.3390/su11051489

Zhao, X., Lynch, J. G., and Chen, Q. (2010). Reconsidering baron and Kenny: Myths and truths about mediation analysis. *J. Consum. Res.* 37, 197–206. doi: 10.1086/651257