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Developing Psychomotor Skills and Social Attributes Through Integrated Psychomotor and Unified Football Training: A Special Olympics Intervention Study

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Abstract: *This research investigates the combined effects of a tailored psychomotor development training and Unified Sports football program on psychomotor abilities and social attributes among Special Olympics athletes with intellectual disabilities aged 16-18 in Romania. The study aims to assess the impact of the integrated psychomotor and Unified Football training program on the psychomotor abilities of youth Special Olympics athletes with intellectual disabilities, evaluate the influence of the intervention on their social attributes, and examine the relationship between psychomotor abilities and social attributes among participants.*
The findings indicate significant improvements in psychomotor skills, including Static Balance ($t = -8.042$, $p < 0.001$), Identified Stimuli ($t = -7.000$, $p < 0.001$), and Friendship Activity Scale scores ($t = -8.990$, $p < 0.001$), reflecting substantial enhancements from initial to final testing. Moreover, Pulse Processing Speed showed a significant improvement ($t = -2.299$, $p = 0.042$). However, while Dynamic Balance exhibited a negative t-value ($t = -2.021$), the p-value of 0.068 indicates a marginally significant improvement. These results suggest notable advancements in psychomotor skills and social interaction among Special Olympics athletes, underscoring the effectiveness of the integrated training program.
The implications of these findings extend to coaches and practitioners involved in designing tailored training programs aimed at enhancing psychomotor and social skills among athletes with intellectual disabilities.

Keywords: *Friendship Activity Scale scores; static balance; dynamic balance; pulse processing speed; identified stimuli.*

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Introduction

In recent years, there has been growing interest in utilizing psychomotor activities and Unified Sports (UNS) football training as potential interventions to support the comprehensive development of Special Olympics (SO) athletes with intellectual disabilities (ID). Despite their recognized potential, the integration of these interventions into structured training programs for SO athletes remains relatively underexplored within the context of long-term athlete development (Perić et al., 2022; Cipu & Dragnea, 2007).

Studies conducted by Baran et al. (2013) and Özer et al. (2012) have examined the effects of a SO UNS soccer program on various aspects including anthropometry, physical fitness, soccer skills, and psycho-social attributes among youth, both with and without ID. The findings of these studies indicate that the UNS program was effective in reducing problem behaviors among youth with ID while simultaneously enhancing their social competence, physical fitness, and soccer skills. Additionally, the program demonstrated a positive impact on the attitudes of youth without disabilities towards individuals with disabilities.

While previous research has primarily focused on the physical benefits of these interventions (Hutzler & Korsensky, 2010; Iordache et al., 2010), recent studies (Zhang et al., 2021; Aksović et al., 2023; Fothergill et al., 2023) emphasize the need to systematically integrate psychomotor activities and UNS football training to foster the comprehensive development of young SO athletes.

SO athletes with ID represent a diverse group with varying cognitive abilities and challenges that necessitate targeted interventions to address their unique needs and facilitate their integration within society and educational settings (Harada & Siperstein, 2009). Despite the broad spectrum of cognitive impairments among SO athletes, ranging from mild to profound, challenges in social competence and adaptive behavior are commonly encountered, posing barriers to community integration (Killaspy et al., 2022)

Fostering psychomotor skills is recognized as a pivotal aspect of supporting SO athletes, as these skills play a foundational role in their physical, cognitive, and social development (Van Biesen et al., 2021; Aharoni, 2005). Tailored psychomotor education programs have demonstrated promise in enhancing physical attributes and promoting independence among SO athletes (Rosu et al., 2024; Muntean, & Oravitan, 2022). Additionally, integrating playful activities such as UNS football into

these programs can enhance participant motivation and engagement, leading to improved motor-cognitive outcomes (Patrascan & Stefanica, 2019; Ahmedova & Belomazheva-Dimitrova, 2021; Kontautienė & Vilkas, 2014).

Psychomotor activities encompass a diverse range of exercises designed to enhance an SO athlete's ability to control bodily movements effectively, react swiftly, and maintain coordination and balance on the field (Mateescu, 2019; Muntean et al., 2023). These activities hold promise in indirectly influencing social attributes dynamics by bolstering an SO athlete's self-confidence, spatial awareness, and interpersonal communication skills (Leonte et al., 2014). Research by Blandul (2009) explored the correlation between psychomotor abilities and social attributes in SO athletes, revealing a significant positive association between the two domains. Moreover, recent studies have elucidated the link between psychomotor training and cognitive functions such as attention, decision-making, and reaction time in youth with ID, indicating potential benefits in enhancing psychomotor skills and social attitudes through targeted interventions. (Stefanica et al., 2024).

UNS football, characterized by modified rules and tailored techniques, offers unique opportunities for promoting social engagement among SO athletes. By providing a supportive and inclusive environment, UNS football programs can facilitate meaningful social interactions and foster a sense of belonging among participants (Özer et al., 2012). Furthermore, the collaborative nature of football inherently cultivates social skills and interpersonal relationships, further underscoring its potential as a tool for enhancing social attributes in SO athletes (Leonte et al., 2014).

While existing literature underscores the critical role of social attributes in athletic performance and overall well-being (Lin et al., 2017), limited research has specifically investigated the short-term effects of psychomotor activities and UNS football training on psychomotor abilities and social attitudes among SO athletes.

Purpose of the research

This research aims to investigate the combined effects of a tailored psychomotor development program and Unified Football training on psychomotor abilities and social attributes among Special Olympics (SO) athletes with intellectual disabilities (ID) aged 16-18 in Romania.

The research objectives in this study are:

1. To assess the impact of the integrated psychomotor and Unified Football training program on the psychomotor abilities of youth SO athletes with ID.

2. To evaluate the influence of the intervention on the social attributes of youth SO athletes with ID.

3. To examine the relationship between psychomotor abilities and social attributes among youth SO athletes participating in the integrated training program.

The findings of this study hold implications for coaches and practitioners in devising tailored training programs aimed at enhancing psychomotors and social skills among Athletes with ID.

Materials and methods

Subjects

The study included 12 adolescent boys diagnosed with mild intellectual disability (ID), with an average IQ of 59 ± 8 and an average age of 17.42 ± 0.8 years. Their physical characteristics showed an average height of 175.6 ± 8.5 cm, a weight of 74.69 ± 9.8 kg, and a BMI of 21.4 kg/m². These participants were recruited in collaboration with the Romanian Football Federation and the Special Olympics Romania Foundation (Ciocan et al., 2016), with support from the Ministry of National Education. Specifically chosen from the U18 group of the Special Inclusive Education Center in Sibiu, they had previously participated in the National Unified Football Championship in 7-a-side teams for boys (Patrascan & Stefanica, 2018).

A conventional sampling method was employed, considering various factors such as age, medical fitness confirmed by an original individual medical certificate indicating "clinically healthy" or "fit for adapted sports activities," and the provision of documentation attesting to special educational requirements, including a Certificate of educational and vocational guidance or equivalent.

Furthermore, parental consent was obtained and documented before the commencement of the research, in accordance with the principles outlined in the Declaration of Helsinki. The research protocol was approved by the Ethics Committee of the Doctoral School of Physical Education and Sport Science (ID: 05/15.12.2022), University of Politehnica Bucharest, University Center Pitesti, Romania, ensuring adherence to ethical standards and guidelines for research involving human participants.

Research instruments

1. Sensamove Balance Miniboard

For the evaluation of static coordination, we utilized the Sensamove balance miniboard. This instrument played a crucial role in assessing individuals' stability and control in stationary situations. The miniboard facilitated the accurate measurement and monitoring of balance and coordination performance during static tasks. (Stefanica et al., 2024).

2. Optojump Next Optical System

The Optojump Next optical system accurately recorded and evaluated multiple facets of human motion. By assessing the coordination between sensory perception and physical response, this system provided essential insights into participants' perceptual-motor coordination. The application of this instrument, as demonstrated by Rosu et al. (2024) , enhanced our comprehension of dynamic balance in various settings.

3. The Witty SEM Intelligent semaphores.

In our project, we implemented intelligent semaphores to measure movement velocity. By capturing and analyzing the duration of specific movements or action sequences, this tool offered accurate assessments of movement velocity. The insights gained through this instrument significantly contributed to our understanding of participants' kinetic capabilities, aligning with the studies conducted by severeals specialists in the field (Stefanica et al., 2024).

4. The Friendship Activity Scale (FAS)

The development of sports opportunities for youth with ID within the Special Olympics framework has been anchored in the concept of unified sports, offering inclusive athletic activities for athletes with mild ID, enabling their participation alongside non-disabled peers, called parteners. (Khoo & Engelhorn, 2011; Phytanza et al., 2018). Unified sports aim to cultivate positive psycho-social changes through "friendship activity" (Special Olympics, 2013). Hence, having a tool to measure "friendship activity" is vital for gauging the efficacy of unified sports. The Friendship Activity Scale (FAS), developed based on theories of social cognition regarding friendship development by Siperstein and Bak in 1985, serves as a means to assess attitudes towards individuals with ID who engage in activities. Originally comprising 17 items, respondents employ a four-point scale to denote whether they would (4), probably would (3), probably would not (2), or would not (1) include the child attributed in the listed activity.

In our study, we examined whether there were significant changes in FAS scores among Special Olympics (SO) athletes before and after their

involvement in the Unified Sports (UNS) football and psychomotor program. This analysis allowed us to assess whether the program influenced the attitudes of non-disabled peers (partners) towards SO athletes, as indicated by their responses on the FAS.

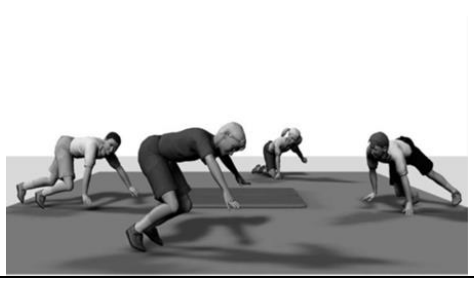
Procedure of interevention

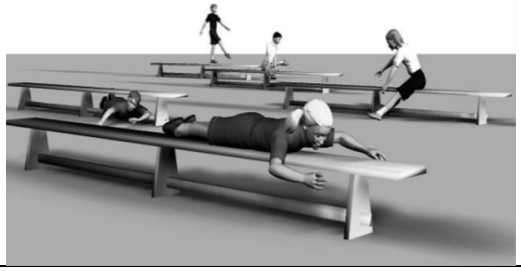
During the initial phase (January-February 2023), participants underwent a series of assessments designed to yield specific insights (static and dynamic balance test, pulse processing speed and identified stimuli test). These assessments primarily targeted the expression of various components within the realm of psychomotor skills and motor abilities, while their partners completed the Friendship Activity Scale (FAS) questionnaire.

Following the preliminary research phase, the collected data were processed and analyzed. The conclusions drawn from this analysis informed the selection of psychomotor tools and Unified 7-a-side (UNS) football exercises (Ursu et al., 2022; Rata et al., 2020), as well as the establishment of action plans within the framework of the integrative UNS football and psychomotor program. This program, structured as comprehensive sessions, extended over 90 minutes and was conducted three times weekly, spanning a period of 36 weeks from March 2023 to November 2023, representing the second stage. Each training session commenced with 30 minutes of psychomotor activity facilitated by SO athletes with ID, with support and collaboration from their partners. This was followed by 30 minutes of UNS football exercises and drills, and finally, 30 minutes of Unified 7-a-side Football.

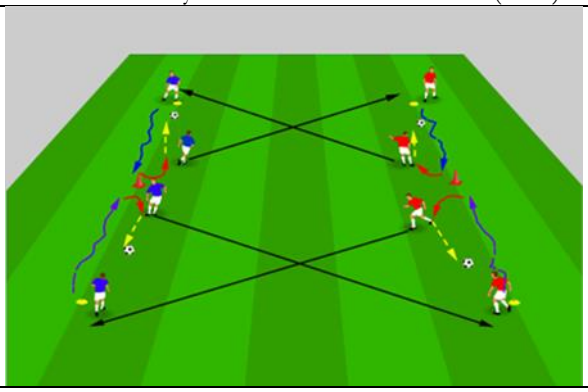
Table 1 presents examples of UNS football exercises and psychomotor interventions. The extended 36-week duration of the program allowed for a comprehensive examination of its long-term effects, including the fostering of friendships and collaborative relationships through shared activities.

Table 1. Illustrative activities in the integrative psychomotor and UNS football program for SO athletes with ID

<table>
<tr><td colspan="2">Psychomotor interventions designed for SO athletes with ID focus on enhancing various aspects of motor skills, coordination, balance, and movement patterns.</td></tr>
<tr><td colspan="2"> </td></tr>
<tr><td colspan="2">Visual depiction of the initial stage in the circuit</td></tr>
<tr><td>Number of stations and technical description</td><td>Dosage, and execution variations.</td></tr>
<tr><td>1. Moving within a space delimited by various walking forms, following the coach's instructions using both palms and feet. Upon the whistle signal, participants can transition into different modes of movement, such as crawling on palms and knees, palms and soles face down, palms and knees face up, etc.</td><td>4-6 commands will be executed with transitions into the various specified variants given by the partner; SO athletes who do not respond will be assigned additional tasks.
Game Variation / Possession Game from a seated position on palms and soles, face up. Various balls can be used, such as mini-handball, mini-football, mini-basketball, sponge balls, etc. Ball passing variation: the ball will be controlled and passed only with the feet, without allowing it to be lifted from the palms and soles with the face up or placed on the ground.</td></tr>
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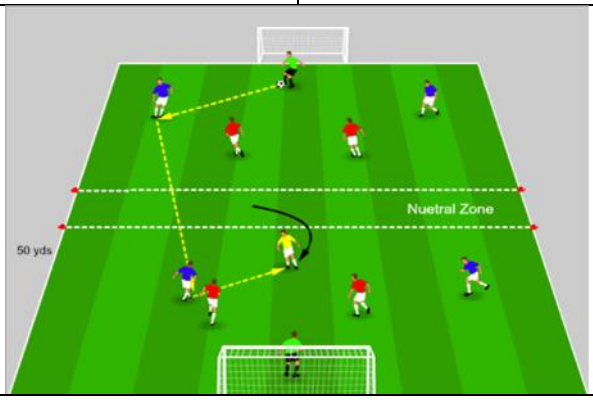
Visual depiction of the second stage in the circuit	
Number of stations and technical description	**Dosage, and execution variations.**
2. Walking in balance on the gymnastic bench, within a space delimited by randomly arranged gymnastic benches, various short games will unfold, such as touching, running, and climbing on the bench, etc. On the surface with gymnastic benches arranged randomly, following the coach's command, numerous passages will be made under the benches, crawling climb over the bench, or various crossings. SO athletes who are allowed can also eliminate others from the game by touching them with the ball in the area between the benches. Balancing movements on gymnastic benches positioned normally or inverted, on the bench surface. Following the coach's command, transversal movements on the bench will be executed on one leg, backward, blindfolded, with auditory assistance from a partner, in pirouettes on one leg, and on both legs.	SO athletes will aim to avoid a team mate nominated by the coach for tagging/touching with a ball. SO athletes who do not respond to the change in the mode of movement over the bench will receive additional tasks. SO athletes will strive to accurately execute the commands. From a balanced position on the gymnastic bench, SO athletes will be arranged in the bench area, executing various dance steps, turns, exercises for harmonious physical development, aiming to maintain balance. Momentary competitions will be held, focusing on who makes the fewest mistakes and who executes the movements most accurately in the mirror.
	
Visual depiction of the second stage in the circuit	
Number of stations and technical description	**Dosage, and execution variations.**
3. Competition of crawling while lying face down on the gymnastic bench - "seal crawl," in parallel with the ground. Following the coach's command, SO athletes will turn onto their back and crawl on the bench by pulling themselves with their arms.	The arms will provide traction for the body, facilitating its movement through crawling; 3-4 repetitions. Crawling and pulling movement from a seated position on the gymnastic bench. The movement involves transitioning from a seated position on the bench to crawling with slightly raised legs to the side.

Examples of exercises commonly included in Unified 7-a-side (UNS) football training:



3D Graphic Representation

Technical Description and Methodical Execution	**Guidelines - Specific Dosage**
Four SO athletes and partners positioned in a square with sides ranging between 15 and 25 meters, engaging in diagonal passing in pairs, systematically followed by an accelerated run along the square's side. Immediately after, the ball is passed diagonally, and after two such executions, the passing and running directions are alternated. Passing is executed along the square's side, followed by sprinting diagonally within the boundaries marked by cones	The execution will be repeated for 10-12 passes, followed by accelerated sprints, with a semi-active break of 2-3 minutes. During this break, a brief seated stretching program will be practiced on the grass or a mat. As a variant, an additional task can be introduced during the sprint distance, involving a change in direction by maneuvering through three tall cones arranged in a zigzag pattern.



3D Graphic Representation	
Technical Description and Methodical Execution	**Guidelines - Specific Dosage**
Field Dimensions: The game takes place on a field measuring 60 by 30 meters, featuring an integrated neutral zone at the center. SO athletes and partners from both teams are prohibited from entering this neutral zone. The field is equipped with two official goals, each guarded by active goalkeepers. Game Dynamics: The match unfolds as a partially indirect confrontation with the opponent, emphasizing teamwork, strategy, and inclusive play. The neutral zone adds an extra layer of complexity to the game, featuring a neutral partner who can only enter the game with the team in possession. This neutral partner has the unique ability to penetrate the playing areas of both teams, providing an element of surprise and adaptability to the game. Scoring Rules: SO athletes and partners positioned in the halves of the field 2 by 2 will only score in the goal of the half they belong to. This scoring rule encourages SO athletes and partners to work cohesively with their teammates and strategize effectively to secure goals in their designated halves.	The execution will be repeated 4-6 times with a semi-active break, during which continuous ball control from ankle play will be practiced, followed by light running and stretching while seated on the grass or mat. Instructions: SO athletes must adhere to the rule of scoring only in the goal of the half they belong to, fostering a strategic approach to the game. The neutral partner can significantly impact the flow of the game by strategically entering the playing areas, requiring teams to adapt their strategies dynamically. Emphasize the principles of teamwork, communication, and inclusion throughout the game. Work Variation: The number of players for each team can be adjusted individually to accommodate different skill levels and promote inclusivity. Introduce numerical disadvantages or advantages for either team, providing an additional challenge or support as needed. This adapted 4 vs. 4 inclusive football game is designed to promote teamwork, strategic thinking, and inclusive play, catering specifically to the unique dynamics of Unified Football with Partners and Children with Intellectual Disabilities.

Statistical analysis

During the final stage of analysis, from December 2023 to January 2024, paired sample t-tests were conducted to evaluate changes in performance between initial and final tests. The application of the Paired Samples t-Test (One-Sample) facilitated the comparison of means within paired groups, enabling the assessment of statistical significance of observed alterations (Muhammed Al-Kassab, 2022). Our analysis involved conducting one-sample t-tests to determine the effectiveness of the program across various research parameters, including static/dynamic balance, stimulus identification, pulse processing speed, and FAS scores. Based on the SPSS results (Table 2), we identified significant changes in performance metrics, indicating the impact of the intervention on the measured variables.

Results

Table 2 displays the results of a 36-week program on various measurements including psychomotor skills and FAS scores among SO Athletes, comparing initial and final test performances. Significant values for Sig. (2-tailed) indicate that the differences are statistically significant between initial and final measurements, both for psychomotor items and FAS scores.

Table 2. Effects of a 36-Week Program on Psychomotor Skills, UNS Football Training, and FAS scores in SO Athletes: Initial and Final Test Performances

Measurements	Test	M	SD	t	Sig. (2 tailed)	p
SB	I F	-1.750	.754	-8.042	.000	p < 0.001
IS	I F	-1.167	.577	-7.000	.000	p<0.001
PPS	I F	-.10525	.15861	-2.299	.042	p<0.001
DB	I F	-.007083	.012139	-2.021	.068	p>0.001
FAS	I F	-2.167	.835	-8.990	.000	p<0.001

Abbreviations: M: the difference between the initial (I) and final (F) mean values for each measurement; SD:standard deviation; t: t-statistic, measuring the difference between the mean values relative to the variability in the data; SB:Static_balance; PPS:Pulse_processing_speed; IS: Identified_stimuli; DB: Dynamic_Balance; Friendship Activity Scale scores: FAS; I =Initial testing ; F = Final testing.

Discussion

This study aimed to investigate the combined effects of a tailored psychomotor development program and UNS football training on psychomotor abilities and social attributes among SO athletes with ID, aged 16-18 in Romania. The findings demonstrate the effectiveness of integrating psychomotor development with UNS football programs for SO athletes with ID, resulting in significant improvements across various parameters. By combining these two approaches, we aimed to address not only physical but also psychomotor and social attributes of development, thereby promoting inclusivity and enhancing the quality of life for participants.

The results of the paired samples tests underscore the effectiveness of the intervention, revealing statistically significant differences between initial and final measurements. Significantly negative t-values were observed for Static Balance (SB) ($t = -8.042$, $p < 0.001$), Identified Stimuli (IS) ($t = -7.000$, $p < 0.001$), and FAS ($t = -8.990$, $p < 0.001$), indicating substantial improvements from initial to final testing. Additionally, Pulse Processing Speed (PPS) exhibited a negative t-value ($t = -2.299$, $p = 0.042$), suggesting a significant enhancement in this aspect. However, for Dynamic Balance (DB), while a negative t-value was noted ($t = -2.021$), the p-value of 0.068 exceeds the conventional significance threshold of 0.05, indicating a marginally significant improvement. Overall, these findings suggest significant improvements in psychomotor skills and social interaction among SO athletes, as indicated by the highly significant p-values for most measurements.

These findings are consistent with previous research, exemplified by the study conducted by Guidetti et al. (2010). The authors aimed to address the gap in knowledge regarding the impact of sport specialization on fitness and health components among individuals with ID, despite existing research demonstrating the positive effects of exercise on their well-being. Fitness assessments, including body composition, flexibility, muscular strength, endurance, explosive power, cardiovascular endurance, balance ability, and motor coordination, were conducted before and after a 9-month period. The results revealed significant effects of time and activity on various fitness parameters. Notably, all SO athletes exhibited significant enhancements in muscular strength and endurance. Moreover, motor coordination performance was positively associated with the severity of ID. Overall, the findings underscored the positive impact of physical activity on fitness levels among adult athletes with ID, contributing to a reduction in health risks, with individuals with lower levels of ID achieving higher motor coordination scores.

Our study contributes to the expanding research literature by integrating UNS football training, psychomotor activities, and social elements. Our approach offers a comprehensive framework aimed at fostering inclusivity and enhancing the overall well-being of individuals with mild ID. As emphasized by Biddle & Asare (2011), there exists a significant correlation and interdependence between the physical development of SO athletes with ID and their mental capacity, assimilation, and application of knowledge. Alonso-Sardón et al. (2019) conducted a study with the objective of examining the relationship between perceived social support, personal autonomy among individuals with ID, and their Health-Related Quality of Life (HRQoL). Their findings indicated that individuals with ID who exhibited a higher level of

personal autonomy, supported by both institutional and family assistance, tended to report better health and overall quality of life.

Our findings suggest that improvements in motor skills may contribute to increased social attitudes among SO athletes with ID. Moreover, recent research suggests that the cognitive benefits associated with regular physical exercise may result from improvements in synaptic activity, cerebral blood flow, and brain perfusion, as well as enhancements in neuronal plasticity (Ferrer-Uris et al., 2022). Psychomotor training, emphasizing the enhancement of dynamic balance and coordination alongside swift motor responses, is expected to involve cognitive mechanisms that foster advancements in social integration (Rosu et al., 2024). Xiao et al. (2024) conducted a significant investigation exploring the impact of UNS soccer training on enhancing cognitive flexibility in adolescents with ID, along with its underlying brain mechanisms. Their study also examined the effects of UNS soccer training on inhibitory control in this population. The findings revealed that participants in the soccer group demonstrated superior cognitive flexibility compared to those in the control group. This emphasizes the importance of holistic approaches in supporting the development and well-being of SO athletes with ID by integrating psychomotor activities and adapted sports programs, thus promoting inclusivity and enhancing their overall quality of life within society and the educational system.

Ninot and Maïano (2007) conducted a study to examine the influence of athletic program type (integrated vs. segregated) and sport type (basketball vs. swimming) on perceived competence and general self-worth among 48 adolescent females with ID. The 21-month intervention involved weekly training sessions and competitive meets, with assessments conducted using Harter's Self-Perception Profile for Children. Results showed no changes in perceived social acceptance, lower perceived athletic competence in integrated groups, and decreased general self-worth in basketball groups compared to those in physical education classes. The integrated setting appeared to foster a more realistic evaluation of physical competence among adolescents with ID. Baran et al. (2009) aimed to assess perceptions of commitment and satisfaction regarding the UNS Football Program among athletes, partners, parents, and coaches before and after its implementation. The study involved 46 boys, half with ID, with an average age of around 14 years. Findings revealed shifts in partners' enjoyment of training and their perception of social interactions with school friends post-program, alongside increased athlete recommendations of UNS to peers. Parents noted improvements in their children's abilities and behaviors, while coaches supported the necessity of rule adjustments. In their study, Louw et al.

(2020) highlighted several key findings. They found that structured and organized social inclusion interventions significantly increased opportunities for individuals to participate in social interactions and enhance their social skills. Furthermore, assessing outcomes related to interpersonal relationships and community participation was shown to promote positive outcomes in fostering social inclusion among young adults with ID.

These findings carry important implications for the design and implementation of future intervention programs geared towards promoting holistic development and social inclusion among SO athletes with ID.

Limitations and strengths

While our study offers valuable insights, it is important to acknowledge several limitations. Firstly, the research focused on specific aspects of psychomotor abilities, potentially overlooking other relevant elements crucial for a comprehensive understanding of participants' development. Additionally, the small sample size of 12 subjects may limit the generalizability of our findings. However, despite these limitations, the study demonstrates notable strengths. A significant strength is the personalized approach taken in designing the psychomotor UNS football integrative program for SO athletes with ID. This tailored approach allowed for addressing the individualized needs of participants, maximizing the intervention's effectiveness. The extended 36-week duration provided a robust foundation for exploring the long-term impact and sustainability of these integrated initiatives, contributing valuable insights to the discourse on sustainable well-being. Furthermore, the study revealed significant improvements in specific aspects of psychomotor abilities and social attributes among participants, highlighting the intervention's effectiveness in promoting holistic development and social inclusion among SO athletes with ID. Additionally, the study's rationale is supported by a diverse range of credible references from specialized literature, enhancing its methodological rigor and validity of findings.

Future research endeavors should aim to address these limitations and build upon the strengths of this study to further advance our understanding of psychomotor development and social inclusion among SO athletes with ID.

Conclusions

The aim of this study was to assess the impact of participation in a Unified Sports (UNS) and psychomotor integrative program on the psychomotor skills and social attributes of youth with ID. Results indicated

that the UNS and psychomotor integrative program effectively enhanced participants' psychomotor competence and FAS scores. Moreover, the program demonstrated efficacy in positively influencing the attitudes of youth without disabilities towards individuals with ID. Overall, these findings underscore the value of implementing a UNS psychomotor integrative program for youth with disabilities, suggesting potential benefits for coaches, educators, school administrators, and community sport organizers. Further research is warranted to explore the long-term impacts of such programs and their effects on participants' motor skills and physical fitness attributes.

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