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Factors facilitating inclusion of students with intellectual disabilities in extracurricular activities in school: Saudi teachers' views

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Abstract

Extracurricular activities play a pivotal role in the academic development of children and quality of life, including students with intellectual disabilities. However, the participation of disabled children in extracurricular activities has been mostly restricted. This study aims to investigate understand the various contextual factors such as institutional support, interpersonal and family factors, and student readiness related factors impacting meaningful participation of students with intellectual disabilities from the perspectives of the teachers from Saudi Arabia. Along with this, the role of teachers' attitude and teachers' efficacy in this framework was also be evaluated through this study. A quantitative, cross-sectional survey design following a positivistic research philosophy was employed and a questionnaire was developed. This questionnaire was sent to 320 randomly selected educators from various regions of Saudi Arabia. The obtained data was analyzed using partial least squares structural modelling to test the developed hypotheses. The direct effect of institutional support, parental and peer support, and student related intrinsic factors on meaningful participation of disabled students was statistically significant. Moreover, teachers' attitude was found to positively mediate the above relationships. Further, teachers' efficacy was observed to moderate the effect of teachers' attitude towards inclusion on meaningful participation. The findings of the study showed there is an interconnection between systemic, relational, individual, and teacher level factors. All these factors tend to facilitate the students to participate in extracurricular activities as a part of inclusive education. This study promotes holistic inclusive education for intellectually disabled children, which can be attained through supportive institutional infrastructure, better interpersonal and family dynamics and better understanding of intrinsic student factors.

Keywords: Extracurricular activities, Inclusive education, Intellectual disability, Teachers' attitude, Teachers' efficacy.

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1. Introduction

Educational institutions frequently provide various voluntary, non-academic initiatives during non-instructional hours, allowing students to actively pursue group hobbies and develop interpersonal connections based on shared interests [1, 2]. Apart from sports or fitness-related activities, campus associations, civic engagement, leadership roles, professional training, and diverse involvement opportunities include special events or interests, performing arts, cheer leading, etc [1]. The importance of these extracurricular activities for social skill, emotional, character, and academic development of students, especially those with disabilities has been well documented [2-4]. Yet, disabled children mostly have restricted "meaningful participation in the community" [5]. More so, students with intellectual disability tend to have lower and lesser participation than their peers [3]. To improve their quality of life and well-being along with their self-esteem, inclusive education practices are imperative for such students [5]. At the core level, inclusive education has been broadly described as the practice of all students learning together in regular educational settings, regardless of their abilities [6]. Internationally, inclusive education has been defined as the type of education system where students with disabilities learn side-by-side with same age peers in general classrooms [7]. "United Nations Educational, Scientific, and Cultural Organization" (UNESCO)'s "landmark" policy on inclusive education [8] the "Salamanca Statement and Framework for Action on Special Needs Education" [9] mandates that all the students regardless of physical, social and intellectual differences have to be accommodated in regular schools [10]. UNESCO provides guidelines for inclusion and defines inclusive education as an ongoing effort to meet diverse needs of students by maximizing classroom engagement and eliminating systemic barriers [11]. Thus, inclusive education can be considered as an intricate and evolving notion [1, 8] which has shifted "pedagogical paradigms" from a "rights-based ideology to a measurable educational goal" [12]. The focus should be on improving "educational quality" instead of "academic placement" [5]. Positive outcomes of employing inclusive education includes increased psychological support, enhanced competency in language and social activities. There lies a fat chance of facing decreased levels of discrimination and attaining more acceptability in the society.

Several facilitators as well as barriers that influence inclusion of learners with cognitive impairments in participating in physical activities have been identified [2, 13-16]. Facilitators include family, school and peer support mechanisms through academic assistance, emotional reassurance, social inclusion; professional development through dialogic professional learning, inclusive teaching strategies, teamwork, and structural solutions [7, 17]. The key barriers to implementation can be broadly categorized based on educational and institutional, teacher-related, societal and familial, and functional and technical aspects [2]. In public schools from Saudi Arabia, the issues for its inaccessibility ranged from insufficient number of caregivers per child, high turnover rates, unsuitable school hours, inadequate teachers' training, transportation issues, lack of experienced and qualified educators, negative attitude towards disability, questionable quality of care, unable to meet needs of the students, costly tuition, unsuitable school atmosphere, lack of school readiness, building inaccessibility, and absence of proper medical facilities in the school premises [5, 18]. Along with this, inflexible curricula, absence of basic accessibility features such as ramps, elevators, and sensory rooms are also some of the common challenges [7, 19]. There is also a documented shortage of application of "assistive technology" and classroom aides, required to augment the inclusive practices [16, 17]. Moreover, the large class strength and demanding workloads create "additional pressure", making it difficult for the educators to provide the necessary individual attention students with disabilities [18].

Coming to the Saudi Arabian context, the Ministry of Education in Saudi Arabia have enforced several policies and regulations for the integration of disabled students with mainstream student population since the 1990s [5, 17]. Due to this, there has been a substantial increase in the integration of disabled students in mainstream schools [20]. However, the practice that is mostly followed is partial inclusion where students with impairments are seated in self-contained classrooms within regular school buildings [21]. In this case, the interaction with typical peers is restricted to non-academic times such as lunch times and morning assemblies [19]. Full inclusion refers to students learning directly in mainstream classrooms, which is rare for learners with significant intellectual impairments [22]. To elevate the overall wellbeing of such students, there is an urgent need of improvement in these areas.

Even though there are several studies navigating the facilitators and barriers of inclusive education [5, 12] most of them are either qualitative in research design or do not evaluate the aspects of genuine engagement of learners with cognitive impairments towards extracurricular activities. This clearly indicates a big gap in research in this area. Based on this, this paper intends to address this lacuna as it investigates the effect of contextual elements including institutional support, interpersonal and family factors, and student readiness related factors on getting meaningful participation in extracurricular

activities by learners with cognitive impairments. Along with this, the effect of teachers' attitude and teachers' efficacy on this relational framework was also be evaluated through this study. Overall, this study empirically contributes in providing a comprehensive framework for improving participation of children with disability in extracurricular activities by addressing the following research question:

What are the factors impacting the meaningful participation of student with intellectual disabilities in extracurricular activities?

2. Conceptual Framework and Hypotheses Formulation

A conceptual framework Figure was developed to understand the flow of relationships between various contextual factors acting as facilitators or barriers of implementation of inclusive education. These have been elaborated in detail below.

2.1. Impact Of Institutional Support, Interpersonal and Family Factors, and Student Factors on Meaningful Participation of Students with Cognitive Impairments in Extracurricular Activities

Participation of disabled students in events other than academics stands as one of the indispensable elements of inclusive education [20]. Therefore, this has been considered as the final outcome for this study.

From the educator's perspective, the institutional support required for extracurricular activities impacting the students with intellectual disability comprises of presence of leadership and policies, school structures, available resources, along with policies and regulations [18, 23]. The presence of these provides real opportunities to these students to join these activities instead of being left out [24].

Next comes interpersonal and family factors, this study focuses on parent collaboration and support along with peer attitudes and social opportunities [2, 14-16, 23]. Parents are instrumental in making children to participate in extracurricular activities, where they activate encourage children, facilitate transportation, and speak positively [14, 25]. However, it is highly concerning to find low parental involvement in people raising children with disability in Saudi Arabia [26]. The parental participation typically depends upon multiple parental factors including their sociodemographic aspects and beliefs [5, 27]. Along with this, positive peer attitude acts as a necessary antecedent for social and educational inclusion [28].

Lastly, student's intrinsic factors such as their perceived ability, behavior, and motivation together act as crucial predictors of participation in extracurricular activities [1, 14]. Students who perceive themselves as capable, can manage their time, and are interested are most likely to participate frequently and actively.

Based on the above, the impact of all these three factors on the meaningful participation of disabled Saudi students in extracurricular activities was tested through the first hypothesis of the study.

"H_1: Contextual factors such as institutional support, interpersonal and family factors, and student factors significantly influence meaningful participation of students with intellectual disabilities in extracurricular activities."

2.2. Mediating Role of Teachers' Attitude Regarding Inclusive Education

Teachers' attitude regarding inclusive education can be defined as the "beliefs, feelings, and intentions towards an inclusive policy" [29]. It can be either favorable or unfavorable depending upon the educator's philosophy, practices, social inclusion, and support [6, 8, 30]. The attitude of the educator decides the intention to promote participation of students [20]. It can be considered as the key factor in the accomplishment of inclusive education and determines that the learners are invited, supported, and actively included [8, 21].

Institutional support has been found have a positive effect on teachers' attitude and beliefs with respect to inclusion and their confidence to include learners with impairments [12, 19, 31]. Similarly, peer attitudes, social support, and parental engagement are known to predict teachers' attitude [29, 32]. Parental encouragement, advocacy, and communication affect the viewpoint of the teachers towards inclusion [2]. Along with this, student intrinsic factors including their functional and social abilities strongly affect teachers' attitudes towards including the disabled children [3]. The above evidence validates that institutional, family, students' intrinsic factors shape teachers' attitude, which in turn influences participation and inclusion of the disabled students in extracurricular activities. Therefore, the second hypothesis tests the arbitrating role of teachers' attitude in this aspect.

"H_2: Teacher's attitude to inclusion mediates the impact of institutional support, interpersonal and family factors, and student factors on meaningful participation of students with of students with intellectual disabilities in extracurricular activities."

2.3. Moderating Role of Teachers' Efficacy for Inclusive Practices

Teacher's self- efficacy has been defined as "the subjective belief regarding an educator's capacity to drive academic success, irrespective of systemic hurdles or classroom adversities" Sahli Lozano, et al. [33]. Alkeraida [20] reports a high level of teaching efficacy among educators from primary schools of Saudi Arabia. Studies have shown that a positive association between teachers' efficacy and their attitude [6, 34] along with attitude predicting efficacy [35]. It has also been suggested that for inclusive education to succeed, there is a need of high self-efficacy among teachers [18]. Further, self-efficacy was also found to be critical for students with disability that influenced many student outcomes such as participation in physical activity [14] student engagement [36] as well as academic achievement [37]. Since there is no strong evidence yet that teachers' efficacy for inclusive practices affects the strength of teachers' attitude on students' meaningful participation in extracurricular activities, an exploratory hypothesis investigating the moderation of teachers' efficacy has been suggested as the third and final hypotheses for this study.

"H_3: Teacher's efficacy for inclusive practices has a moderating role on the impact of teacher's attitude to inclusion on meaningful participation in extracurricular activities."

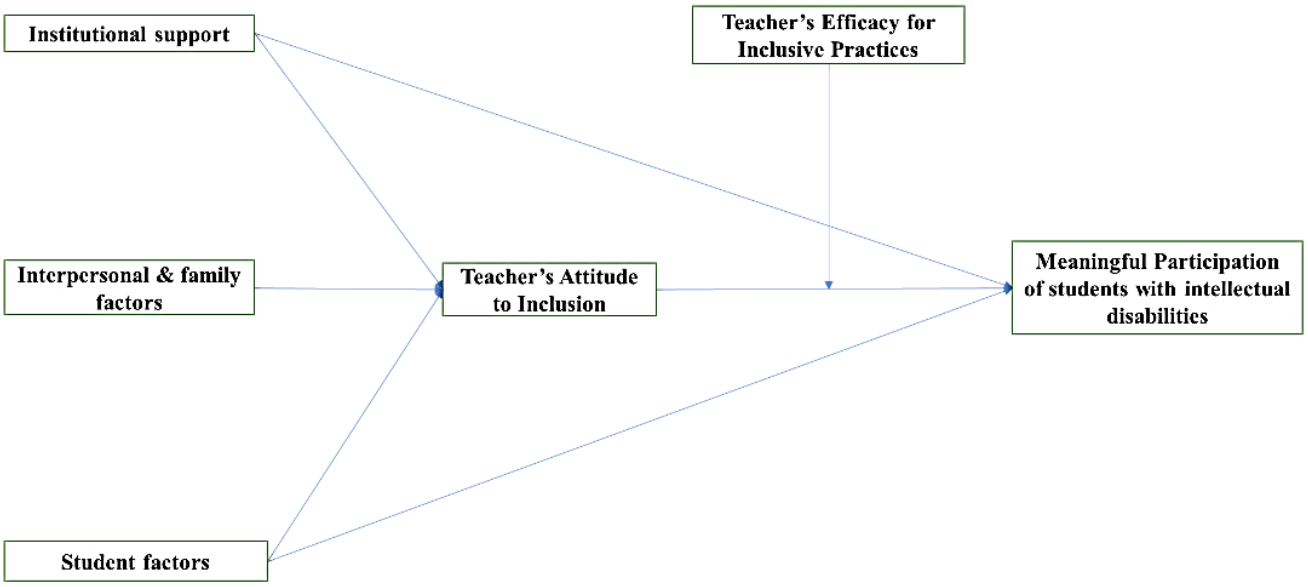

Figure 1.
Conceptual framework.

3. Research Methodology

3.1. Research Design

This study utilized a quantitative, cross-sectional survey based on a positivist research philosophy. This methodology examined how specific factors facilitate extracurricular inclusion for students with cognitive impairments, drawing directly from the perspectives of Saudi Arabian educators.

3.2. Study Area, Participants, and Sampling

A total of 320 educators were recruited to participate in the survey from randomly selected schools from various areas of Saudi Arabia. Out of this, only 300 teachers equally from public and private schools sent back completed surveys, which were considered for final analysis. The socio-demographic distribution of the educators showed that the majority (44%) of them were between the age of 31 to 40 years, followed by 24% of them being under 30 years. Another 17% of them were between the range of 41 to 50 years, while the rest (15%) were above 51 years of age. There was almost an equal distribution of male (51%) and female (49%) teachers in the study population. It was observed that 67% of them had the job responsibility of a teacher, while 21% of them were special educators, and another 12% of them were principals of the educational institutions. Regarding their educational qualification, 36% of them had graduation degree, another 33% of them with a diploma, 18% postgraduates, and the rest 13% of them had certifications. Coming to their overall teaching experience, the majority (31%) of them had a teaching experience of 7 to 10 years, followed by another 27% and 25% with 4 to 6 years of collective experience and more than 10 years of total education experience. Most (30%) of them also had teaching experience in special education for one to three years, while 26%, 23%, and 11% had teaching experience in special education for seven to ten years, four to six years, and more than 11 years, respectively. The rest (10%) of them had less than one year of teaching as a special educator. This shows that all the teachers had some idea about working with disabled children. One third of them spent 16 to 20 hours per week teaching, while 46% of them were teaching for more than 21 hours per week and the rest less than 15 hours. Almost 40% of the teachers claimed that the approximate number of learners with cognitive impairments in their institutions varied from 6 to 10 in their school, while 24% of them had about 3 to 5 students with disability, another 20% of them had more than 10 disabled students, and the rest 17% reported presence of only 1 to 2 students with disability in their school.

3.3. Research Instrument

The designed questionnaire comprised of seven broad sections, commencing with enquiry about the sociodemographic of the teachers (Section 1). Section 2 consists of items for institutional support based on two subfactors such as leadership and policy support (2 items) and resources and environment (3 items) derived from Abed and Shackelford [18] and Agran, et al. [23]. Section 3 elaborates on interpersonal and family factors, with four items on parental collaboration and support and three items on peer attitudes and social opportunities [2, 14-16, 23]. Section 4 comprises of five items evaluating students' intrinsic factors derived from Selvi, et al. [1] and Yu, et al. [14]. Section 5 explains the attitude to inclusion scale with 10 items [38]. The next section covers "Teacher Efficacy for Inclusive Practices" (TEIP) scale with three subfactors such as instruction (3 items), managing behavior (3 items), and collaboration (3 items) [39]. Lastly, "meaningful participation of learners" with cognitive impairments in extracurricular activities was measured through five items derived from Cain, et al.

[2]; Selvi, et al. [1] and Yao, et al. [3]. Each item utilized a five-point Likert scale, ranging from strong disagreement to strong agreement.

3.4. Data Collection

All the scales were administered in Arabic and translated for the convenience of the study population. Before commencing the survey, participants were briefed on the study's purpose, institutional safeguards, privacy protections, and ethical consent protocols. Every response was submitted anonymously, and the resulting dataset was encrypted in protected servers. The survey approximately took 20 to 30 minutes to complete.

3.5. Data Analysis

Quantitative data underwent rigorous statistical evaluation using statistical software SPSS version 24 and meaningful inferences were drawn from the results. "Partial Least Squares Structural Equation Modeling" (PLS-SEM) was carried out to examine the conceptual model's hypotheses developed for the study employing Smart PLS v3.3.3 software. The hypotheses were validated using a standard threshold of $p < 0.05$ with confidence level of 95%. Additionally, a 5000 resample bootstrapping process computed the corresponding standard errors and critical t-statistics [40].

4. Findings of the Study

4.1. Correlation Analysis

Prior to conducting the PLS-SEM analysis, Pearson correlation coefficient was evaluated to test the correlation among the study constructs, such as institutional support, interpersonal and family factors, students' intrinsic factors, teachers' perspectives regarding inclusion, teachers perceived competence for inclusive practices, and meaningful participation of disabled student in extracurricular activities Table 1. Key findings include positive statistically significant correlations were observed among all variables and meaningful participation of disabled student except with managing behavior within teachers' efficacy ($p < 0.05$).

Table 1.
Pearson Correlation Matrix.

Construct	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Institutional support									
Leadership and policy support (1)	1								
Resources and environment (2)	0.537**	1							
Interpersonal and family factors									
Parent collaboration & support (3)	0.026	0.073	1						
Peer attitudes & social opportunities (4)	0.156**	0.150**	0.617**	1					
Student intrinsic factors (5)	0.538**	0.249**	0.034	0.210**	1				
Teacher's attitude to inclusion scale (6)	0.709**	0.706**	0.303**	0.405**	0.577**	1			
Teachers' efficacy									
Instruction (7)	0.515**	0.417**	-0.025	0.092	0.463**	0.614**	1		
Managing behaviour (8)	-0.125*	-0.073	0.583**	0.221**	-0.138*	0.023	-0.091	1	
Collaboration (9)	0.134*	0.175**	0.022	0.226**	0.306**	0.223**	0.083	-0.026	1
Meaningful participation of students with intellectual disabilities (10)	0.411**	0.427**	0.128*	0.233**	0.394**	0.580**	0.310**	-0.007	0.274**

Note:"** Correlation is significant at the 0.01 level (2-tailed), * Correlation is significant at the 0.05 level (2-tailed)."

4.2. Hypotheses Testing

The PLS-SEM analysis revealed the measurement model, latent paths, and structural parameters. Prior to establishing structural connections, the initial measurement phase Figure 2 verified underlying construct integrity via internal consistency benchmarks alongside convergent and discriminant validity tests Table 2. Every individual factor loading surpassed the standard 0.70 benchmark, spanning from 0.711 to 0.946. This indicates strong indicator reliability. The constructs' Cronbach's alpha values were above 0.70, ranging from 0.788 (Meaningful participation in extracurricular activities by students with disability) to 0.900 (Teachers' attitude to inclusion) and composite reliability values exceeded 0.80 (0.875 to 0.949). confirming adequate internal consistency. For all latent variables, the Average Variance Extracted (AVE) spanned from 0.647 to 0.895, surpassing the conventional 0.50 benchmark. Consequently, each underlying dimension accounts for the majority of its items' variance, establishing adequate convergent validity. Coming to the Variance Inflation Factors (VIF), it was found to be less than 5 for all the items, thereby indicating no collinearity issues.

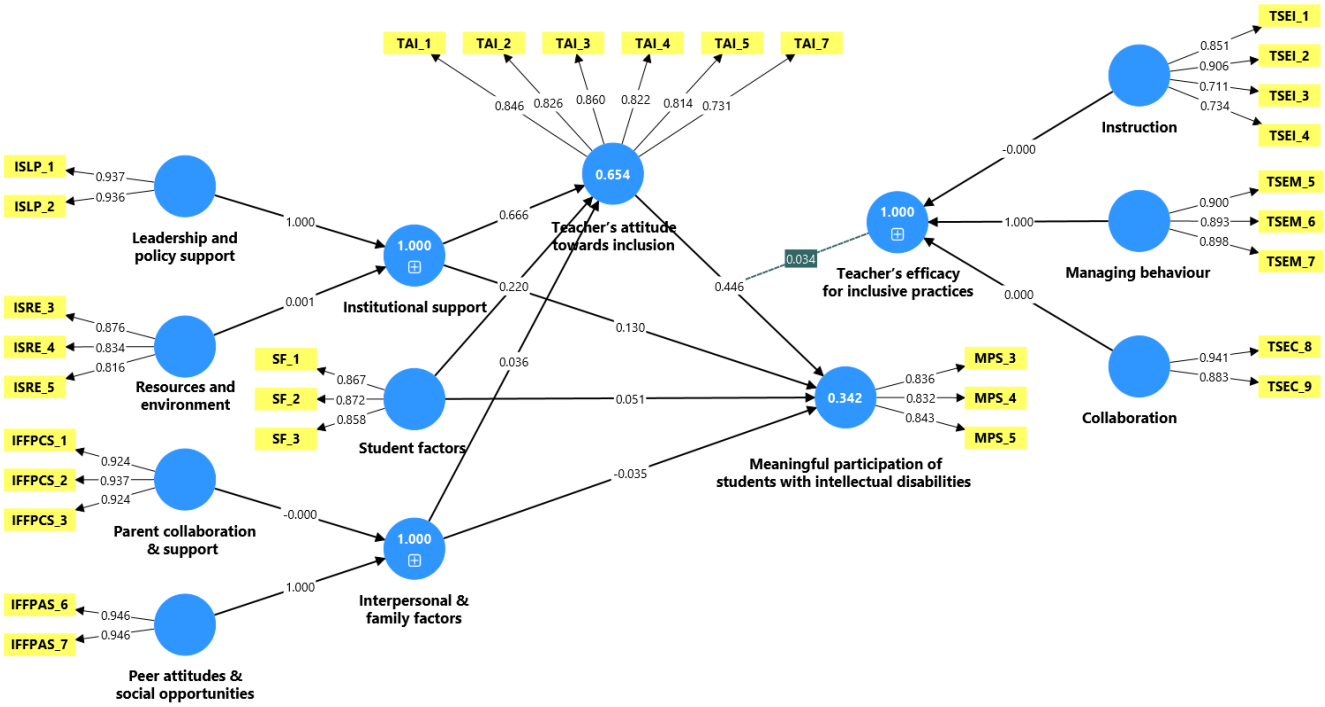

Figure 2.
Measurement model with mediation and moderating effects.

Table 2.
Indicator Reliability and Convergent Validity.

Construct	Outer loadings	Cronbach's α	Composite Reliability	AVE	VIF
Institutional support					
Leadership and policy support		0.859	0.934	0.876	
"ISLP 1: Our school has clear policies that support the inclusion of students with intellectual disability in extracurricular activities.	0.937				2.308
ISLP 2: School leaders actively encourage teachers to include students with intellectual disability in extracurricular activities."	0.936				2.308
Resources and environment		0.796	0.880	0.709	
"ISRE 3: There are enough support staff to assist students with intellectual disability during extracurricular activities.	0.876				1.909
ISRE 4: Our school provides accessible facilities and adapted equipment that enable students with intellectual disability to participate in extracurricular activities.	0.834				1.860
ISRE 5: Our school allocates sufficient financial resources to support the participation of students with intellectual disability in extracurricular activities."	0.816				1.495
Interpersonal & family factors					
Parent collaboration & support		0.920	0.949	0.862	
"IFFPCS 1: Parents allow and encourage their children to participate in extracurricular activities.	0.924				3.157
IFFPCS 2: The parents recognized the importance of extracurricular activities.	0.937				3.738
IFFPCS 3: The family provides practical support for this student to attend extracurricular activities."	0.924				3.305
Peer attitudes and social opportunities		0.883	0.945	0.895	
"IFFPAS 6: Students with intellectual disability are invited by peers to join extracurricular activities.	0.946				2.660
IFFPAS 7: Classmates provide support to students with intellectual disability during extracurricular activities."	0.946				2.660
Student factors		0.833	0.900	0.749	

Construct	Outer loadings	Cronbach's α	Composite Reliability	AVE	VIF
"SF 1: The student believes that they participate in most parts of the extracurricular activities.	0.867				2.039
SF 2: The student is able to manage one's time well in juggling extracurricular activities.	0.872				1.858
SF 3: The child has interest in participating in extracurricular activities."	0.858				1.909
Teacher's Attitude to Inclusion		0.900	0.923	0.668	
"TAI 1: I believe that all students regardless of their ability should be taught in regular classrooms.	0.846				2.721
TAI 2: I believe that inclusion is beneficial to all students socially	0.826				2.412
TAI 3: I believe that inclusion benefits all students academically	0.860				2.746
TAI 4: I believe that all student can learn in inclusive classrooms if their teachers are willing to adapt the curriculum.	0.822				2.176
TAI 5: I believe that placement of students with severe disabilities in special schools is the best option for education of such students	0.814				2.200
TAI 7: I am pleased that I have the opportunity to teach students with lower academic ability alongside other students in my class."	0.731				1.744
Teacher's Efficacy for Inclusive Practices					
Instruction		0.849	0.879	0.647	
"TSEI 1: I can use a variety of assessment strategies (e.g.	0.851				1.702
TSEI 2: portfolio assessment, modified tests and performance-based assessment).	0.906				1.805
TSEI 3: I am able to provide an alternate explanation or example when students are confused.	0.711				2.080
TSEI 4: I am confident in designing learning tasks so that the individual needs of students with disabilities are accommodated."	0.734				2.458
Managing behaviour		0.878	0.925	0.804	
"TSEM 5: I am confident in my ability to prevent disruptive behaviour in the classroom before it occurs.	0.900				2.458
TSEM 6: I am able to calm a student who is disruptive or noisy.	0.893				2.356
TSEM 7: I am able to get children to follow classroom rules."	0.898				2.425
Collaboration		0.803	0.908	0.832	
"TSEC 8: I am confident in my ability to get parents involved in school activities of t their children with disabilities.	0.941				1.820
TSEC 9: I can collaborate with other professionals (e.g. itinerant teachers or speech pathologists) in designing educational plans for students with disabilities."	0.883				2.274
Meaningful participation of students with intellectual disabilities		0.788	0.875	0.701	
"MPS 3: Satisfaction: The student seems to be satisfied in participating in extracurricular activities.	0.836				1.799
MPS 4: Sense of belonging: The students appear to feel that they belong in at least one extracurricular activity.	0.832				1.611
MPS 5: The students seem to feel that participating in extracurricular activities adds value."	0.843				1.598

Discriminant validity was evaluated via HTMT (Heterotrait-Monotrait) ratio Table 3 and the Fornell Larcker standard Table 4. All HTMT ratios were less than 0.85 cutoff, demonstrating empirical distinctiveness. The Fornell-Larcker assessment confirmed that every construct's square root of the AVE surpassed its corresponding inter-construct correlations.

Table 3.
Discriminant validity – HTMT ratio.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Leadership and policy support (1)										
Resources and environment (2)	0.648									
Parent collaboration & support (3)	0.127	0.075								
Peer attitudes & social opportunities (4)	0.051	0.060	0.707							
Student factors (5)	0.647	0.328	0.064	0.125						
Teacher's Attitude to Inclusion Scale (6)	0.844	0.721	0.104	0.077	0.672					
Instruction (7)	0.599	0.503	0.162	0.112	0.550	0.758				
Managing behaviour (8)	0.144	0.097	0.669	0.322	0.185	0.104	0.117			
Collaboration (9)	0.089	0.153	0.063	0.187	0.118	0.170	0.099	0.048		
Meaningful participation of students with intellectual disabilities (10)	0.610	0.590	0.051	0.044	0.454	0.672	0.557	0.056	0.104	

Table 4.
Discriminant validity – Fornell–Larcker criterion.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Leadership and policy support (1)	0.936									
Resources and environment (2)	0.541	0.842								
Parent collaboration & support (3)	-0.114	-0.027	0.929							
Peer attitudes & social opportunities (4)	-0.034	0.001	0.638	0.946						
Student factors (5)	0.548	0.274	-0.054	0.032	0.866					
Teacher's Attitude to Inclusion Scale (6)	0.785	0.616	-0.081	0.019	0.586	0.818				
Instruction (7)	0.494	0.387	-0.174	-0.124	0.448	0.614	0.804			
Managing behaviour (8)	-0.125	-0.077	0.601	0.284	-0.163	-0.086	-0.131	0.897		
Collaboration (9)	-0.038	0.087	0.016	0.167	0.031	-0.062	-0.076	0.031	0.912	
Meaningful participation of students with intellectual disabilities (10)	0.504	0.477	0.024	-0.021	0.374	0.575	0.425	-0.038	-0.016	0.837

Evaluation of the structural model began by analyzing the endogenous construct's coefficient of determination (R^2) Table 5. Genuine extracurricular engagement among learners with cognitive impairments yielded an R^2 value of 0.342, indicating that 34.2% of the variance in meaningful participation was explained by the three contextual factors. However, for teachers' attitude for inclusion, a variance of 65.4% was explained. The "standardized root mean square residual" (SRMR) was found to be 0.066. Falling well below the standard 0.08 ceiling, this confirms a favorable overall model fit. Effect sizes for each path were calculated using Cohen F^2 values Table 6. The effect sizes for predictors on meaningful participation were found to be ranging from 0.104 to 0.894. This indicates that interpersonal and family factors, institutional support and teachers' attitude towards inclusion on meaningful participation of disabled students had a small effect, while institutional support on meaningful participation of disabled students and interpersonal and family factors on teachers' attitude towards inclusion was medium. The rest of the endogenous constructs had large effects on exogenous constructs.

Table 5.
Coefficient of determination and model fitness results.

Variables	**Coefficient of Determination (R^2)**	
	R^2	**Adj. R^2**
Meaningful participation of students with intellectual disabilities	0.342	0.299
Teacher's attitude towards inclusion	0.654	0.643
Model fit summary	**Saturated model**	**Estimated model**
SRMR	0.066	0.078

Table 6.
F-statistics.

Paths	**f-square**
Institutional support -> Meaningful participation of students with intellectual disabilities	0.209
"Interpersonal and family factors -> Meaningful participation of students with intellectual disabilities	0.102
Student factors -> Meaningful participation of students with intellectual disabilities	0.402
Institutional support -> Teacher's attitude towards inclusion	0.894
Interpersonal and family factors -> Teacher's attitude towards inclusion	0.204
Student factors -> Teacher's attitude towards inclusion	0.398
Teacher's attitude towards inclusion -> Meaningful participation of students with intellectual disabilities"	0.104

Assessment of the structural model Figure 3 verified the proposed hypotheses, with path parameters Table 7 computed using a 5000-subsample bootstrapping process. All the three hypothesized relationships were found to be statistically significant ($p < 0.05$), supporting H1 to H3. This shows that there was a significant direct effect of institutional support ($t = 3.021$), interpersonal and family factors ($t = 3.005$), and students' intrinsic factors ($t = 2.250$) on meaningful participation of learners with cognitive impairments to take part in extracurricular events. Apart from this, teachers' attitude significantly mediated the above relationships, while teachers' efficacy had a statistically significant moderating role in the impact of teachers' attitude towards inclusion on meaningful participation of disabled students in extracurricular activities.

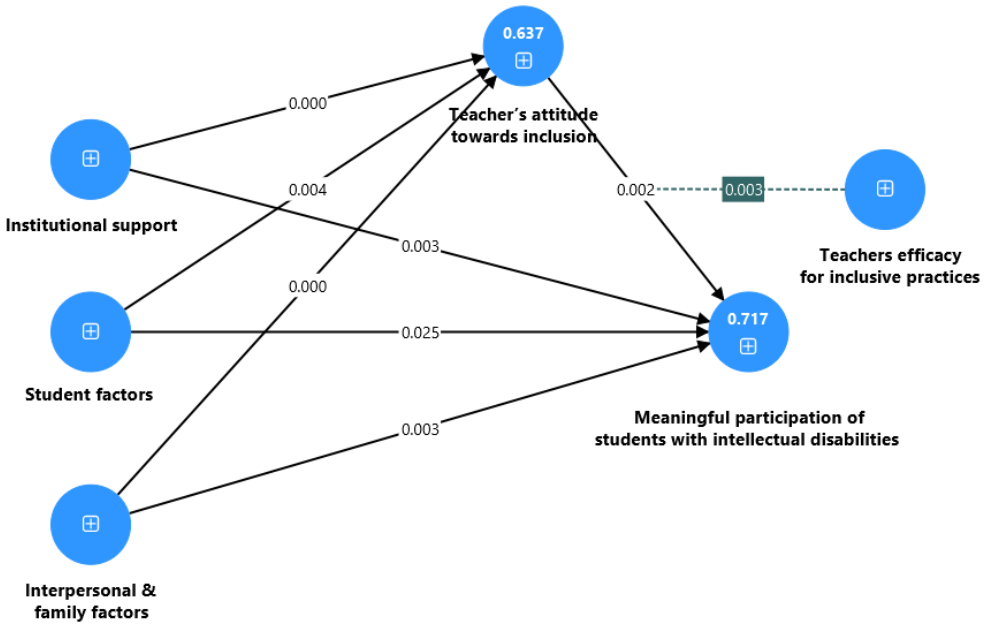

Figure 3.
Structural model with mediation and moderation effects.

Table 7.
Path coefficients.

Paths	t-value	p-value
Direct effect		
"Institutional support -> Meaningful participation of students with intellectual disabilities	3.021	0.003
Interpersonal & family factors -> Meaningful participation of students with intellectual disabilities	3.005	0.003
Student factors -> Meaningful participation of students with intellectual disabilities	2.250	0.025
Institutional support -> Teacher's attitude towards inclusion	4.436	0.000
Interpersonal & family factors -> Teacher's attitude towards inclusion	3.924	0.000
Student factors -> Teacher's attitude towards inclusion	2.893	0.004
Teacher's attitude towards inclusion -> Meaningful participation of students with intellectual disabilities"	3.091	0.002
Mediating effects		
"Institutional support -> Teacher's attitude towards inclusion -> Meaningful participation of students with intellectual disabilities	2.183	0.029
Interpersonal & family factors -> Teacher's attitude towards inclusion -> Meaningful participation of students with intellectual disabilities	2.649	0.008
Student factors -> Teacher's attitude towards inclusion -> Meaningful participation of students with intellectual disabilities"	2.202	0.028
Moderating effects		
"Teachers' efficacy for inclusive practices × Teacher's attitude towards inclusion -> Meaningful participation of students with intellectual disabilities"	2.997	0.003

5. Discussion and Implications

The outcomes validate the multilevel conceptual model grounded in contextual factors such as institutional support, interpersonal and family factors, and student's intrinsic factors, along with teachers' attitudes and teachers' efficacies. All this provides a novel and well-anchored foundation in the area of understanding inclusive education in Saudi Arabia. The findings also confirm that meaningful participation of disabled students in extracurricular activities in particular is shaped by a myriad of system factors related to institutions, teachers, and students rather than by a single factor. The mediating role by teachers' attitude and moderating act by teachers' efficacy suggested that supportive institutions, positive attitude of teachers, and high efficacy of teachers shape how teachers feel about inclusive practices.

Implications of the study include at the practical as well as theoretical levels. The outcomes render implications for practitioners, policymakers, and educational stakeholders working together to promote holistic inclusive education. This includes strengthening the institutional support systems, investing in teacher training, mentoring and peer support programs, monitoring and evaluating inclusive practices. The teachers need to adopt inclusive teaching practices, build positive attitude regarding inclusion and enhance teachers' self-efficacy. Learners with impairments need to develop self-advocacy and readiness, working on developing interests and motivations. This study extends to the theoretical understanding of inclusive education along with extracurricular participation by identifying teachers' attitude and efficacy as key factors that supports the multidimensional view of participation.

6. Conclusion, Limitations, and Suggestions

The present research demonstrated that meaningful participation of disabled student in school extracurricular activities is facilitated by a combination of multiple stakeholders including institutional support, interpersonal and family factors, students' intrinsic aspects, along with teachers' attitude and efficacy. The findings recommend a systemic multilevel intervention to promote inclusive education across the world.

While this investigation renders insights into components facilitating inclusive education, several research limitations ned to be acknowledged. These include methodological limitations such as cross-sectional design, single source data from one country where cultural and geographical context can play as a key differentiator, self-reporting measures, and convenience sampling. Moreover, this study covered the aspects of educators only where as other stakeholders such as parents, friends, activity leaders, and school administrators can also provide insights into barriers as well as facilitators. Since most of the published literature was of qualitative nature, only few constructs and their adapted scales were explored to collect the data. Based on this, this study opens the door for future research. This includes employing longitudinal and causal research from multi-source data and considering mixed method research approaches. Due to its Saudi context, cross-cultural replication is critical to introduce policies conducive for mainstream inclusive education.

References

[1] S. Selvi, V. Whig, and T. Panwar, "Understanding intellectually disabled students' participation and impact in school extracurricular activities," *Multidisciplinary Science Journal*, vol. 5, p. e2023ss0218, 2023, https://doi.org/10.31893/multiscience.2023ss0218.

[2] I. Cain *et al.*, "Teacher and parent perspectives on extracurricular activities for students with intellectual and developmental disabilities," *Inclusion*, vol. 14, no. 1, pp. 15-29, 2026.

[3] X. Yao, C. Liu, W. Xin, and X. Chen, "Much more than just being present: Participation of children with intellectual disabilities in mainstream schools," *International Journal of Developmental Disabilities*, vol. 70, no. 5, pp. 833-848, 2024.

[4] A. K. Alsayed and I. A. Dawsari, "Beyond the classroom: Unveiling the power of extracurricular activities in shaping social skills for students with disabilities," *Journal of Educational and Social Research*, vol. 15, no. 1, p. 437, 2025.

[5] A. Gmmash *et al.*, "Exploring the quality of life of school-aged children with disabilities in Saudi Arabia and their educational inclusion: from caregiver's perspectives," *BMC Public Health*, vol. 25, no. 1, p. 3720, 2025, https://doi.org/10.1186/s12889-025-25065-1.

[6] S. Kielblock, S. Woodcock, and J. Ehrich, "Examining teachers' attitudes towards inclusive education for all: Development of a new scale," *BMC Psychology*, vol. 14, p. 503, 2026, https://doi.org/10.1186/s40359-026-04478-6.

[7] N. Alkhateeb, A. Alrubaian, and D. Tamakloe, "A dialogical inquiry of elementary school teachers' perspectives on inclusive education of students with special education needs and disability (SEND)," *Sage Open*, vol. 13, no. 2, p. 21582440231162056, 2023, https://doi.org/10.1177/21582440231162056.

[8] K.-T. Lindner, S. Schwab, M. Emara, and E. Avramidis, "Do teachers favor the inclusion of all students? A systematic review of primary schoolteachers' attitudes towards inclusive education," *European Journal of Special Needs Education*, vol. 38, no. 6, pp. 766-787, 2023.

[9] UNESCO, *The salamanca statement and framework for action on special needs education adopted by the world conference on special needs education: Access and equity*. Paris: UNESCO, 1994.

[10] C. Simón, G. Martínez-Rico, R. McWilliam, and M. Cañadas, "Attitudes toward inclusion and benefits perceived by families in schools with students with autism spectrum disorders," *Journal of Autism and Developmental Disorders*, vol. 53, no. 7, pp. 2689-2702, 2023, https://doi.org/10.1007/s10803-022-05491-5.

[11] UNESCO, *Guidelines for inclusion: Ensuring Access to education for All*. Paris, France: UNESCO, 2005.

[12] D. Aldhilan, S. Rafiq, and A. Afzal, "Navigating barriers and building pathways: Inclusive education for children with special needs," *F1000Research*, vol. 14, p. 1203, 2025, https://doi.org/10.12688/f1000research.172211.2.

[13] X. Liu *et al.*, "Barriers and facilitators to participation in physical activity for students with disabilities in an integrated school setting: A meta-synthesis of qualitative research evidence," *Frontiers in Public Health*, vol. 13, p. 1496631, 2025, https://doi.org/10.3389/fpubh.2025.1496631.

[14] S. Yu, T. Wang, T. Zhong, Y. Qian, and J. Qi, "Barriers and facilitators of physical activity participation among children and adolescents with intellectual disabilities: A scoping review," *Healthcare*, vol. 10, no. 2, p. 233, 2022.

[15] G. McDermott, N. E. Brick, S. Shannon, B. Fitzpatrick, and L. Taggart, "Barriers and facilitators of physical activity in adolescents with intellectual disabilities: An analysis informed by the COM-B model," *Journal of Applied Research in Intellectual Disabilities*, vol. 35, no. 3, pp. 800-825, 2022, https://doi.org/10.1111/jar.12985.

[16] Z. Perveen, S. B. Batool, and R. Sajjad, "The role of peer support system in promoting social inclusion for students with visual impairment at tertiary level of education," *Social Science Review Archives*, vol. 4, no. 1, pp. 3783-3796, 2026, https://doi.org/10.70670/sra.v4i1.1956.

[17] K. H. Alshamri, "Evaluation of education students with intellectual disability in Saudi Arabia," *Journal of Education and Learning*, vol. 8, no. 1, pp. 131-137, 2019.

[18] M. G. Abed and T. K. Shackelford, "Saudi public primary school teachers' perspectives on inclusive education," *Educational Studies,* vol. 49, no. 4, pp. 614-627, 2023.

[19] S. K. Alfawzan, "Perspectives of teachers of students with intellectual disabilities on the role of educational policies and systems in using Universal Design for Learning: A qualitative study," *Plos one,* vol. 20, no. 9, p. e0333432, 2025, https://doi.org/10.1371/journal.pone.0333432.

[20] A. Alkeraida, "Understanding teaching practices for inclusive participation of students with autism in Saudi Arabian primary schools," *International Journal of Inclusive Education,* vol. 27, no. 14, pp. 1559-1575, 2023.

[21] A. Alsolami and M. Vaughan, "Teacher attitudes toward inclusion of students with disabilities in Jeddah elementary schools," *PloS one,* vol. 18, no. 1, p. e0279068, 2023, https://doi.org/10.1371/journal.pone.0279068.

[22] M. S. Alshuayl, S. Alqazlan, A. Alanazi, and D. L. Ryndak, "Inclusive education for students with intellectual disability in saudi arabia and its role in community integration: Special education teachers' perceptions," *Education Sciences,* vol. 16, no. 4, p. 611, 2026, https://doi.org/10.3390/educsci16040611.

[23] M. Agran *et al.*, "Participation of students with intellectual and developmental disabilities in extracurricular activities: Does inclusion end at 3: 00?," *Education and Training in Autism and Developmental Disabilities,* vol. 52, no. 1, pp. 3-12, 2017, https://doi.org/10.1177/215416471705200102.

[24] M. Agran, S. Dymond, M. Rooney-Kron, and J. Martin, "Examining whether student participation in school-sponsored extracurricular activities is represented in IEPs," *Intellectual and Developmental Disabilities,* vol. 58, no. 6, pp. 472-485, 2020.

[25] M. Jyoti and S. Devi, "Towards effective inclusive education: A comprehensive review of teacher attitudes, parental perspectives, and leadership influences across global contexts," *International Journal of Indian Psychology,* vol. 14, no. 1, pp. 362-366, 2026.

[26] N. H. Bagadood, "Parental involvement and education of children with intellectual disabilities in Saudi Arabia," *International Journal of Computer Science & Network Security,* vol. 22, no. 3, pp. 259-265, 2022, https://doi.org/10.22937/IJCSNS.2022.22.3.33.

[27] M. M. Alnefaie and H. M. Alzahrani, "Teachers' perspectives on parental participation in the Individual Educational Program for students with intellectual disabilities," *Amazonia Investiga,* vol. 13, no. 73, pp. 14-30, 2024, https://doi.org/10.34069/AI/2024.73.01.2.

[28] A. D. Meregi, P. K. Mulibana, and G. G. Mukoma, "We just improvise: Exploring teachers' perspectives on sport participation for learners with intellectual disabilities in rural South Africa," *International Journal of Environmental Research and Public Health,* vol. 22, no. 6, p. 893, 2025, https://doi.org/10.3390/ijerph22060893.

[29] C. Desombre, M. Delaval, and M. Jury, "Influence of social support on teachers' attitudes toward inclusive education," *Frontiers in Psychology,* vol. 12, p. 736535, 2021, https://doi.org/10.3389/fpsyg.2021.736535.

[30] T. A. Alquraini, "Factors related to teachers' attitudes towards the inclusive education of students with severe intellectual disabilities in Riyadh, Saudi," *Journal of Research in Special Educational Needs,* vol. 12, no. 3, pp. 170-182, 2012, https://doi.org/10.1111/j.1471-3802.2012.01248.x.

[31] S. Ramdas *et al.*, "Teachers' attitudes towards equity, diversity, and inclusion in higher education: A scoping review," *International Journal of Educational Research,* vol. 131, p. 102590, 2025, https://doi.org/10.1016/j.ijer.2025.102590.

[32] C. Boyle, K. Topping, D. Jindal-Snape, and B. Norwich, "The importance of peer-support for teaching staff when including children with special educational needs," *School Psychology International,* vol. 33, no. 2, pp. 167-184, 2012, https://doi.org/10.1177/0143034311415783.

[33] C. Sahli Lozano, S. Wüthrich, N. Baumli, U. Sharma, T. Loreman, and C. Forlin, "Development and validation of a short form of the teacher efficacy for inclusive practices scale (TEIP-SF)," *Journal of Research in Special Educational Needs,* vol. 23, no. 4, pp. 375-388, 2023, https://doi.org/10.1111/1471-3802.12607.

[34] S. Wüthrich and C. Sahli Lozano, "The attitudes to inclusion andteacher efficacy for inclusive practices scales: psychometric properties across Swiss in-service, pre-service, and special education teachers," *Frontiers in Psychology,* vol. 16, p. 1531782, 2025, https://doi.org/10.3389/fpsyg.2025.1531782.

[35] W. S. E. Chow, "Exploring in-service teachers' attitudes, teacher self-efficacy, and influential factors for implementing inclusive practices in Hong Kong classroom," *Educational Psychology,* vol. 44, no. 4, pp. 436-454, 2024.

[36] Y. Zimu, "Examining the relationship between teacher self-efficacy and student engagement in technology-enhanced learning environments," *International Journal of New Developments in Education,* vol. 6, no. 2, pp. 115-119, 2024.

[37] K. R. Kim and E. H. Seo, "The relationship between teacher efficacy and students' academic achievement: A meta-analysis," *Social Behavior and Personality: An International Journal,* vol. 46, no. 4, pp. 529-540, 2018, https://doi.org/10.2224/sbp.6554.

[38] U. Sharma and D. K. Jacobs, "Predicting in-service educators' intentions to teach in inclusive classrooms in India and Australia," *Teaching and Teacher Education,* vol. 55, pp. 13-23, 2016, https://doi.org/10.1016/j.tate.2015.12.004.

[39] U. Sharma, T. Loreman, and C. Forlin, "Measuring teacher efficacy to implement inclusive practices," *Journal of Research in Special Educational Needs,* vol. 12, no. 1, pp. 12-21, 2012, https://doi.org/10.1111/j.1471-3802.2011.01200.x.

[40] J. F. Hair Jr, M. Sarstedt, L. Hopkins, and V. G. Kuppelwieser, "Partial least squares structural equation modeling (PLS-SEM) An emerging tool in business research," *European Business Review,* vol. 26, no. 2, pp. 106-121, 2014, https://doi.org/10.1108/EBR-10-2013-0128.