

Policy Journal of Social Science Review

ISSN Online:3006-4635

ISSN Print: 3006-4627

PREPAREDNESS AND ATTITUDES OF PHYSICAL EDUCATION TEACHERS TOWARD INCLUSIVE EDUCATION OF STUDENTS WITH DISABILITIES IN PUNJAB, PAKISTAN

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Article Details

Received on 09,11, 2025

Accepted on 25,11, 2025

Published on 29,12, 2025

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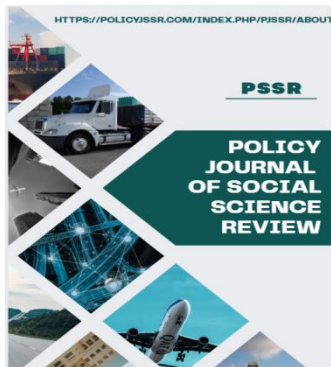
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Page No: 716-276

ABSTRACT

Background: Inclusive physical education (IPE) demands that physical education (PE) teachers possess both adequate pedagogical readiness and favorable attitudes toward students with disabilities. In Pakistan, where the Special Education sector has expanded substantially in recent decades, systematic evidence on PE teachers' preparedness and attitudinal profiles remains scarce, limiting the design of evidence-informed policy and training responses. **Objective:** This study examined the preparedness and attitudes of PE teachers toward the inclusion of students with disabilities in regular physical education classes in public and private special secondary schools of Punjab province. **Methods:** A descriptive cross-sectional survey was conducted with 129 PE teachers (81.4% male; 18.6% female; age range 21–50+ years) from schools under the Directorate of Special Education, Punjab. A validated 21-item Likert-scale questionnaire was used for data collection. Chi-square goodness-of-fit tests assessed item-level response distributions; independent-samples *t*-tests and one-way ANOVA examined gender and age differences in overall scores, respectively. **Results:** Statistically significant, non-uniform response distributions were observed across all 21 items (χ^2 range: 14.84–111.35; all $p \leq .005$). Broadly positive attitudinal endorsement was evident: 82.9% agreed students with disabilities can succeed in PE, 77.5% expressed willingness to modify activities, and 70.5% supported full inclusion. However, 46.5% acknowledged that most PE teachers remain unprepared for inclusive teaching even with modifications, and 65.1% perceived schools as lacking essential allied health support services. Neither gender ($t = 2.945$, $p = .089$) nor age ($F = 2.242$, $p = .087$) significantly differentiated overall preparedness and attitude scores. **Conclusion:** PE teachers in Punjab endorse inclusive values yet acknowledge meaningful gaps in their own practical preparedness and the institutional resources available to



Policy Journal of Social Science Review

ISSN Online:3006-4635

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support inclusion. Targeted pre-service and in-service training, administrative support, and multi-disciplinary resource provision are prerequisites for translating positive attitudes into effective inclusive physical education practice.

Keywords: *inclusive physical education; teacher preparedness; teacher attitudes; students with disabilities; special education; Pakistan*

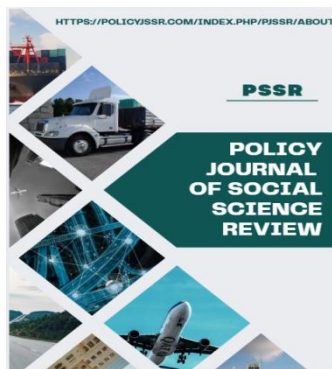
1. Introduction

Introduction

Inclusive education has emerged as a defining principle of contemporary educational policy, reinforced by landmark international instruments including the UNESCO Salamanca Statement (1994) and the UN Convention on the Rights of Persons with Disabilities (2006). Both frameworks assert every child's right to learn alongside non-disabled peers in mainstream settings. Within school curricula, physical education (PE) occupies a distinctive position: it simultaneously fosters motor development, physical fitness, social competence, and self-esteem outcomes that segregated settings often provide inadequately (Block, 2010). Realizing these benefits through inclusive physical education (IPE), however, depends critically on the readiness of the teachers who deliver it.

Teacher preparedness for IPE encompasses several interrelated capacities: knowledge of adaptive and modified activity techniques, confidence in managing heterogeneous classroom dynamics, and the ability to individualize instruction for students with diverse disability profiles (Block, 2007). International evidence consistently shows that many PE teachers feel underprepared for inclusive contexts, attributing this to limited disability-specific training, scarce material resources, insufficient collaboration with special education personnel, and, in some instances, attitudinal barriers (Hodge et al., 2004; Sherrill, 2004). These deficiencies are not merely academic; they translate directly into constrained participation opportunities and poorer educational outcomes for students with disabilities.

Teacher attitudes function as perhaps the most widely studied antecedent of inclusive practice quality. Studies using instruments such as Rizzo's Physical Educators' Attitude Toward Teaching Individuals with Disabilities (PEATID-III) have found that attitudes are shaped by coursework in adapted physical education, the quality of prior direct experience with students with disabilities, and perceived teaching competence (Rizzo & Vispoel, 2008; Rizzo & Kirk, 2018). Crucially, both attitude and preparedness are amenable to change: targeted professional development, supervised field-based



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ISSN Online:3006-4635

ISSN Print: 3006-4627

experiences, and administrative support have each been associated with improvements in both domains (Avramidis et al., 2000; Mangope & Mukhopadhyay, 2015).

The Pakistani context presents a compelling case for investigation. Since the creation of an independent Special Education Department in Punjab in 2003–04, the number of special education institutions in the province has grown from 51 to more than 241, now serving approximately 25,000 students with disabilities (Directorate of Special Education, 2005). Despite this structural expansion, the preparedness and attitudinal profiles of PE teachers working within this system are virtually absent from the international literature. Without such evidence, it is impossible to design appropriately targeted training responses or to make the case for systemic reform. The present study therefore aimed to document these profiles, to identify patterns of alignment and dissonance between supportive beliefs and perceived practical readiness, and to examine whether gender or age moderate these perceptions.

Methods

Design and Participants

A descriptive, cross-sectional survey design was adopted. The target population comprised PE teachers employed in public and private secondary schools operating under the Directorate of Special Education, Punjab Province. Using convenience sampling, 129 teachers who consented to participate were recruited. The sample was predominantly male ($n = 105$, 81.4%; female $n = 24$, 18.6%), reflecting the prevailing gender distribution in the PE workforce of these institutions. In terms of age, the largest cohort was 21–30 years ($n = 72$, 55.8%), followed by 31–40 years ($n = 39$, 30.2%), 41–50 years ($n = 17$, 13.2%), and over 50 years ($n = 1$, 0.8%). All participants had direct teaching experience in special or inclusive educational settings.

Instrument

Data were collected via a structured 21-item questionnaire designed to assess PE teachers' preparedness and attitudes toward inclusive education. Items were rated on a five-point Likert scale (1 = Strongly Disagree to 5 = Strongly Agree) spanning four thematic domains: (a) beliefs about student capacity and inclusion outcomes; (b) personal preparedness and training adequacy; (c) willingness to modify and accommodate; and (d) perceived institutional barriers and support requirements. Content validity was established through expert review by faculty at the Department of Sports Sciences and Physical Education, University of the Punjab, whose recommendations were incorporated into the final instrument. Reliability was assessed via a pilot study with 50 PE teachers from public and private secondary schools in Punjab; Cronbach's alpha indicated acceptable internal consistency.

Procedure



Policy Journal of Social Science Review

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ISSN Print: 3006-4627

Following formal permission from the Directorate of Special Education, the researcher personally visited participating schools and administered the questionnaire to consenting PE teachers. Participants were assured of voluntary participation and data anonymity. Questionnaires with incomplete responses were excluded; all retained forms were entered into SPSS Version 21 for analysis.

Statistical Analysis

Descriptive statistics (frequencies and percentages) characterized the sample and item-level response distributions. Chi-square goodness-of-fit tests were applied to each questionnaire item to determine whether observed response distributions departed significantly from the uniform expected distribution (i.e., 25.8 responses per category if attitudes were evenly distributed), with alpha set at .05. An independent-samples t-test compared overall mean questionnaire scores by gender, and one-way ANOVA examined differences across four age groups.

Results

Sample Characteristics

Table 1 presents the demographic profile of the 129 participating PE teachers. The sample was predominantly male and early-career, with over half in the 21–30 age bracket a composition consistent with the broader PE workforce in Punjab's special education institutions.

Table 1

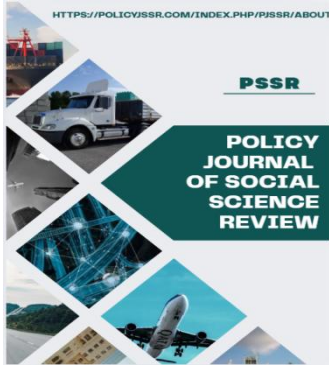
Demographic Profile of Physical Education Teacher Participants (N = 129)

Variable	Category	n	%
Gender	Male	105	81.4
	Female	24	18.6
Age (years)	21–30	72	55.8
	31–40	39	30.2
	41–50	17	13.2
	> 50	1	0.8

Note. Participants were recruited from public and private secondary special education schools under the Directorate of Special Education, Punjab.

Item-Level Response Distributions and Chi-Square Results

Table 2 presents the consolidated chi-square results for all 21 items. All items yielded statistically significant departures from the uniform distribution (χ^2 range: 14.84–111.35; $p \leq .005$), confirming systematically non-random patterns of response across the entire questionnaire.



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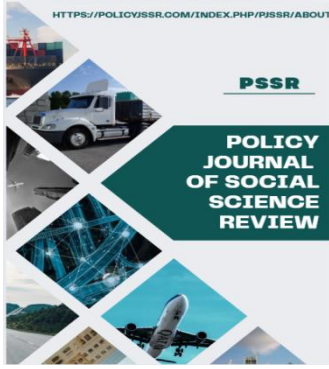
ISSN Online:3006-4635

ISSN Print: 3006-4627

Table 2

Response Frequencies and Chi-Square Goodness-of-Fit Results for All 21 Questionnaire Items (N = 129)

Item (abbreviated)	SA	A	UD	DA	SD	χ^2	p
Students with disabilities can succeed in PE	65	42	12	8	2	111.35	< .001
Most PE teachers are not prepared to include students with disabilities even with modifications	43	60	15	10	1	94.84	< .001
Students with disabilities feel comfortable in PE	39	56	22	11	1	74.99	< .001
I am willing to modify activities for students with disabilities	40	60	20	7	2	90.11	< .001
I have training and positive attitude for working with students with disabilities	45	59	14	7	4	94.53	< .001
Students with disabilities need special accommodation and modification	43	63	14	8	1	106.62	< .001
I enjoy working with students having special needs	29	46	35	15	4	42.43	< .001
Working with students with disabilities is challenging for me	21	22	40	31	15	14.84	.005
I support full inclusion of students with disabilities in PE	41	56	18	11	3	75.30	< .001
I have sufficient training to educate students with disabilities in PE	34	55	16	20	4	59.10	< .001
PE has a primary duty to serve the interests of students with disabilities	37	53	21	14	4	58.25	< .001
Most schools lack allied health support services (e.g., speech therapy, OT)	34	50	25	14	6	45.92	< .001
I believe all children can learn in an inclusive setting	36	49	24	13	7	45.07	< .001



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ISSN Print: 3006-4627

Item (abbreviated)	SA	A	UD	DA	SD	χ^2	p
Many classroom management issues are caused by students with disabilities	36	40	26	20	7	26.85	< .001
I would prefer to teach in a special school given the choice	35	47	24	21	2	43.67	< .001
Schools must make structural modifications to meet each student's individual needs	26	52	27	18	6	44.22	< .001
Inclusion in regular PE increases self-esteem of students with disabilities	35	45	29	15	5	39.26	< .001
I sometimes feel frustrated when students with disabilities enroll in PE	24	47	30	19	9	30.96	< .001
Inclusion in PE improves academic achievement of students with disabilities	35	56	29	6	3	74.37	< .001
Teachers need specific training to work with students with disabilities in regular schools	37	50	24	14	4	51.50	< .001
It is difficult for students with disabilities to adjust in PE classrooms in early childhood	36	47	25	19	2	45.23	< .001

Note. SA = Strongly Agree; A = Agree; UD = Undecided; DA = Disagree; SD = Strongly Disagree. Expected uniform frequency per category = 25.8. OT = Occupational Therapy. All items significant at $p \leq .005$.

Several response patterns warrant particular attention. Endorsement of inclusion was high on belief-oriented items: 82.9% agreed that students with disabilities can succeed in PE (Item 1), and 77.5% expressed willingness to modify sport activities (Item 4). Over 83% agreed that students with disabilities require special accommodation and modification (Item 6), and 70.5% supported full inclusion in PE (Item 9). Against this positive attitudinal backdrop, important preparedness gaps emerged. Approximately 46.5% agreed that most PE teachers remain unprepared for inclusive teaching even when modifications are attempted (Item 2). Resource scarcity was widely recognized: 65.1% agreed that schools lack essential allied health services (Item 12). A minority frustration pattern also appeared: 55.0% reported feeling



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ISSN Online:3006-4635

ISSN Print: 3006-4627

frustrated when students with disabilities enroll in PE (Item 18), and 63.6% expressed a preference for teaching in special rather than mainstream schools given the choice (Item 15).

Gender and Age Differences in Overall Scores

Table 3 presents results of the t-test and ANOVA examining demographic differences in overall questionnaire scores. Neither analysis reached statistical significance, indicating that preparedness and attitude did not vary meaningfully by gender or age in this sample.

Table 3

Gender and Age Differences in Preparedness and Attitude Scores (N = 129)

Variable	Group	n	M	SD	Statistic	p
Gender	Male	105	2.21	.43	t = 2.945	.089 (ns)
	Female	24	2.24	.34		
Age (4 groups)	21-30 through >50	129	—	—	F = 2.242	.087 (ns)

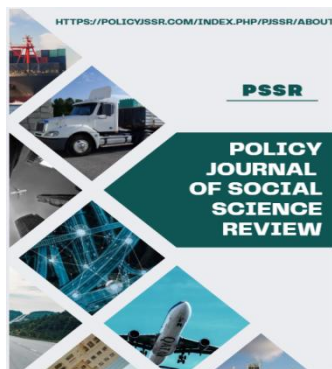
Note. t-test df = 127; ANOVA between-groups df = 3, within-groups df = 125. ns = not significant at alpha = .05.

Discussion

This study provides the first systematic quantitative evidence on the preparedness and attitudes of PE teachers in Punjab's special education system. Three interconnected themes emerge from the findings, each with meaningful implications for policy and professional development.

The first and perhaps most striking finding is the simultaneous coexistence of broadly favorable attitudes toward inclusion and an acknowledged preparedness deficit. The overwhelming majority of teachers endorsed the principle that students with disabilities can succeed in PE, expressed willingness to modify activities, and supported inclusive principles philosophically. This attitudinal orientation is encouraging and stands in partial contrast to earlier reports of more widespread PE teacher skepticism in South Asian educational contexts. The positive profile may reflect the fact that teachers working within special education institutions have regular, structured contact with students with disabilities a well-established predictor of more favorable attitudes (Avramidis et al., 2000; Minke et al., 2006). Teachers who have had extended positive experiences with inclusive students tend to normalize disability and reduce perceived pedagogical threat, factors that Rizzo and colleagues identified as central to the attitude experience relationship (Rizzo & Vispoel, 2008).

The second theme concerns the striking dissonance between positive attitudes and perceived unpreparedness. Nearly half the sample agreed that most PE teachers



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ISSN Online:3006-4635

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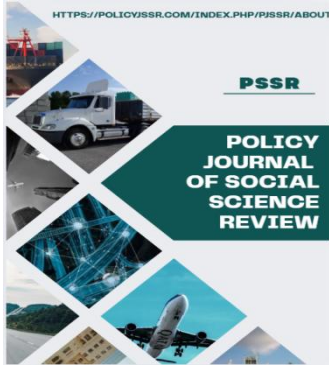
implicitly including themselves remain unprepared to include students with disabilities even when modifications are attempted. Gaps in training adequacy and resource availability were widely acknowledged. This pattern replicates findings from international samples: Hay et al. (2014) documented a near-identical dissonance among South African teachers, attributing it to the same cluster of systemic deficiencies identified here insufficient disability-specific training, oversized classes, and scarce specialist collaboration. Frizzell (2018) further showed that perceived preparedness and attitudes are positively correlated, meaning that inadequate training not only constrains practical readiness but also erodes attitudinal positivity over time. The present findings suggest this dynamic is operative in Punjab's special education system and that improving preparedness is likely to yield attitudinal benefits as a co-product.

The third theme relates to expressions of frustration and preference for specialist settings among a minority of respondents. These responses should be interpreted cautiously: they most plausibly reflect the stress of navigating an inclusion mandate without adequate support rather than inherent prejudice toward students with disabilities. When training is insufficient, adaptive resources are absent, and multi-disciplinary collaboration is unavailable, even well-intentioned teachers experience chronic demands that exceed their capacity. The international literature is clear that these attitudinal concerns are responsive to intervention: structured professional development consistently shifts PE teachers toward more positive attitudes and greater confidence in inclusive teaching (Carroll et al., 2003; Mangope & Mukhopadhyay, 2015).

The null findings for gender and age differences add a further nuance. Some Western studies have reported female teachers holding more favorable inclusive attitudes; the absence of such an effect here may reflect the strong gender imbalance in the sample (limiting statistical power) or the shared training environment that homogenizes attitudinal profiles regardless of gender. The null age effect is consistent with evidence from Rizzo and Wright (2005) and implies that career stage alone is insufficient to improve readiness a finding that challenges assumptions that simply diversifying or renewing the PE teaching workforce will, without accompanying training reform, improve inclusive outcomes.

Conclusion

Physical education teachers in Punjab's special education schools hold broadly positive attitudes toward inclusive education, yet simultaneously recognize that significant practical preparedness gaps particularly in disability-specific training adequacy and institutional resource provision constrain their capacity to translate these values into effective inclusive classroom practice. This attitude-preparedness dissonance is neither a Pakistani idiosyncrasy nor an irreversible condition; the international evidence is clear that targeted professional development, structured collaborative



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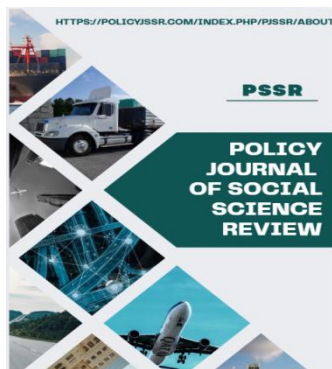
teaching models, and adequate material resourcing can bridge this gap. The present findings provide an evidence base upon which Punjab's Directorate of Special Education and the University of the Punjab's teacher education program can construct reform initiatives commensurate with the scale and ambition of the province's expanding inclusive education agenda.

Practical Implications and Recommendations

- Reform pre-service PE teacher curricula: Teacher education program should embed dedicated coursework in adapted and inclusive physical education, disability studies, and inclusive pedagogy, supplemented by structured supervised placements in both special and inclusive school settings. Evidence consistently demonstrates that formal coursework combined with authentic contact with students with disabilities is necessary to build genuine preparedness (Forlin, 1997; Carroll et al., 2003).
- Mandate targeted in-service professional development: The Directorate of Special Education should design and fund regular, context-responsive in-service training for serving PE teachers, addressing specific disability characteristics, activity modification techniques, collaborative planning skills, and evidence-based inclusive pedagogies. Externally delivered professional development has been shown to produce larger attitudinal gains than school-based training alone (Avramidis et al., 2000).
- Strengthen multi-disciplinary school support structures: Principals should establish protected time for PE teachers to collaborate regularly with special educators, physiotherapists, speech therapists, and occupational therapists. Administrative endorsement of inclusive values, combined with practical provision of adaptive equipment and accessible facilities, is a significant predictor of teacher readiness and attitudinal improvement (Villa et al., 2009).
- Address systemic resource deficits through policy: The Government of Punjab should prioritize the deployment of allied health professionals, adaptive physical education equipment, accessible infrastructure, and modified curricula materials across schools currently delivering or aspiring to deliver IPE. Attitudinal support without resource support is insufficient to sustain inclusive practice.
- Expand research to underrepresented groups and settings: Future studies should include female-only educational institutions, rural and peri-urban schools, and primary-level settings to build a more comprehensive picture of inclusive PE readiness across Punjab. Longitudinal designs examining the effects of specific interventions on preparedness and attitude trajectories would substantially strengthen the evidence base for reform.

Limitations

Several limitations should be acknowledged. Convenience sampling from public and private secondary special education schools in Punjab constrains generalizability; rural schools and female-only institutions were underrepresented. The cross-sectional



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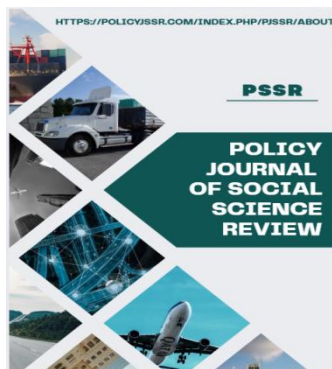
ISSN Online:3006-4635

ISSN Print: 3006-4627

design precludes causal inference between perceived preparedness and attitudes. The pronounced gender imbalance (81.4% male) limits the statistical power of gender comparisons. The researcher-developed questionnaire, while validated by expert review and pilot-tested for reliability, lacks the established psychometric pedigree of instruments such as the PEATID-III, restricting cross-national comparison. Finally, self-reported data are susceptible to social desirability bias, particularly on attitudinal items where agreement with inclusive principles may be perceived as the professionally normative response.

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