


# Teacher Attitudes and Perceived Preparedness Towards Inclusive Education in Kenya: We Are Somewhat Okay and Kind of Prepared

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## ABSTRACT

The effectiveness of inclusive instructional practices is influenced by teachers' attitudes and sense of preparedness. This study investigated educators' attitudes and perceived preparedness for inclusion. Participants were 1052 primary educators from Kenya. Participants completed questionnaires on attitudes about inclusion and preparedness for inclusion. Results indicated that educators held moderately positive attitudes about inclusion and felt somewhat ambivalent regarding their preparedness for inclusive pedagogy. Educators who felt prepared to engage inclusion held more positive attitudes about inclusion. Educators with degrees in special education, who had also taken more courses in special education, held more positive attitudes about inclusion and reported higher perceived preparedness. However, the majority reported limited knowledge about special education and opportunities for collaboration as significant barriers to inclusive practices. These findings suggest that increased educator training for inclusive education is needed and desired by primary school educators in Kenya.

## KEYWORDS

Barriers, Inclusive Education, Kenya, Preparedness, Primary School, Teacher Attitudes

## INTRODUCTION

Inclusive educational practices, which include the engagement of students with and without disabilities in the same classrooms (Aldabas, 2020), are gaining in popularity internationally and in Kenya. This gain in momentum is likely driven by potential benefits of inclusive educational practices, such as enhanced academic and social development, which have been demonstrated for students both with and without disabilities (Kefallinou et al., 2020). The benefits of inclusion are predicated upon its

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effective implementation, which is influenced by several factors, including teachers' attitudes and perceptions about inclusion and their perceived preparedness for teaching students with special needs (Avramidis & Kalyva, 2007). Teachers' general attitudes toward inclusion, their perceived self-efficacy for meeting challenges associated with inclusive classrooms, perceptions regarding the availability of support, and perceptions about the effectiveness of teacher training for inclusive education are all potentially impactful in working with students with special needs.

Over the last several decades of research, special education training (in-service or preservice) has been the most consistently supported influence on teachers' positive attitudes toward inclusion across a variety of contexts and cultures (Avramidis & Kalyva, 2007; Czyz, 2020; Loreman et al., 2013; Mngo & Mngo, 2018; Sharma et al., 2008). However, relatively little is known about Kenyan educators' general attitudes toward inclusive education or what influences them. Some recent research suggests Kenyan educators may hold positive attitudes overall (Odongo & Davidson, 2016; Mwarari, 2020); more research is needed to obtain a profile of support for these claims. Even more scarce in the literature is information regarding how adequately prepared educators in Kenya feel to engage inclusive education in their classrooms, which may impact their efforts to create inclusive classroom climates.

## **EDUCATORS' ATTITUDES ABOUT INCLUSIVE EDUCATION**

Positive attitudes about educating students with and without disabilities in general classrooms are critical for the success and effectiveness of inclusive educational practices (Nishan & Matzin, 2020; Maria, 2013; Miller et al., 2020). As understood from a human rights perspective, inclusive education entails a difficult, context-relevant, dynamic process that is bolstered by stakeholders' positive beliefs (Nishan & Matzin, 2020; Makoelle, 2020; Kefallinou et al., 2020). Specifically, teachers' positive attitudes about inclusion can aid in navigation of the challenges inherent in inclusive educational practice (Nishan & Matzin, 2020). Teachers' attitudes about inclusion are important to examine due to their potential impact on relationships with their students, an important influence on social and academic outcomes (Nishan & Matzin, 2020). Additionally, the importance of teachers' attitudes toward inclusive education can be understood through the expectancy-value theory of motivation (Eccles et al., 1983; Wigfield & Eccles, 2000) and Bandura's social cognitive framework (Bandura, 1986, 2001). Teachers' attitudes about inclusion, especially the value they place on inclusion, their expectations about its difficulty and success, and their self-efficacy and perceived preparedness may impact both the quantity and quality of effort they invest in inclusion in their schools and classrooms (Miller et al., 2020).

Recent research utilizing data from international samples reveal that teachers from various cultural contexts hold relatively positive attitudes about inclusive education. A quantitative study sampling 346 general classroom secondary educators in Cameroon, most of whom (roughly 82%) had no special education training, indicated that inclusive education is beneficial for students (Mngo & Mngo, 2018). In Italy, both special education and general classroom teachers across school levels hold positive attitudes about inclusive educational practices, although special education teachers are more willing to interact with students with disabilities (Arcangeli et al., 2020). Similar positive attitudes about the value of inclusive education have been evidenced in elementary teachers in Japan (Nagase et al., 2020) and preservice teachers in Bahrain (Almahdi & Bukamal, 2019). Attitudes about inclusive education vary culturally and are not always positive, however. Research with a sample of 416 educators (75 of whom had special education training) across Kazakhstan revealed neutral attitudes toward inclusion (Agavelyan et al., 2020).

In other contexts, attitudes about inclusion vary based upon the severity of disability. For example, a recent large-scale study (N = 1,456) with classroom teachers in Finland revealed that participants were less willing to accept hypothetical students with severe disabilities in their classrooms compared to students with mild disabilities (Saloviita, 2019). Reluctance to accept students with severe disabilities was related to their perception that such students would require extra work. Research across various

Kenyan contexts reveals generally positive attitudes about inclusive education. The majority of participants from a sample in central Kenya endorsed the notion that students with disabilities have the right to learn alongside students without disabilities and that inclusive education is beneficial for all students (Ohba & Malenya, 2020). However, positive attitudes about inclusion may be demonstrated primarily regarding disabilities perceived as mild, such as differences in emotional regulation (Mwarari, 2020). Like educators in other contexts, educators in Kenya may hold reservations and negative attitudes about inclusive education regarding physical and cognitive disabilities perceived as severe (Saloviita, 2019; Mwarari, 2020). Additionally, both special and general educators in Kenya may believe that teaching students with and without disabilities in a shared learning space is difficult (Ohba & Malenya, 2020). To change attitudes, you must identify what influences them. Notably, teachers' sense of preparedness is one of the factors that influence their attitude towards inclusive education (Avramidis & Kalyva, 2007; Avramidis & Norwich, 2002; Ohba & Malenya, 2020).

### **PERCEIVED PREPAREDNESS' IMPACT ON ATTITUDES ABOUT INCLUSIVE EDUCATION**

A critical teacher-related impact on attitudes about inclusive education is teaching experience (Aldabas, 2020; Arcangeli et al., 2020). Teaching experience has been correlated with positive attitudes about inclusive education in multiple cultural contexts (Albadas, 2020; Arcangeli et al., 2020) and is thought to enhance attitudes about inclusion through increased likelihood of interacting with students with disabilities and increased training (Czyz, 2020; Arcangeli et al., 2020; Avramidis & Kalyva, 2007; Avramidis & Norwich, 2002; Van Reusen et al., 2000). Increased training and interactions with students with disabilities may constitute mastery experiences that foster educators' sense of self-efficacy for implementing inclusive educational practices (Bandura, 1986, 2001). Consequently, teachers with more experience may feel more prepared for inclusive education.

Feeling prepared for inclusive education may be more important than actual preparedness, given the potential impacts of teacher self-efficacy (Ohba & Malenya, 2020; Tschannen-Moran & Woolfolk-Hoy, 2007). The importance of perceived preparedness may involve its influence on positive attitudes about inclusive education, which, as mentioned previously, can compound with other barriers or facilitators of inclusion. For example, teachers in Finland who felt inclusive teaching created extra workload held negative attitudes about inclusion; however, if they felt prepared with access to resources to alleviate the workload, they held more favourable attitudes about inclusive education (Saloviita, 2019). In a study of 158 elementary teachers in Japan, those who felt more competent in managing and teaching in inclusive classrooms held positive attitudes about inclusive education more generally (Nagase et al., 2020). These findings stand out from those emerging from other international contexts, where many educators report feeling favourable about inclusive education, but ill-prepared to implement it. In Bahrain, preservice teachers viewed inclusive education positively but also felt unprepared for it due to limited training and contact with students with disabilities (Almahdi & Bukamal, 2019). Similarly, general classroom teachers in Cameroon felt they were not adequately prepared for inclusive education and expressed discomfort engaging inclusive practices consequent to feeling unprepared (Mngo & Mngo, 2018). This discomfort was related to teachers' preference for segregated models of teaching students of various abilities (Mngo & Mngo, 2018). Even special education teachers, who are likely to have more training for inclusive pedagogy, have expressed simultaneous favourable attitudes about inclusion and a sense of ill-preparedness to implement strategies necessary for inclusion (Aldabas, 2020).

Similar conflicting sentiments have emerged in the Kenyan context. Odongo and Davidson (2016) investigated factors related to teachers' concerns about implementing inclusive educational practices. A sample of 142 primary school teachers across 10 Kenyan schools completed a modified version of the School and the Education of All Students Scale (SEAS), ratings of comfortability with various disabilities, a concerns scale, and demographic items related to their experience with special

education. Although teachers held generally positive attitudes about inclusion, they cited several concerns about its implementation, including poor training with diversity needs (84% of the sample). In a follow-up focus group, teachers' perceived unpreparedness was evidenced in the emergent theme of lack of appropriate training for special needs. Ohba and Malenya (2020) recently addressed the importance of educators' perceived preparedness for inclusion in Kenya, asserting that teachers who feel ill prepared may be reluctant to endorse inclusive educational practices as viable in their setting. Teachers' view of inclusion as ideal yet impossible may later influence more negative attitudes about inclusive education (Ohba & Malenya, 2020). Perceived preparedness may be especially important in contexts where inclusion is in its early stages, such as Kenya, due to the dynamic process inclusive education entails. In such cases, teachers' perceived preparedness for inclusive education may serve as a motivating factor to help navigate the challenges of implementing inclusive educational practices.

## **THE CURRENT STUDY**

From the literature review, it is clear that teacher attitude and sense of preparedness play a significant role in inclusive education. The current study aims to fill gaps in the literature by investigating the attitudes about inclusive education of primary school teachers in Kenya, especially as related to educator training and perceived preparedness to work with students with special needs. In building on previous research in Kenya (Odongo & Davidson, 2016) and in line with the consistent finding that educator training is related to attitudes about inclusive education (Aldabas, 2020; Avramidis & Kalyva, 2007; and others, as mentioned previously), this study aims to examine teachers' attitudes, perceived preparedness, and barriers to inclusive education in their classrooms in Kenya. This study seeks to answer the following questions:

- What are teachers' attitudes about inclusive education?
- Do teachers feel adequately prepared to engage inclusive education in their classrooms?
- What are teachers' perceptions of barriers to inclusive education in their classrooms?
- What teacher characteristics are associated with attitudes about inclusive education, preparation, and perception of barriers to inclusive education in their classrooms?

## **METHODS**

### **Participants**

The participants for the study consisted of 1,050 (664 female) primary school teachers, randomly selected from the Western Kenya region, ranging in age from 20 to 60 years ( $M = 40.86$ ). In line with Kenya's schooling system, the teachers worked at either single-sex boarding ( $N = 94$ ), mixed-sex boarding ( $N = 166$ ) or mixed-sex day ( $N = 786$ ) schools. This sample is representative of the Kenyan primary schools (MoE, 2018). Participants ranged in years of teaching experience from brand new teacher (0 years teaching) to 40 years teaching ( $M = 15.38$ ). Additionally, participants varied in educator type from "mainstream" classroom teacher to special education teacher to support teacher. Approximately half of the participants ( $n = 562$ ) had a specialised degree for special education at the diploma, bachelor's, or master's level. See Table 1 for details. Upon consent to participate, participants completed hardcopy questionnaires distributed by school affiliates.

### **Procedures**

Participation in the study was voluntary. Upon IRB approval (IRB# 1287450-3), participants were recruited through e-mails and phone calls. Thirty schools were randomly selected by drawing out names from a list of all ( $n = 120$ ) the area schools. E-mails and phone calls were made to all the teachers

Table 1. Frequencies for categorical independent variables

Variable	Frequency	Percent
<i>Gender</i>		
Male	386	36.7%
Female	664	63.1%
<i>School</i>		
Primary Mixed Day	786	74.7%
Primary Mixed Boarding	166	15.8%
Primary Boarding single sex	94	8.9%
<i>Highest education level</i>		
Primary education teacher	511	48.6%
Diploma in special education	154	14.6%
B.Ed. in special education	103	9.8%
B.Ed. Bachelor of education	141	13.4%
M.Ed. in special education	12	1.1%
Support teacher	15	1.4%
Other	107	10.2%
<i>Training</i>		
Developmental	279	26.5%
Emotional	398	37.8%
Learning	518	49.2%
Physical	402	38.2%
Speech	326	31.0%
Mental retardation	339	32.3%
Multiple	215	20.4%

from the selected schools. Teachers who responded affirmatively were sent a brief description of the purpose of the study and a consent form. After the consent was obtained, the questionnaires were physically delivered by one of the researchers to a volunteer teacher at each of the participating schools. The volunteer teacher then distributed the questionnaires to the teachers. Participants were given one week to complete the two anonymous questionnaires during their own free time. The questionnaires were administered in English. All the teachers' academic instruction, except for Kiswahili subject, is conducted in English; therefore, no language barrier was expected. Both questionnaires took approximately 25-30 minutes to complete. Upon completion, the questionnaires were returned to the volunteer teacher who then delivered them to one of the researchers.

## Instrumentation

### *Demographic Items*

Demographic items included age, educator type, teaching experience, school type, and educational background, including the number of courses taken relevant to special education (see Table 1 for details).

### *Preparedness for Inclusion*

Four items were designed for this study to assess educators' perceptions of preparedness for inclusion (e.g., "My educational training has helped me meet the daily challenges in my classroom related to students with special needs"). Responses for these Likert-style items ranged from 1 (Strongly Disagree) to 5 (Strongly Agree). This measure demonstrated acceptable reliability ( $\alpha = .89$ ). Additionally, 4 items (limited knowledge, lack of experience with inclusion, limited collaboration, and teachers' attitudes) were adapted from Stoiber et al. (1998) to explore perceived barriers to inclusive education practices. Possible responses ranged from 1 (Does Not Interfere at All) to 4 (Extreme Interference).

### *Attitudes About Inclusion*

To assess teachers' general attitudes about inclusion, the My Thinking About Inclusion (MTAI) scale (Stoiber, Gettinger, & Goetz, 1998) was used ( $\alpha = .91$ ). The original MTAI includes 28 Likert-style items (5-point scales) across three subscales: Core Perspectives (e.g., "Children with special needs should be given every opportunity to function in an inclusive classroom"), Expected Outcomes (e.g., "Inclusion is socially advantageous for children with special needs"), and Classroom Practices (e.g., "A good approach to managing inclusive classrooms is to have a special education teacher be responsible for instructing the children with special needs"). For the current study, the structure of these subscales was maintained; however, a total of eight items were omitted due to inapplicability to the Kenyan context. The adapted measure demonstrated acceptable reliability ( $\alpha = .81$ ).

### **Content Validity Assessment**

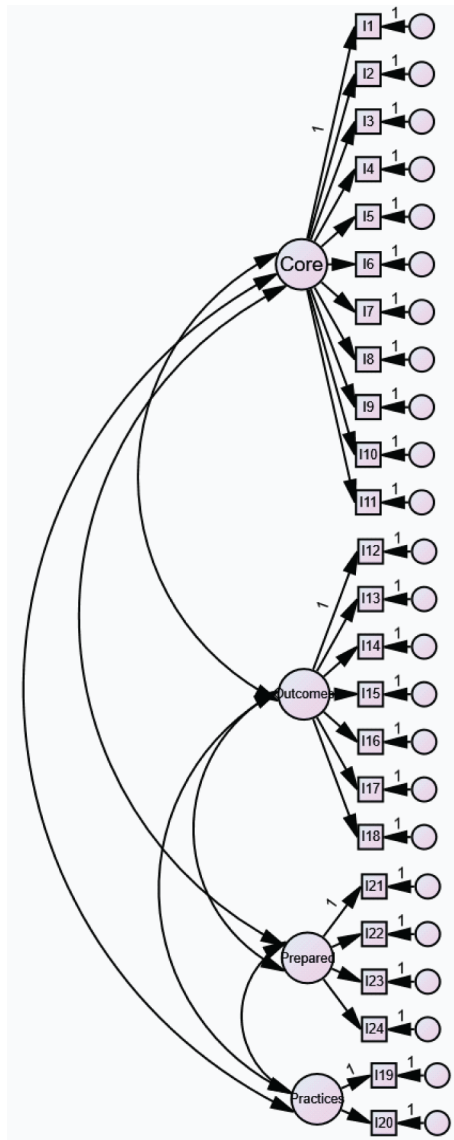
Given that the original MTAI was adapted for use in the Kenyan context, it was necessary to investigate content validity evidence before its use in the field. In addition, because the items regarding preparedness for inclusion were newly developed for this study, content validity evidence also need to be examined. Therefore, prior to sending out the questionnaires to the participating teachers, the two measures were sent to a separate set of volunteer veteran teachers from four primary schools (two from each school) in Western Kenya, to seek professional opinion on the cultural relevancy and comprehension of the items. The eight teachers were recruited via e-mail and personal phone calls. Several words were replaced with appropriate synonyms to ensure adequate understanding across cultures. This procedure of using expert review for assessing content validity evidence was drawn from the measurement literature (e.g., Bandalos, 2018; Slaney, 2017).

### **Data Analysis**

A variety of data analytic techniques was used to address the research questions for this study. First, in order to assess the construct validity evidence of the MTAI, confirmatory factor analysis was used to determine whether the hypothesized latent structure underlying the scale was supported by the data. This approach for developing validity evidence is recommended in the literature (Furr, 2018; Banalos, 2018; Slaney, 2017; Haladayna & Rodriguez, 2013). Two confirmatory factor analysis (CFA) models were assessed, one conforming to Figure 1 in which there were four individual traits associated with teachers attitudes and experiences vis-à-vis inclusive education. The second model included all of the items in a single factor (Figure 2) measuring a general inclusive education factor.

The models were fit using the maximum likelihood estimator and were compared using the Akaike Information Criterion (AIC), and the sample size adjusted Bayesian Information Criterion (sBIC), with lower values indicating a better fitting model. Overall fit of the models was assessed using standard fit statistics and interpretive guidelines indicating good fit (Kline, 2016) including RMSEA (), CFI (), TLI (), and SRMR (). Relationships among the latent traits were assessed using correlations estimated in conjunction with the CFA. Finally, in order to assess the relationships between selected demographic variables and the latent traits, the multiple indicators multiple causes (MIMIC) model was used. The MIMIC model treated the factors as dependent variables and the

Figure 1. 4-factor model for inclusive education attitude model



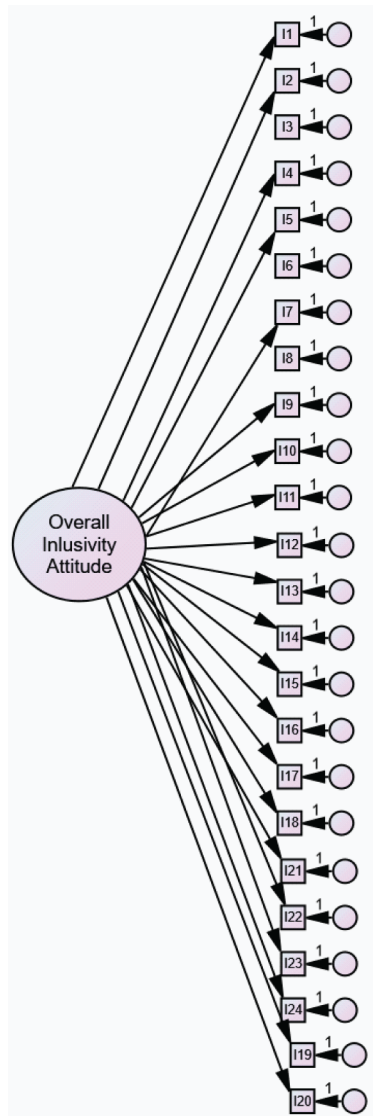
observed demographic variables as the independent variables. The MIMIC model, which appears in Figure 3, was fit using the maximum likelihood estimator.

## RESULTS

### Confirmatory Factor Analysis

Prior to fitting the MIMIC model described in the methods, a confirmatory factor measurement model was fit to the data to ensure that the hypothesized latent structure fit the data. Two models were fit to the data, the first involving separate factors for Core Perspectives, Expected Outcomes, Classroom Practices, and Preparedness, as well as Barriers and Information. The alternative model

Figure 2. 1-factor model for inclusive education attitude model



assumed that the items comprising Core Perspectives, Expected Outcomes, Classroom Practices, and Preparedness were associated with a single factor reflecting overall attitude toward inclusive education. Fit statistics for each of these models appear in Table 2. These results show that the model with 4 separate factors provided better fit than did the single-factor model, given that its AIC and sBIC were lower than for the single-factor model. Furthermore, the 4-factor model yielded good fit, based on commonly used interpretation guidelines presented in Kline (2016). Therefore, further analyses will focus on the 4-factor model.

The factor loadings and Cronbach's  $\alpha$  reliability statistic appear in Table 3. For the 4-factor model,  $\alpha$  ranged between 0.66 and 0.88, providing evidence for scale reliability. Furthermore, the reliability estimates for the Barriers and Information scale were 0.81 and 0.93, respectively, providing reliability evidence for them as well. The standardised factor loadings and standard errors for the



Figure 3. MIMIC model relating inclusivity, barriers, and information with demographic and experience variables

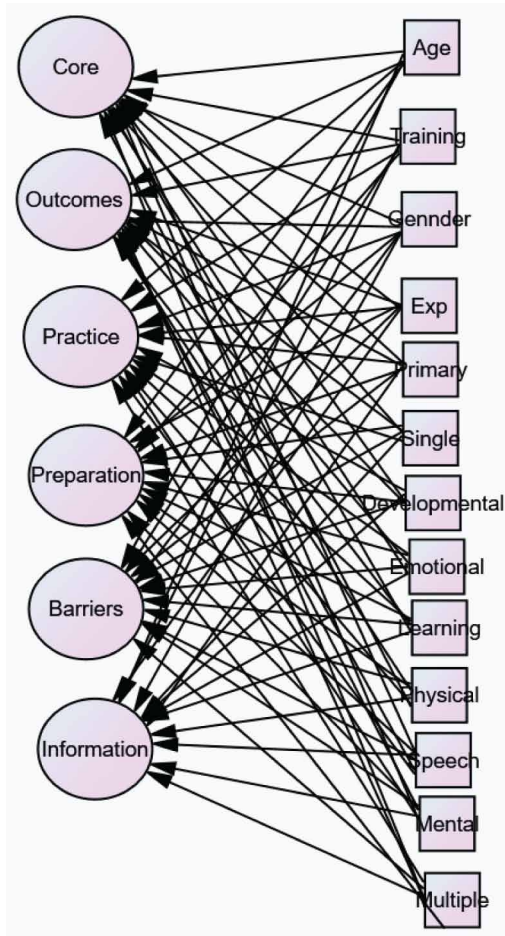


Table 2. Model fit indices

Model	Chi-Square/Degrees of Freedom	RMSEA	CFI	TLI	SRMR	AIC	sBIC
4 factors	4554.945/955	0.060 (0.058, 0.062)	0.916	0.906	0.057	120125.5	120387.5
1 factor	17458.68/946	0.077 (0.075, 0.078)	0.664	0.646	0.081	121860.6	122101.2

individual items (Table 3) were all 0.5 or larger, except for two items in the Core Perspectives scale. In addition, the standard errors were uniformly below 0.04. Taken together, these factor analysis results suggest that the factors hold together well with respect to the item groupings.

Table 4 contains the correlations among the latent variables. Based on these results, it appears that Core Perspectives (more positive attitudes to inclusive classrooms), Expected Outcomes (more positive outcomes for kids in inclusive classrooms), Preparedness (teachers feel prepared to work in inclusive classrooms), Barriers (greater interference from the various sources), and Information

Table 3. Standardised factor loadings, standard errors, and Cronbach's  $\alpha$  for latent traits

Item	Loading	Standard Error
Core $\alpha=0.71$		
Students with special needs have the right to be educated in the same classroom as typically developing students.	0.542	0.024
Children with special needs should be given every opportunity to function in an integrated classroom.	0.717	0.021
Inclusion can be beneficial for parents of children with special needs.	0.713	0.020
Parents of children with special needs prefer to have their child placed in an inclusive classroom setting.	0.449	0.025
The best way to begin educating children in inclusive settings is to just do it.	0.468	0.026
Most children with special needs are well behaved in integrated education classrooms.	0.540	0.026
It is feasible to teach children with average abilities and special needs in the same classroom.	0.585	0.025
Outcomes $\alpha=0.66$		
Inclusion is socially advantageous for children with special needs.	0.670	0.022
The presence of children with special needs promotes acceptance of individual differences on the part of typically developing students.	0.772	0.020
Inclusion promotes self-esteem among children with special needs.	0.792	0.019
The challenge of a regular education classroom promotes academic growth among children with special needs.	0.500	0.028
Practice $\alpha=0.69$		
The behaviours of students with special needs require significantly more teacher-directed attention than those of typically developing children.	0.680	0.034
A good approach to managing inclusive classrooms is to have a special education teacher be responsible for instructing the children with special needs.	0.641	0.035
Preparation $\alpha=0.88$		
My educational training adequately prepared me for inclusive education.	0.816	0.014
My educational training has helped me meet the daily challenges in my classroom related to students with special needs.	0.836	0.012
During my educational training, I was made aware of resources available to help me manage a classroom that incorporates students with special needs.	0.897	0.010
Because of my educational training, I feel confident that I can handle challenges related to inclusive education.	0.886	0.011
Barriers $\alpha=0.81$		
Insufficient support from school/district	0.632	0.023
Lack of experience with inclusion	0.669	0.024
Limited knowledge about special education	0.631	0.021
Limited opportunities for collaboration	0.579	0.024
Limited time	0.671	0.022

continued on following page

Table 3. Continued

Item	Loading	Standard Error
Parents' attitudes	0.747	0.020
Teachers' attitudes	0.678	0.021
Other commitments (name them)	0.540	0.028
Information $\alpha=0.93$		
Blind/Visual Impairment	0.857	0.010
Deaf/Hearing Impairment	0.835	0.010
Deaf/blindness	0.862	0.012
Developmental Delay	0.829	0.011
Emotional Disturbance	0.822	0.011
Learning Disabilities	0.744	0.014
Physical Disabilities	0.737	0.015
Traumatic Brain Injury	0.765	0.015
Speech/Language Delay	0.800	0.013
Mental Retardation	0.872	0.009
Autism	0.857	0.010
Multiple Conditions	0.881	0.010

Table 4. Correlations among latent traits

	Core	Outcomes	Practice	Preparation	Barriers	Information
Core	1					
Outcomes	0.777*					
Practice	-0.264*	-0.437*				
Preparation	0.486*	0.478*	-0.248*	1		
Barriers	0.371*	0.317*	-0.398*	0.324*	1	
Information	0.412*	0.240*	-0.037	0.501*	0.283*	1

(teachers had more information for specific disability types) scores were all positively correlated with one another. In contrast, higher levels on the Classroom Practices factor (inclusive classrooms require more work/personnel) were negatively associated with those on the other factors. Taken together, these results demonstrate strong evidence for the internal structure validity and reliability of the scales used in this study.

**Research Question 1: What Are Teachers' Attitudes About Inclusive Education?**

The means, standard deviations, and minimum and maximum values for the teacher attitude scale scores appear in Table 5. These results suggest that the average respondent had generally neutral attitudes toward inclusive education regarding core perspectives ( $M=3.02$ ) and expected outcomes ( $M=3.20$ ). Finally, on average, respondents did not agree that inclusive education practice required more teacher attention or a devoted special education instructor.

**Table 5. Means, standard deviations, minima, and maxima for demographics and inclusive education scale scores**

Variable	Mean	Standard Deviation	Minimum	Maximum
Age	40.86	17.49	20	60
Years of experience	15.38	9.37	0	40
Special education courses	1.81	4.67	0	11
Core perspectives	3.02	0.46	0	4.91
Expected outcomes	3.20	0.56	0	4.86
Classroom practices	1.96	0.86	0	5.00
Preparation	3.44	1.14	0	5.00
Barriers	2.85	0.56	1	4.00

**Research Question 2: Do Teachers Feel Adequately Prepared to Engage Inclusive Education in Their Classrooms?**

The mean score for preparation was slightly above the neutral level (M=3.44), but below agree, suggesting that respondents did not feel particularly well prepared for inclusive education (Table 5). Table 6 includes the means, standard deviations, minima, and maxima for individual preparation items and indicate that this general neutral attitude toward their overall preparation was reflected in each of the individual preparation facets. More specifically, teachers were neutral to slightly positive that their training prepared them for inclusive education (M=3.30), that it helped them meet daily challenges of students with special needs (M=3.62), that it made them aware of available resources for incorporating students with special needs (M=3.53), and that they felt confident in their ability to handle challenges related to inclusive education (M=3.41).

With respect to specific disabilities (Table 7), respondents felt somewhat prepared on average. They felt most prepared for working with students who have learning disabilities (M=2.45), physical disabilities (M=2.37), and emotional disturbance (M=2.29). They felt the least prepared for deaf and blind students, those suffering a traumatic brain injury, individuals with autism, mental retardation, or multiple conditions. It should be emphasized, however, that for none of the conditions did the teachers feel more than somewhat prepared on average.

**Table 6. Means, standard deviations, minima, and maxima for preparation scale items**

Item	Mean	Standard Deviation	Minimum	Maximum
My educational training adequately prepared me for inclusive education.	3.30	1.27	1	5
My educational training has helped me meet the daily challenges in my classroom related to students with special needs.	3.62	1.12	1	5
During my educational training, I was made aware of resources available to help me manage a classroom that incorporates students with special needs.	3.53	1.18	1	5
Because of my educational training, I feel confident that I can handle challenges related to inclusive education.	3.41	1.27	1	5

**Table 7. Means, standard deviations, minima, and maxima for preparation by individual disability**

Variable	Mean	Standard Deviation	Minimum	Maximum
Blind/Visual	1.71	0.92	0	4
Deaf/Hearing	1.78	0.939	0	4
Deaf/blindness	1.61	0.91	0	4
Developmental delay	2.16	0.87	0	4
Emotional disturbance	2.29	0.96	0	4
Learning disabilities	2.45	0.93	0	4
Physical disabilities	2.37	0.99	0	4
Traumatic brain injury	1.78	0.95	0	4
Speech/language delay	2.10	0.97	0	4
Mental retardation	1.90	0.97	0	4
Autism	1.86	0.96	0	4
Multiple conditions	1.79	0.99	0	4

***Research Question 3: What Are Teachers’ Perceptions of Barriers to Inclusive Education in Their Classrooms?***

Table 8 includes the means, standard deviations, minima, and maxima for the individual barriers’ items. Teachers saw each of the barriers as interfering significantly, with means just below 3. Parental attitudes were rated as the most significant barrier (M=3.00), with the other barriers having means ranging between 2.77 and 2.93. The mean for the barriers scale score was 2.85 (Table 5), further indicating that teachers viewed the barriers as interfering significantly with their use of inclusion practices in the classroom.

***Research Question 4: What Teacher Characteristics Are Associated With Attitudes About Inclusive Education, Preparation, and Perception of Barriers to Inclusive Education in Their Classrooms?***

As described in the methods section, a MIMIC model was used to estimate relationships between teachers’ demographic characteristics, prior education and training, and the latent variables. In this

**Table 8. Means, standard deviations, minima, and maxima for individual barriers**

Variable	Mean	Standard Deviation	Minimum	Maximum
Insufficient support from school/district	2.84	0.89	1	4
Lack of experience with inclusion	2.93	0.83	1	4
Limited knowledge about special education	2.92	0.84	1	4
Limited opportunities for collaboration	2.79	0.84	1	4
Limited time	2.79	0.86	1	4
Parents’ attitudes	3.00	0.88	1	4
Teachers’ attitudes	2.78	0.91	1	4
Other commitments	2.77	0.91	1	4

model, the latent traits are the dependent variables, and the demographic and training variables are the independent variables in much the same structure as a multivariate multiple regression model. In this case, however, the latent variables are estimated in the context of confirmatory factor analysis, rather than being calculated as observed scores. This approach was used because it allows for more accurate estimation of the scales and their associated errors (Kline, 2016). The MIMIC model coefficients, standard errors, and an indication of statistical significance appear in Table 9.

Based on these results, it appears that individuals with more training, who teach in a primary single-sex boarding institution, and who have had training in speech disabilities have higher scores on the Core Perspectives factor. In other words, these individuals were more positively disposed to inclusive classrooms. Similarly, those with more training, and with training in Speech also believed that there were more positive outcomes for students in inclusionary classrooms (Expected Outcomes). Those having received Speech disability training were less likely to believe that inclusionary classrooms required more work (Classroom Practices). Higher levels of preparation for working in an inclusive classroom were associated with more training, working in a boarding school, and specific training in developmental, emotional, and multiple disabilities. Participants with more training saw more barriers present in implementing an inclusive classroom, and those with more training, working in boarding schools, and with specific training in speech, mental, and multiple disabilities felt that they had more information for working with students with specific disabilities.

**Table 9. MIMIC model coefficients linking predictors to factors**

Variable	Core	Outcomes	Practice	Preparation	Barriers	Information
Age	0.003 (0.002)	0.002 (0.002)	0.001 (0.004)	0.000 (0.003)	0.001 (0.003)	-0.001 (0.004)
Training	0.010 (0.004)*	0.014 (0.006)*	0.009 (0.007)	0.025 (0.007)*	0.011 (0.005)*	0.022 (0.006)*
Gender	-0.021 (0.040)	-0.093 (0.050)	0.076 (0.062)	0.003 (0.056)	0.081 (0.044)	0.087 (0.055)
Experience	-0.004 (0.003)	0.002 (0.003)	0.001 (0.005)	-0.002 (0.004)	-0.004 (0.003)	-0.002 (0.004)
Primary	-0.029 (0.056)	0.033 (0.071)	-0.005 (0.086)	0.297 (0.078)*	-0.040 (0.057)	0.244 (0.070)*
Primary single	0.171 (0.071)*	0.072 (0.072)	-0.011 (0.099)	0.229 (0.093)*	0.131 (0.072)	0.222 (0.093)*
Developmental	-0.067 (0.061)	0.020 (0.074)	-0.013 (0.093)	-0.204 (0.082)*	0.076 (0.061)	-0.141 (0.086)
Emotional	0.042 (0.056)	0.025 (0.067)	0.055 (0.086)	0.174 (0.079)*	0.055 (0.059)	0.029 (0.074)
Learning	0.074 (0.046)	0.086 (0.061)	-0.116 (0.075)	0.090 (0.064)	-0.091 (0.054)	-0.038 (0.066)
Physical	0.004 (0.056)	-0.008 (0.073)	0.062 (0.089)	0.088 (0.078)	0.069 (0.061)	0.075 (0.076)
Speech	0.105 (0.054)*	0.153 (0.070)*	-0.224 (0.083)*	0.133 (0.076)	0.012 (0.059)	0.251 (0.078)*
Mental	0.018 (0.060)	-0.017 (0.077)	0.075 (0.093)	0.139 (0.082)	0.107 (0.060)	0.192 (0.080)*
Multiple	0.047 (0.043)	0.070 (0.065)	-0.153 (0.083)	0.192 (0.066)*	0.020 (0.052)	0.195 (0.061)*

## DISCUSSION

Overall, the educators in this study had neutral attitudes towards inclusion and felt somewhat prepared for inclusive education, which was reflected in the relatively moderate MTAI scores. However, teachers with more training in special education, those in a boarding school, and those trained in speech disabilities had more positive attitudes towards inclusive education. These findings align with previous research citing relatively positive attitudes toward inclusive education in Kenya (Mwarari, 2020; Odongo & Davidson, 2016); however, low-positive scores may warrant further research and/or intervention to increase positivity toward that of full inclusion. In addition, the low-positive scores reported above may also reflect feelings of being ill-prepared to effectively engage inclusive pedagogy in the classroom. Previous research has indicated a relationship between teachers' attitudes toward and perceived confidence in engaging with inclusive educational practices (Aldabas, 2020; Arcangeli et al., 2019; Knackstedt et al., 2018; Mngo & Mngo, 2018).

As expected, those educators with more training in special education, specifically, those with training in speech, developmental delay, and emotional disturbance, reported increased preparedness for engaging inclusive educational practices in their classrooms, perhaps due to the impact of their specialised training, and their willingness to seek out continuing education. Nonetheless, the broader sample reported being undecided and/or having feelings of being somewhat prepared. This ambivalence toward preparedness for inclusive education aligns with findings from Odongo and Davidson (2016), whose qualitative inquiries provided preliminary evidence that educators in Kenya perceive a need for—and want—increased training for special education. This need is further supported by the very small number of special education courses educators in the current study reported taking during their educator training.

Educators' perceived preparedness for incorporating inclusive educational practices into their teaching was a significant predictor of positive attitudes toward inclusion, beyond the impact of demographic variables such as educator age, length of time teaching, and gender. In other words, regardless of these demographic variables, educators who felt more prepared to engage inclusive educational methods also tended to hold more positive attitudes toward inclusive education overall. These findings align with those found in a variety of cultures and contexts, which supports special education training as a means to impact educators' positive attitudes toward inclusion (Cyz, 2020; Loreman et al., 2013; Mngo & Mngo, 2018; Mwarari, 2020; Sharma et al., 2008; Sharma et al., 2006; Nagase et al., 2020).

Educators in the present study identified multiple barriers to inclusive education. Limited knowledge of inclusive educational methods was perceived as a barrier to engaging inclusion in their classrooms. Also, limited opportunities for fostering training in inclusive education, such as educator collaboration and professional experience with inclusion, were perceived as significant barriers to inclusive education. Furthermore, educators perceived parents' attitudes as a significant barrier to inclusive education. This finding warrants further investigation since parental beliefs about inclusion is critical to the implementation of inclusive education (Makoelle, 2020; Stoiber et al., 1998). Further investigation is also supported by the limitations of the current study.

### Limitations of the Study

Prior to discussing the implications of the study findings, limitations of the study should be addressed. Although the use of a questionnaire to assess teachers' attitudes and sense of preparedness provided critical quantitative findings, it did not fully capture the complexity of attitudes about inclusive education. Triangulation of data collection methods, including classroom observations and interviews/focus groups, need to be used in future research. This could shed light on some of the findings, such as the reasons why teachers rated parents' attitudes as a significant barrier to inclusion.

## Implications of the Current Study Findings

The study findings have implications for teacher educators. Taken together, they suggest that increased educator training for inclusive education is needed across a variety of school types and educational careers in Kenya. Training programs for primary-level educators may be especially needed, as they may be the first educators to engage children with disabilities. Even simple in-service training for inclusive education may be impactful, given the findings herein that any level of specialization in special education was related to positive attitudes and increased perceived preparedness. In-service training may be best engaged via intervention, such that the most effective practices can be identified (Agavelyan et al., 2020; Almahdi & Bukamal, 2019; Carew et al., 2019). Additionally, targeted training in speech disability is warranted as teachers who had training in speech disability had more positive attitudes and increased sense of preparedness for inclusion. This is supported by prior research that found training in speech disability increased positive attitudes towards inclusive education (Knackstedt et al., 2018). Finally, attention needs to be paid to teachers in day schools; compared to those in boarding schools, these teachers had less positive attitudes and felt less prepared for inclusive education. This could be partly due to the inequity in resources, as those in boarding schools tend to have more resources.

## Future Directions

The findings, limitations, and multifaceted implications of this study illuminate possible paths forward in fostering inclusive classrooms across Kenya and beyond. These future paths span the contexts of higher education, educator professional development, and public policy. Recommended actions and specific strategies for future research are provided below.

### *Recommendations*

The Kenyan Ministry of Education (MOE) described several tasks toward inclusive and equitable education in a 2018 policy that includes a goal of standardized national requirements for pre-service educator training. That goal has not been met in practice, but it is unclear whether it has been met even at the policy level. Therefore, an important recommendation based on the findings of this research is a clear public policy from the MOE detailing requirements for training for inclusive education. These requirements should include courses on special education for all pre-service teachers, ideally with a service component to support authentic learning, and more courses for primary level/day school pre-service teachers. Additionally, the MOE should detail and implement regular, required in-service training for current educators' professional development. Based on the current findings, in-service training should provide opportunities for professional collaboration and authentic or experiential learning through service.

### *Continued Research*

In-service training toward inclusive education can be engaged via intervention studies to monitor progress and identify best practices. Other research should employ mixed-methods designs to gain a comprehensive perspective of both in-service and pre-service teachers' attitudes and perceived preparedness for inclusive education. Research employing focus groups or other means for collecting qualitative data may provide further insight into perceived barriers to inclusive education.

## CONCLUSION

Current research provides sufficient evidence to suggest that educators in Kenya not only recognise the need for more training in inclusive education, but also desire increased training. The findings of the current study add to this evidence by illuminating primary educators' positive attitudes but moderate perceived preparedness for inclusive education. Enhancing educators' training with more



courses and content relevant to inclusive education, along with practical opportunities to engage inclusive pedagogical methods, when possible, may serve to bolster positive attitudes toward inclusion overall. In turn, positive attitudes toward inclusion may foster increased opportunities for inclusive pedagogy to emerge and better success with inclusive education overall, thereby fulfilling goals toward equitable education.

### **COMPETING INTERESTS**

The authors of this publication declare there are no competing interests.

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