Perceived Physical Fitness Improvements Through Adapted Sports Programming for Individuals with Intellectual Disabilities: A Multi-Stakeholder Qualitative Analysis

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Abstract

Adapted sports activities provide opportunities for students with intellectual disabilities to engage in physical activity and develop movement capabilities. However, teachers' and parents' observations of physical changes may reflect different dimensions of fitness, health, and everyday functioning. This study aimed to explore stakeholder-reported physical and functional changes, sports adaptation practices, and assessment procedures in an Indonesian special education school. A qualitative descriptive design was employed involving 14 purposively selected informants, comprising seven teachers or coaches and seven parents, at a government-run special education school in Padang, West Sumatra, Indonesia. Semi-structured interviews lasting 30–50 minutes were conducted in Bahasa Indonesia, audio-recorded, and transcribed verbatim. Interview findings were organized into three descriptive themes informed by the reported thematic analysis. Three themes were identified: (1) stakeholder-reported physical and functional changes, including perceived improvements in stamina, strength, movement confidence, coordination, and everyday independence; (2) individualized sports adaptations involving equipment modification, progressive task adjustment, simplified rules, and sport selection; and (3) informal assessment practices based on teacher observation, competition achievements, and parental reports. A contrasting parental account indicated variation in perceived outcomes. The findings reflected stakeholder perceptions rather than objectively measured fitness changes. This study provides context-specific qualitative insights into how teachers and parents describe students' physical and functional development and how adapted sports activities are organized and monitored. The reported adaptation practices constitute descriptive categories rather than a validated intervention framework. Future studies should integrate stakeholder perspectives with standardized assessments to evaluate physical fitness and functional outcomes more rigorously.

Keywords: adapted physical activity; intellectual disabilities; perceived physical fitness; special education; qualitative research.

INTRODUCTION

Participation in physical activity is important for supporting physical fitness, motor development, and opportunities for social participation among individuals with intellectual disabilities (ID). However, participation opportunities and associated health outcomes vary according to individual characteristics, environmental accessibility, and available support. Martin Ginis et al. (2021) emphasized the multiple structural and interpersonal factors shaping physical activity participation among people with disabilities, while Sutherland et al. (2021) identified diverse correlates of participation among children and adolescents with ID. These findings suggest that adapted sports programming should be considered within the educational and social conditions

in which participation occurs. Evidence indicates that appropriately organized physical activity can support selected components of physical fitness among students with ID. Pan and McNamara (2022) investigated physical fitness changes during a three-year adapted physical education program, while Sun et al. (2022) examined a physical activity intervention targeting health-related fitness in adolescents with ID. Gallotta et al. (2024) further investigated fitness outcomes associated with inclusive basketball training. Nevertheless, such findings primarily concern objectively assessed outcomes and should not be equated with improvements perceived through stakeholder interviews.

Physical fitness, motor proficiency, health status, and functional independence are related but conceptually distinct outcomes. Physical fitness includes measurable capacities such as muscular strength, endurance, and flexibility, whereas motor proficiency concerns movement performance. Health experiences and daily living activities represent additional dimensions that may be influenced by factors beyond exercise participation. Han et al. (2024) demonstrated the relevance of multidimensional fitness assessment among students in special education settings, while Wolan-Nieroda et al. (2023) used standardized physical fitness and balance measures to evaluate rehabilitation-related changes in children with mild ID. Importantly, perceived fitness does not necessarily correspond to objectively measured performance. Maïano et al. (2024) identified different profiles of actual and perceived physical fitness among young people with ID, demonstrating the importance of distinguishing subjective appraisals from physical measurements. Similarly, Tomé et al. (2024) assessed fitness and functional independence using separate outcome instruments, illustrating the need to distinguish physiological capacity from everyday functioning. At the Indonesian special education school examined in the present study, teachers and parents described perceived changes in students' physical capabilities, activity participation, and daily functioning.

Previous investigations have examined adapted sports and physical activity interventions using different populations, activities, and outcome measures. Kuznetsova et al. (2022) investigated movement games for children with ID, while Balayi et al. (2022) examined neuromuscular training for postural control. More recently, Sumaryanti et al. (2025) evaluated combined jump-rope and walking activities among students with ID. These investigations demonstrate the value of structured interventions while emphasizing the importance of specifying participant characteristics, instructional exposure, and measurable outcomes. Research has also considered whether improvements extend beyond isolated fitness components. Campagna et al. (2024) investigated the physical and psychosocial dimensions of a school-based running program for adolescents with disabilities. Yuvaraj et al. (2025) examined recreational and life-skill activities in relation to physical abilities and daily functioning among students with ID. Such research indicates that physical performance, psychosocial experiences, and functional outcomes warrant differentiated assessment rather than being combined into a single indicator of fitness.

Another body of literature addresses participation barriers and adaptations. MacEachern et al. (2022) examined physical activity participation and barriers among children and adolescents with disabilities, while Meregi et al. (2025), through interviews with teachers in South African special schools, identified contextual challenges and practical responses to supporting sport participation. Ristevski et al. (2024) synthesized strategies for facilitating inclusion in community-based physical activities. Hong et al. (2023) similarly examined accessible guidance for fitness environments. Collectively, these studies highlight the importance of adapting activities and support

arrangements, although they do not establish that any classification of adaptation practices represents a newly validated intervention model.

Despite increasing evidence concerning adapted sports interventions, two related analytical gaps remain relevant to the present setting. First, studies reporting changes in physical fitness often rely on standardized assessments, whereas everyday observations by teachers and parents may describe broader experiences, including movement competence, perceived health, and functional independence. Second, studies addressing participation and accessibility do not necessarily examine how school-based adaptation practices and informal assessment procedures are described together by different stakeholder groups. The distinction is important because qualitative observations offer contextual information but cannot independently verify fitness change. Weterings et al. (2022) investigated the responsiveness of muscle-strength assessments in adults with ID, while Goh et al. (2024) evaluated abbreviated walking tests. Mojiin et al. (2024) reviewed physical fitness testing approaches for individuals with ID. The Indonesian context also requires careful differentiation between school-based programming and wider competitive opportunities. Sukriadi et al. (2023) examined the physical fitness profile of Special Olympics Indonesia athletes, providing relevant national context but not directly characterizing routine adapted sports instruction in special schools.

This study aimed to explore teachers' and parents' perspectives on physical and functional changes associated with participation in adapted sports activities among students with ID at a government-run special education school in Padang, Indonesia. Specifically, it examined three questions: (1) What physical and functional changes do teachers and parents report? (2) What adaptation practices do teachers describe when organizing sports activities? and (3) How are students' physical development and participation informally assessed and monitored? The novelty's lies in integrating two stakeholder perspectives with descriptions of activity adaptation and assessment practices within a single school-based qualitative investigation. Rather than proposing a validated three-tier intervention model, it offers a context-specific classification of reported practices involving equipment, rules, and sport selection. The investigation also distinguishes perceived fitness-related changes from reports concerning health, motor performance, and daily functioning. These contributions are descriptive and interpretive. The study does not measure objective fitness outcomes, estimate intervention effects, or establish causal mechanisms. Its findings may inform future research on stakeholder-informed monitoring and feasible assessment procedures in adapted physical education.

METHODS

Research Design

This study employed a qualitative descriptive approach to explore teachers' and parents' perceptions of physical and functional changes associated with adapted sports participation among students with intellectual disabilities (ID). The design emphasized descriptions of observable experiences, instructional adaptations, and assessment practices rather than the phenomenological interpretation of lived experience. This orientation is consistent with the qualitative investigation by Savage and Colombo-Dougovito (2023), which examined experiences of participation in fitness programs, and Obrusnikova et al. (2025), who incorporated semi-structured interviews to investigate perceived exercise benefits and barriers. The present study addressed three domains: perceived physical changes, reported adaptation practices, and monitoring procedures. It did not directly assess physiological fitness changes or establish causal effects of sports participation.

Research Setting

The investigation was conducted at a government-run special education school in Padang, West Sumatra, Indonesia. Tailored sports activities are described in school-based instruction and related sports opportunities. These differences between environments are important because intervention studies have documented various implementation arrangements and implementation requirements. Mullhall et al. (2024) examined school-based walking activities, while Barak and Dunsky (2023) investigated outdoor recreation programs in a community context. In contrast to these investigations, this study did not systematically document training exposures or evaluate the effectiveness of interventions.

Participants and Sampling

Fourteen informants were selected through purposive sampling: seven teachers or coaches (T1–T7) involved in adapted sports activities and seven parents (P1–P7) reporting observations of their children's everyday functioning. Teachers' professional experience ranged from 2.5 to 37 years, with a reported mean of 17.5 years. Parents discussed students aged approximately 15–18 years and described involvement periods ranging from one to seven years. The inclusion of different informant groups provided complementary perspectives. Previous investigations, including Salomon et al. (2023) and Must et al. (2022), illustrate the importance of documenting recruitment, participation, and intervention exposure when evaluating disability-related physical activity programs.

Data Collection Instruments

Data were collected using semi-structured interview guides addressing perceived physical changes, sports adaptations, and monitoring practices. Teachers were asked about observed physical capabilities, equipment modification, rule adjustments, sport selection, and assessment procedures. Parents were asked about perceived changes in energy, activity, illness experiences, and everyday functioning. Savage and Colombo-Dougovito (2023) and Obrusnikova et al. (2025) demonstrate the methodological relevance of interviews for exploring perceived participation experiences, while Turgeon et al. (2024) combined qualitative information with other assessment approaches. In the present study, interview responses were treated as subjective accounts rather than substitutes for objective fitness measurements.

Data Collection Procedure

Interviews were conducted in Bahasa Indonesia, lasted approximately 30–50 minutes, were audio-recorded, and were transcribed verbatim. Teacher accounts focused on school-based practices, whereas parental accounts addressed experiences outside school. Their different observational settings were considered when interpreting similarities and discrepancies. Studies by Barak and Dunsky (2023) and Salomon et al. (2023) illustrate how qualitative accounts may complement documentation of program participation and feasibility; however, such complementary monitoring data were not available in this investigation.

Qualitative Data Analysis

The original study reported using Braun and Clarke's six-phase reflexive thematic analysis. Available descriptions identify initial codes concerning physical changes, adaptation practices, and informal assessment, subsequently organized into three principal categories. These categories were interpreted descriptively because their boundaries closely reflected the interview domains. Distinctions were maintained between perceived physical fitness, motor competence, health experiences, and daily functioning. Shen et al. (2024) demonstrated the value of differentiating

physical fitness, fundamental motor skills, and quality-of-life outcomes within adapted physical activity research. Similarly, Hsu et al. (2021) evaluated motor proficiency, physical fitness, and adaptive development as separate constructs.

Trustworthiness and Reflexivity

Teachers' and parents' descriptions were compared to identify complementary, divergent, and context-specific accounts. However, correspondence between participant groups was not established at the individual-student level; therefore, their agreement was not treated as confirmed triangulation of physiological improvements. The discrepant account of parent P5 was retained without attributing its differences to undocumented training exposure. Maïano et al. (2021) demonstrated the importance of validated measurement when examining physical self-perceptions among young people with ID, while Oskarsson et al. (2023) employed distinct physical activity and fitness measures in comparing Special Olympics participants. These investigations reinforce the distinction between perceived changes and objectively assessed outcomes.

RESULTS

The qualitative analysis was organized into three descriptive themes: (1) stakeholder-reported physical and functional changes, (2) individualized sports adaptation practices, and (3) assessment and monitoring practices. The findings reflect accounts from seven teachers or coaches (T1–T7) and seven parents (P1–P7). The themes describe perceived experiences and reported practices rather than objectively established intervention effects.

Table 1. Stakeholder-reported physical, motor, health-related, and functional changes

Domain	Reported observations	Informants
Perceived physical capacity	Increased stamina, strength, and energy	T3, T4, P1, P2, P4
Motor performance	Greater agility, movement confidence, and reduced falling	T3, T6
Health-related experiences	Less frequent illness and improved sleep; one contrasting account	P2, P3, P4, P5
Daily functioning	Greater independence in simple household activities	P3
Cognitive functioning	Improved focus and concentration during activities	T4
Sports achievement	Reported success in a long-jump competition	T1

Note. T = teacher/coach; P = parent. Informants may contribute to multiple domains. All findings represent reported experiences rather than standardized measurements of physical fitness.

Table 1 demonstrates that teachers and parents described different dimensions of perceived change, including physical capacity, motor performance, health experiences, and everyday functioning. Teachers predominantly emphasized observable physical and movement capabilities, whereas parents reported changes extending into household activities and perceived health. These findings are consistent with Maïano et al. (2024), who distinguished actual from perceived physical fitness among young people with intellectual disabilities. Similarly, Hsu et al. (2021) assessed motor proficiency, physical fitness, and adaptive development as separate outcomes, while Tomé et al. (2024) differentiated fitness from functional independence. The participant accounts illustrate these distinctions. Teacher T3 described a student who had previously fallen frequently but had reportedly become stronger and more confident when running. Teacher T4 identified perceived improvements in stamina, strength, and concentration, whereas parent P3 described reduced illness frequency and greater independence in simple household tasks. In contrast, P5 reported no clearly identifiable change in illness frequency. These accounts demonstrate variation in perceived outcomes without establishing the magnitude or causes of physical change.

Table 2. Reported adaptation practices in school-based sports activities

Adaptation category	Reported practices	Informants
Equipment modification	Softer balls, textured balls, and different ball sizes	T7, T5
Progressive task adjustment	Gradual changes in balance activities and ball-handling tasks	T5
Rule modification	Simplified games and modified bocce activities	T1
Individualized sport selection	Matching activities to students' perceived capabilities	T7

Note. The categories represent practices identified from informant accounts, not a validated hierarchical adaptation model. Examples concerning physical disabilities require clarification before being attributed specifically to students with intellectual disabilities.

Table 2 identifies four interrelated adaptation practices reported by teachers and coaches, indicating attempts to adjust activities according to students' perceived capabilities and instructional demands. Equipment modification and progressive task adjustment were described as ways to accommodate different movement abilities, whereas rule modification and sport selection reflected efforts to support accessible participation. These findings are comparable to Meregi et al. (2025), who documented teachers' practical responses to barriers affecting sports participation in South African special schools. Savage and Colombo-Dougovito (2023) also emphasized the role of capabilities, opportunities, and environmental support in fitness participation experiences. However, the present findings document reported practices rather than demonstrating that these adaptations were implemented consistently or produced measurable fitness improvements. The interview excerpts provide examples of these practices. Teacher T7 described using softer and textured balls and adjusting equipment sizes to accommodate students' abilities. Teacher T5 reported beginning with simpler balance and ball-handling activities before introducing more challenging tasks. Teacher T1 described modified bocce activities associated with Special Olympics Indonesia, whereas T7 emphasized selecting sports according to individual capabilities.

Table 3. Reported assessment and monitoring practices

Monitoring approach	Reported evidence	Informants	Assessment limitation
Teacher observation	Judgments of movement capability and participation	T5	No standardized observation instrument reported
Movement observation	Changes in coordination, agility, and confidence	T3, T6	No repeated objective measurement
Competition benchmarking	Achievement in sports events	T1, T3, T4, T6	Competition outcomes are not direct measures of physical fitness
Parent-reported functioning	Observations of sleep, illness, activity, and independence	P1, P2, P3, P4, P6	Subjective interpretation and recall
Contrasting parental account	No clearly perceived change in illness frequency	P5	No verified explanation for the contrasting observation

Note. The monitoring approaches capture different constructs and should not be interpreted as equivalent measures of physical fitness.

Table 3 indicates that physical and functional development was predominantly monitored through informal teacher observations, competition achievements, and parental reports. Although these approaches provide contextual information, they measure different aspects of students' experiences and cannot independently establish changes in physical fitness. Wolan-Nieroda et al. (2023) demonstrated the application of structured rehabilitation assessments among children with mild intellectual disabilities, while Hsu et al. (2021) measured motor proficiency, fitness, and adaptive development separately. These empirical comparisons highlight the distinction between

informal monitoring and standardized assessment. The present findings therefore identify a practical assessment gap in which stakeholders recognize perceived changes but lack consistently documented measures for evaluating their magnitude and meaning. Teacher T5 explicitly described reliance on visual observation rather than formal assessment sheets. Other teachers referred to competition performance as an indication of student development, while parents described changes in daily activities, sleep, and perceived health. The contrasting account provided by P5 further indicates that perceived outcomes were not uniformly positive. Together, these findings demonstrate the value of complementary stakeholder accounts while revealing limitations in the consistency and comparability of assessment practices.

The findings identified three interconnected areas of adapted sports experiences: perceived physical and functional changes, individualized adaptation practices, and predominantly informal monitoring procedures. Teachers provided accounts of movement capabilities and instructional adaptations, while parents described perceived health experiences and everyday functioning. However, these reports represented different outcome domains and did not objectively confirm physical fitness improvements. The identified adaptation practices illustrated efforts to accommodate students' capabilities, whereas the absence of standardized monitoring limited evaluation of change magnitude. The contrasting parental account further demonstrated variation in perceived outcomes.

DISCUSSION

The findings indicate that teachers and parents associated participation in adapted sports activities with various perceived changes in students' physical capabilities, movement performance, health-related experiences, and everyday functioning. Teachers primarily described observable changes in movement confidence, strength, stamina, and coordination, whereas parents emphasized experiences extending into the home environment. These findings illustrate how different stakeholders recognize physical development through their respective observational opportunities. This distinction is particularly important because physical fitness, motor competence, health status, and functional independence represent related but non-equivalent constructs. Maïano et al. (2024), in a person-centered investigation involving young people with intellectual disabilities, identified distinct profiles of actual and perceived physical fitness, demonstrating that subjective evaluations do not necessarily correspond to measured physical capacities. Similarly, Hsu et al. (2021) evaluated motor proficiency, physical fitness, and adaptive development separately in an intervention involving adolescents with mild intellectual disabilities.

Reports of improved running confidence and reduced falling may suggest perceived changes in motor functioning, whereas greater independence in household activities concerns functional participation rather than physical fitness alone. Tomé et al. (2024) examined autonomy, daily living activities, and physical fitness as distinct outcomes within an exercise program for individuals with intellectual and developmental disabilities. Shen et al. (2024) likewise adopted a multidimensional perspective on adapted physical activity, emphasizing the importance of examining functioning beyond isolated physiological outcomes. The parental accounts concerning reduced illness frequency require particularly cautious interpretation. Illness experiences may reflect several influences, including environmental conditions, healthcare access, individual health status, and changes in daily routines. Because no clinical records or repeated physiological assessments were available, these reports cannot establish improved immune function or disease resistance.

Furthermore, the contrasting account provided by P5 indicates that perceived changes were not uniformly reported. Without attendance records or longitudinal exposure information, this difference cannot be attributed to insufficient training continuity.

The present findings are broadly compatible with research demonstrating that appropriately organized physical activity can support selected physical and functional outcomes among individuals with intellectual disabilities. However, the nature and strength of the evidence differ substantially across studies. Pan and McNamara (2022) investigated physical fitness in students with intellectual disabilities over a three-year adapted physical education program, providing longitudinal evidence based on fitness assessment. In contrast, the present investigation used stakeholder interviews without baseline and follow-up physical measurements. Consequently, similarities in the direction of reported outcomes should not be interpreted as equivalent evidence of intervention effectiveness.

Wolan-Nieroda et al. (2023) evaluated rehabilitation outcomes among children with mild intellectual disabilities using structured measurements of physical fitness and balance. Campagna et al. (2024) investigated physical and psychosocial outcomes associated with a school-based running program involving adolescents with disabilities. These studies demonstrate how physical changes can be examined through explicit outcome measures while also illustrating the range of educational and rehabilitation settings in which adapted activities occur. The present findings complement this literature by describing how teachers and parents perceive changes in routine school and household contexts, rather than quantifying their magnitude.

Research on organized activity programs also highlights the importance of individual participation opportunities and program characteristics. Must et al. (2022) investigated the feasibility of a dance intervention for adolescent girls with intellectual disabilities, while Barak and Dunsky (2023) examined participation and outcomes in a long-term outdoor recreation program for adults with intellectual disabilities. Both provide relevant examples of studies that documented specific activity programs. The findings also correspond with literature addressing participation barriers and supportive environments. MacEachern et al. (2022) identified barriers affecting physical activity participation among children and adolescents with disabilities, while Savage and Colombo-Dougovito (2023) explored how perceived capabilities, opportunities, and motivation shape adults' experiences in fitness programs. These investigations reinforce the significance of understanding how activities are made accessible. Nevertheless, differences in age, disability characteristics and institutional settings must be considered before applying findings from adult community-based programs to adolescents in Indonesian special education schools.

Teachers and coaches described modifying equipment, adjusting task difficulty, simplifying rules, and selecting sports according to perceived individual capabilities. These practices indicate a flexible approach to accommodating differences in movement abilities and opportunities for participation. However, the findings do not establish that the practices constituted a prospectively designed, consistently implemented, or experimentally validated intervention framework. Meregi et al. (2025), through interviews with teachers in South African special schools, described practical responses to barriers affecting sport participation among learners with intellectual disabilities. The relevance of this comparison lies in the importance of context-dependent instructional adjustments rather than the novelty of any single modification. Hong et al. (2023), using a Delphi approach, identified elements of accessible fitness guidance for people with intellectual disabilities, further emphasizing the practical importance of environmental and instructional accessibility.

The adaptation categories reported in the present study therefore overlap with principles already recognized in adapted physical activity. Their contribution should not be framed as the discovery of previously unknown adaptation mechanisms. Instead, the study offers a context-specific descriptive classification of how teachers and coaches explain adjustments within school-based sporting activities. Its empirical value lies in documenting these practices alongside parental perspectives and informal assessment procedures within one institutional setting. The inclusion of progressive task adjustments also warrants careful interpretation. Although T5 described movement activities progressing from simpler toward more demanding tasks, the available evidence does not demonstrate a standardized progression sequence across students. Likewise, the examples of disability-specific sport selection include activities for individuals with physical disabilities, making it necessary to distinguish broader institutional practices from those directly applied to students with intellectual disabilities. The study consequently supports an interpretative account of adaptation practices rather than a hierarchical three-tier model. Future investigations may examine how equipment modifications, task progressions, rule adjustments, and sport selection are combined in practice, whether they are consistently implemented, and how students themselves experience these arrangements.

A particularly important finding concerns the predominance of informal assessment practices. Teachers described monitoring students through visual observation and movement performance, while competition outcomes and parental reports served as additional sources of information. These practices may capture functional changes in familiar environments, but their purposes and measurement properties differ considerably. A competition result reflects sport-specific achievement; parental observations describe perceived functioning; and teacher observations capture selected behaviors during activities. None should automatically be interpreted as a standardized measure of physical fitness. Weterings et al. (2022) investigated the responsiveness of muscle-strength tests among adults with intellectual disabilities, emphasizing the importance of selecting measures capable of detecting change. Hsu et al. (2021) demonstrated how distinct assessments can be used to examine motor competence, fitness, and adaptive development. Oskarsson et al. (2023) similarly distinguished physical activity participation from measures of strength and aerobic fitness when comparing Special Olympics athletes and non-athletes with intellectual disabilities. These studies illustrate the value of clearly defining outcomes before monitoring physical development.

The findings suggest that educators could benefit from practical monitoring procedures that distinguish observed movement performance from physical fitness, perceived health, and daily functioning. Such procedures might combine structured observation records with appropriate standardized assessments where feasible. However, the present study did not evaluate the feasibility, validity, reliability, or training requirements of any proposed monitoring system. Therefore, recommendations regarding implementation should be considered priorities for future development rather than demonstrated solutions. Several limitations constrain interpretation. First, the single-school design and purposively selected informants limit transferability to other institutions. Second, the study relied exclusively on stakeholder accounts, which may be affected by recall, expectations, selective observation, and socially desirable responses. Third, the absence of documented correspondence between teacher and parent informants prevents confirmation that apparently similar accounts concerned the same students or observation periods. Fourth, incomplete information about individual disability characteristics and sports exposure restricts interpretation of

variations in reported experiences. Fifth, the original documentation provided insufficient detail regarding reflexive analytic decisions, quotation translation, and the development of thematic boundaries.

Future studies should combine qualitative interviews with appropriately selected assessments of physical fitness and motor performance while preserving separate measures of perceived health and functional participation. Longitudinal or comparative designs could investigate whether reported changes correspond to objectively observed development. Researchers should also document participation exposure, examine student perspectives through accessible communication methods, and test the feasibility of structured monitoring procedures. Within these boundaries, the present study contributes an interpretative description of stakeholder experiences, reported adaptation practices, and assessment challenges in adapted sports programming at an Indonesian special education school.

CONCLUSION

This study explored teachers' and parents' perspectives on physical and functional changes associated with adapted sports participation among students with intellectual disabilities in an Indonesian special education school. The findings identified three interrelated areas: perceived changes in physical capabilities and everyday functioning, reported adaptations of sports activities, and predominantly informal assessment practices. Teachers described changes in stamina, strength, movement confidence, and coordination, whereas parents reported experiences involving physical activity, perceived health, and daily independence. These accounts provide complementary perspectives but do not establish objectively measured improvements in physical fitness. Adaptation practices involved modifications to equipment, task difficulty, game rules, and sport selection according to students' perceived capabilities. These practices represent a context-specific descriptive classification rather than a validated intervention framework. The findings also revealed that monitoring relied largely on teacher observations, competition achievements, and parental accounts, highlighting the distinction between practical observation and standardized physical fitness assessment. The contrasting parental account further demonstrated variation in perceived outcomes. The study contributes qualitative evidence concerning stakeholder experiences and educational practices in adapted sports programming. However, its single-site design, reliance on subjective reports, and incomplete documentation of individual participation and analytical procedures limit the interpretation and transferability of the findings. Further research integrating stakeholder perspectives with appropriate objective assessments is needed.

RECOMMENDATION

Physical education teachers and coaches working with students with intellectual disabilities may consider adapting sports activities through equipment modification, progressive task adjustment, simplified game rules, and individualized sport selection. These approaches should be aligned with students' observed capabilities, participation needs, and safety considerations rather than applied as a fixed or universally effective framework. Schools are encouraged to strengthen monitoring practices by introducing structured observation records that distinguish physical fitness, motor performance, health-related experiences, and functional independence. Parent-teacher communication may also provide complementary information about students' participation across school and home environments. Future research should investigate adapted sports programming

using clearly documented participant characteristics, intervention exposure, and assessment procedures. Mixed-methods or longitudinal designs could integrate interviews with validated measures of muscular strength, endurance, balance, and motor proficiency to examine whether perceived changes correspond to objectively measured outcomes. Researchers should also incorporate students' perspectives through accessible communication methods and examine discrepancies between teachers' and parents' accounts. Transparent reporting of sampling, interview-guide development, reflexive thematic analysis, ethical safeguards, and researcher positionality would strengthen methodological credibility. Multi-site investigations and implementation studies are recommended to evaluate the applicability, feasibility, and potential outcomes of specific adaptation practices across different educational contexts.

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