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COMMENTARY ARTICLE

Eligibility Assessment Challenges for Athletes with Intellectual Impairment: Multilingual, Cognitive, and Access Barriers

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Abstract

Eligibility assessments for athletes with intellectual impairment are critical to ensure fair participation while safeguarding athlete welfare. This article synthesizes key challenges across multiple domains: multilingual athletes, stress and anxiety during testing, attention deficits, reliability and validity of tests, risks of misrepresentation, limited access to assessment background, and co-occurring disabilities (e.g., hearing or visual impairments). We highlight methodological considerations, policy implications, and recommendations for practice to improve equity and accuracy in eligibility determinations.

Introduction

In elite and para-sport contexts, eligibility criteria for intellectual impairment aim to balance inclusion with integrity of competition. However, assessments are complex when applied to diverse athlete populations. Intellectual impairment (II) often coexists with multilingual backgrounds, attentional variability, and sensory or motor comorbidities. These factors can influence test performance, interpretation of cognitive and adaptive functioning, and the reliability of eligibility decisions. This commentary outlines the principal challenges and proposes strategies to enhance the fairness and effectiveness of assessment processes.

1. Multilingual athletes: language, culture, and test bias

- Challenge: Standardized cognitive and adaptive behavior assessments can be biased by language proficiency and cultural context. For multilingual athletes, language demands of testing may confound genuine impairment with language delay or limited test familiarity (Fletcher & Smith, 2021).
- Implications: Potential misclassification—over-identification of II in athletes with strong nonverbal abilities but weaker language performance, or under-identification where language barriers mask cognitive difficulties.

- *Considerations and approaches*
    - Use of nonverbal or language-agnostic measures where appropriate, while ensuring they are validated for diverse linguistic groups.
    - Commissioning bilingual assessors or trained interpreters to mitigate translation-related misunderstandings without introducing scoring bias.
    - Cultural competence in test selection and interpretation; incorporating collateral information from coaches, families, and previous medical or educational records.
    - Transparent documentation of language status, interpreter use, and any deviations from standardized administration.

2. Stress and anxiety during testing

- Challenge: Competitive sport contexts, selection pressures, and high-stakes decision-making can elevate stress, affecting performance on cognitive and functional assessments (Goldsmith & Brown, 2020). The anticipation of evaluation, fear of failure, and the presence of evaluators can trigger rapid physiological arousal (e.g., increased heart rate, cortisol release) and heightened sympathetic activation. These responses can fleetingly disrupt attention, working memory, and information processing, leading to performance that's confounded by situational anxiety rather than reflecting stable cognitive ability.
- Implications: Elevated stress may disproportionately affect athletes with II, reducing test reliability and potentially inflating or deflating impairment estimates.
- *Considerations and approaches:*
    - Scheduling assessments with flexible timing, breaks, and acclimation periods to reduce test-related anxiety.
    - Using stress-minimized administration protocols and ensuring a supportive testing environment.
    - Incorporating physiological and behavioral indicators of stress to contextualize test results.
    - Providing clear explanation of procedures, consent, and the purpose of testing to reduce uncertainty.

3. Attention deficits and executive functioning

- Challenge: Attention deficits and executive function impairments can substantially distort performance on cognitive and functional assessments, particularly when tasks are timed or demand complex planning, coordination, and flexible problem-solving (de Haan & van Lieshout, 2019). When attention is inconsistent or easily disrupted, test-takers may miss critical cues, linger on irrelevant details, or experience difficulties sustaining focus throughout a session. This variability

can lead to inconsistent responses, slower processing, and an increased likelihood of errors that do not reflect core intellectual abilities but rather moment-to-moment attentional lapses.

- Implications: Tests may reflect attentional capacity rather than core intellectual impairment, leading to potential misclassification.
- *Considerations and approaches:*
    - Distinguishing adaptive behavior and cognitive functioning through multi-method assessment (e.g., performance-based testing, caregiver/teacher reports, direct observation).
    - Selecting measures with demonstrated robustness to attentional fluctuations or using multiple short sessions to average performance.
    - Training evaluatees on task expectations and providing practice trials to minimize novelty effects (Goldsmith & Brown, 2020).

4. Reliability and validity of tests

- Challenge: The reliability and validity of many standard IQ tests and adaptive behavior instruments are frequently debated when applied to individuals with intellectual impairment (Hughes & Bell, 2018) and this debate is especially pronounced across different age ranges and cultural contexts. When assessing younger children, instruments may fail to capture the unique developmental trajectories and learning profiles present in II populations, potentially misrepresenting their cognitive capacities or adaptive skills. In adolescence and adulthood, the same tests may rely on tasks or motivational contingencies that do not align with the everyday experiences of individuals with II, leading to measurement discordance between test performance and functional abilities. Language differences further complicate interpretation, as verbal demands, nuance, and cultural idioms can distort scores for multilingual individuals or those with language-associated learning profiles, even when nonverbal sections exist (Fletcher & Smith, 2021).
- Implications: Inaccurate estimates of intellectual functioning can lead to inappropriate eligibility decisions, affecting athletes' career opportunities.
- *Considerations and approaches:*
    - Favoring instruments with established validity in II populations and that have normative samples inclusive of diverse groups.
    - Employing a decision framework that integrates multiple data sources (cognitive, adaptive, medical, educational history) rather than relying on a single score.
    - Regularly reviewing and updating assessment batteries to align with current evidence and best practices.

5. Risks of misrepresentation

- Challenge: The competitive stakes create incentives for misrepresentation or exaggeration of impairment, whether intentional or due to misinterpretation of test results (Park & Lee, 2022). When the prospect of a coveted opportunity hinges on a narrow window of performance or eligibility, some individuals may feel pressure to present a more favorable profile of cognitive or functional abilities than is accurate. In addition to intentional fabrication, there is also the risk that evaluators, coaches, or even athletes themselves may misconstrue ambiguous findings, overemphasize favorable subscale scores, or apply blanket interpretations to complex neuropsychological data. This dynamic can distort the perception of an athlete's true functioning, leading to decisions about eligibility, access to resources, or competitive placement that do not align with objective evidence.
- Implications: Misclassification undermines fairness and can erode trust in the eligibility process.
- *Considerations and approaches:*
    - Implementing verification processes, including cross-checks with medical, educational, and developmental histories.
    - Training assessors to recognize inconsistencies between different information sources and to distinguish genuine impairment from malingering or secondary gain motives (Park & Lee, 2022).
    - Establishing standardized ethical guidelines and peer review for contentious cases.

6. Access to assessment background and data continuity

- Challenge: Incomplete medical, educational, or developmental histories impede a holistic interpretation of test results by depriving evaluators of critical context about prior diagnoses, interventions, learning trajectories, and environmental supports (Rossi & Chen, 2023). Without comprehensive history, findings may be misattributed to inherent cognitive or adaptive limitations rather than to treatable conditions, remediation opportunities, or instructional history. This gap can reduce the accuracy of differential diagnosis, obscure factors affecting performance (such as comorbidities, medication effects, or sensory impairments), and hinder tailored remediation planning or appropriate accommodations
- Implications: Gaps in background data can lead to uncertain conclusions or reliance on partial information.
- *Considerations and approaches:*
    - Creating centralized, secure repositories for eligible athletes' assessment records with consent-based access for authorized professionals.
    - Encouraging standardized reporting templates that capture medical history, prior diagnoses, language status, and adaptive functioning across contexts.

- Facilitating data-sharing agreements among federations, clinics, schools, and national sport bodies to improve context for interpretation.

7. Co-occurring disabilities: hearing, visual impairment, and other conditions

- Challenge: Additional disabilities can interact with II to influence test performance and functional independence (Williams & Turner, 2017).
- Implications: Co-morbid sensory impairments may confound cognitive assessment results or adaptive behavior ratings.
- *Considerations and approaches:*
  - Employing assessment strategies tailored for sensory impairments (e.g., sign language interpretation, tactile or enlarged stimuli, assistive technologies).
  - Using alternative or supplementary measures that account for sensory limitations while still capturing relevant functioning.
  - Ensuring a holistic evaluation that documents how other disabilities contribute to or mask impairment.

Policy and practice implications

- A multi-method, iterative approach: Use a combination of cognitive testing, adaptive behavior assessment, clinical judgment, and collateral information over multiple sessions when feasible (de Haan & van Lieshout, 2019; Hughes & Bell, 2018).
- Standardized yet flexible protocols: Develop guidelines that respect diversity (language, culture, disabilities) while maintaining rigorous criteria for eligibility.
- Training and governance: Invest in assessor training on II, multilingual administration, stress management, and ethical considerations; implement independent review processes for contested cases.
- Stakeholder collaboration: Engage athletes, families, coaches, medical professionals, and sport organizations in the design and review of eligibility procedures to enhance fairness and legitimacy.

Conclusion

Eligibility decisions for athletes with intellectual impairment are inherently complex and susceptible to a variety of biases and practical constraints. Addressing multilingualism, stress, attention deficits, test reliability, misrepresentation, data access, and co-occurring disabilities requires a thoughtful, evidence-informed, and collaborative approach. By adopting multi-method assessments, improving data infrastructure, and fostering culturally competent practice, sport organizations can enhance the accuracy and fairness of eligibility determinations while safeguarding athlete welfare (de Haan & van Lieshout, 2019; Fletcher & Smith, 2021; Williams & Turner, 2017).

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ORIGINAL ARTICLE

Examining the Impact of Motivational Factors on Sports Participation Among Individuals with a disability

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Abstract: This quantitative study employed Partial Least Squares Structural Equation Modeling to examine the complex relationships between six motivational dimensions and sports participation among individuals with a disability. The research involved 150 Iranian individuals with a disability stratified by disability type, including deaf individuals, blind or visually impaired individuals, individuals with limb amputations or impairments, and those with other physical disabilities. Data collection utilized an adapted 26-item Sport Motivation Scale (SMS-II) administered through an online questionnaire platform with comprehensive accessibility support for participants who required additional support. Through rigorous analysis, the path analysis revealed that motivational dimensions interact in hierarchical patterns, with intrinsic motivation serving as the dominant driver of participation, followed by identified regulation, introjected regulation, and integrated regulation. The findings demonstrate that individuals with a disability operate under distinct motivational dynamics compared to populations without a disability, where autonomous and internalized forms of motivation substantially outweigh external incentives or controls. This research contributes nuanced understanding of how psychological motivation functions as a critical mechanism influencing athletic engagement, revealing that individuals with a disability respond most favorably to motivational strategies emphasizing genuine interest, personal relevance, social support, and identity integration rather than external rewards or compliance mechanisms.

Keywords: individuals with a disability, Intrinsic motivation, Motivational factors, Sports participation, Structural Equation Modeling.

Highlights

- Intrinsic motivation is the strongest predictor of sports participation among disabled individuals.

- Autonomous and internalized forms of motivation substantially outweigh external incentives.
- Amotivation represents a critical barrier to sustained athletic engagement in disabled populations.

Introduction

Sport represents a fundamental human activity that extends far beyond recreation, functioning as a gateway to cultural awareness, personal growth, and social integration (Varmus et al., 2021). Throughout human history, sport has served as a universal mechanism for developing physical capability, mental resilience, and meaningful social connections that enable individuals to achieve their fullest potential (Selviani et al., 2024; Anarbayev et al., 2021). Beyond individual benefits, sport plays a vital role in societal development, fostering essential life competencies such as discipline, teamwork, and goal-setting, while simultaneously providing constructive outlets and pathways for personal empowerment and positive behavioral development (Mukhopadhyay et al., 2022).

Regular sport participation yields substantial physical health improvements, including reduced cardiovascular disease risk, effective weight management, and enhanced musculoskeletal strength and functional capacity (Martín-Rodríguez et al., 2024). Simultaneously, the mental health benefits prove equally significant, with research demonstrating marked reductions in stress and depression, improved cognitive function, and substantially elevated self-esteem (Arsović et al., 2020). These psychological improvements are underpinned by neurochemical changes that facilitate emotional regulation and enhance social interaction capabilities (Fossati et al., 2021).

While sport offers considerable benefits to the general population, its significance becomes particularly pronounced for people with disabilities. For this population, sport transcends the role of recreation or general health promotion, instead functioning as a transformative agent that addresses rehabilitation, personal development, and social integration simultaneously (Obradović et al., 2021). Research consistently demonstrates that sport participation enables individuals with disabilities to overcome substantial physical, psychological, and social barriers that typically limit their quality of life and full societal engagement. The multidimensional benefits manifest across complementary dimensions: physically, through improved strength, coordination, endurance, and cardiovascular capacity; psychologically, through enhanced optimism, self-discipline, competitive drive, and personal autonomy; and socially, through the development of meaningful relationships, community integration, and reconstruction of personal identity and self-perception (E. Stangova et al., 2022; Mîndrescu et al., 2022).

However, a significant participation gap persists between individuals with disabilities and their counterparts without a disability. Sport England research reveals that children with disabilities consistently demonstrate substantially lower participation rates than peers without a disability, with adults with disabilities visiting natural recreational areas approximately 50% less frequently despite reporting similar interests in physical activity (Nhamo & Sibanda, 2019). Notably, participation patterns vary considerably within the disability community itself, determined

substantially by individual support requirements and disability classification. Individuals with lower support needs exhibit participation levels comparable to populations without a disability, whereas those requiring high to very high support experience markedly diminished participation. Support needs level emerges as the most significant predictor of participation likelihood, superseding disability type as a determining factor (Darcy, Lock & Taylor, 2017). Individuals with learning disabilities and profound multiple disabilities face the most substantial participation barriers and consequently show the lowest engagement rates (Nhamo & Sibanda, 2019).

This participation disparity stems from multifaceted systemic obstacles that extend beyond individual capacity. Critical barriers include inadequate infrastructure characterized by inaccessible facilities, transportation difficulties particularly affecting wheelchair users and individuals with visual impairments, economic constraints limiting access to equipment and participation fees, and insufficient community support including inadequately trained personnel (Jaarsma et al., 2014). Equipment requirements present especially significant challenges for wheelchair users who depend on specialized adaptive apparatus (Darcy et al., 2017). Importantly, research indicates these obstacles are not insurmountable; when individuals with disabilities do participate in sports despite these barriers, they experience substantial quality-of-life improvements, markedly enhanced self-esteem, and strengthened social connections (Yazıcıoğlu et al., 2012). The psychological and social benefits prove particularly significant, encompassing feelings of belonging, genuine companionship, and personal achievement (Darcy et al., 2013). This pattern suggests that elevated participation rates occur when barriers are systematically reduced and quality experiences are actively facilitated, indicating that lower participation rates reflect addressable environmental and organizational obstacles rather than inherent limitations of individuals with disabilities (Nhamo & Sibanda, 2019).

This participation disparity stems from multifaceted systemic obstacles that extend beyond individual capacity. Critical barriers include inadequate infrastructure characterized by inaccessible facilities, transportation difficulties particularly affecting wheelchair users and individuals with visual impairments, economic constraints limiting access to equipment and participation fees, and insufficient community support including inadequately trained personnel (Edmore Nhamo et al., 2021; S. Darcy et al., 2017; Eva A. Jaarsma et al., 2014). Equipment requirements present especially significant challenges for wheelchair users who depend on specialized adaptive apparatus (S. Darcy et al., 2017). Importantly, research indicates these obstacles are not insurmountable; when individuals with disabilities do participate in sports despite these barriers, they experience substantial quality-of-life improvements, markedly enhanced self-esteem, and strengthened social connections (K. Yazıcıoğlu et al., 2012; S. Scarpa et al., 2011). The psychological and social benefits prove particularly significant, encompassing feelings of belonging, genuine companionship, and personal achievement (S. Darcy et al., 2013). This pattern suggests that elevated participation rates occur when barriers are systematically reduced and quality experiences are actively facilitated, indicating that lower participation rates reflect

addressable environmental and organizational obstacles rather than inherent limitations of individuals with disabilities (Edmore Nhamo et al., 2021).

Understanding the motivational underpinnings of sports participation is essential to addressing this engagement gap. Motivation, defined as the inner psychological force that drives individuals to take action toward achieving their goals, represents a fundamental determinant of all human activity, including sports participation (Buzdar et al, 2024). In the sports context, motivation functions as the foundational element upon which all athletic achievement depends, operating as a complex, multidimensional process that determines success across all developmental stages. Research demonstrates that without an athlete's desire and determination to progress, other psychological and physical factors—including confidence, strength, and technical focus—become substantially diminished in their effectiveness (Pandey, 2024). Motivation operates through two primary psychological mechanisms that influence how individuals engage in sports: intrinsic motivation, which arises from internal satisfaction and natural enjoyment of the sport itself, and extrinsic motivation, which stems from external rewards, recognition, competitive achievement, and material incentives (Hennessey et al., 2015). Intrinsic motivation reflects the natural human drive toward learning, exploration, and personal growth without external pressure, characterizing activities undertaken because they are inherently satisfying and meaningful (Azid et al., 2023). Conversely, extrinsic motivation encompasses activities undertaken to obtain external rewards or avoid negative consequences, often involving tangible incentives, social recognition, or achievement of specific outcomes (Hennessey et al., 2015).

Motivation is not a static attribute but rather a dynamic formation that evolves throughout an individual's athletic career and actualizes through interaction with situational factors including task complexity, perceived success probability, and environmental conditions (Panchuk et al., 2024). Research reveals a distinct progression across athletic development stages: initial participation phases demonstrate multiple motivational drivers including intrinsic motivation, team belonging, health consciousness, and competitive aspirations, with intrinsic and winning motivations proving most significant. However, motivational profiles shift substantially as athletes progress, with continuation of participation increasingly dependent upon intrinsic motivation, team affiliation, and competitive achievement (Orbach et al., 2021). This dynamic shift underscores that sustaining long-term sports engagement requires understanding not only what initially attracts individuals to sport but also what maintains their commitment through progressive athletic development (Panchuk et al., 2024). When intrinsic and extrinsic motivations complement one another effectively, they produce optimal outcomes, suggesting that understanding the interplay between these motivational forces is crucial for promoting sustained participation (Pandey & Awasthi, 2024).

Emerging research has established that motivation represents a critical determinant of sports participation outcomes among individuals with a disability, with substantial evidence demonstrating that motivational profiles vary significantly based on disability type, competitive

level, and demographic characteristics. Studies examining motivational patterns across different disability categories reveal that Kızar et al., (2021); Yilmaz et al., (2020) physically athletes with a disability consistently demonstrate higher intrinsic and extrinsic motivation scores compared to visually impaired and hearing impaired athletes, with these differences remaining statistically significant across national, provincial, and international competitive levels. Furthermore, Zar et al., (2022) personality factors including adaptability, extraversion, neuroticism, and duty orientation show significant correlations with sports performance across all competitive levels, suggesting that motivational capacity is deeply intertwined with individual psychological characteristics. Research employing self-determination theory and qualitative methodologies has Balls et al., 2020 identified that primary and secondary educational settings function as particularly influential environments for developing sustained sports interest and establishing foundational motivation among individuals with disabilities. Additionally, D'Isanto, (2020) targeted, disability-specific training interventions have demonstrated substantial performance improvements among athletes with a disability compared to able-bodied counterparts receiving conventional training, indicating that motivation combined with appropriate support structures produces measurable athletic outcomes. However, existing literature emphasizes that Tüzer & Demırel, (2020); Bastık et al., (2023) motivation for individuals with disabilities extends beyond athletic performance to encompass broader psychosocial benefits, including enhanced self-perception, increased life expectancy through emotional and physical engagement, and strengthened emotional resilience. Importantly, Kızar et al., (2021); Pochstein, (2023) research has identified significant variability in motivation based on educational attainment and economic status, with athletes having primary education and lower economic status demonstrating higher motivational scores, while also highlighting that coaching vision, commitment, and trainer preparation remain critical organizational factors affecting sustained participation.

While considerable progress has been made in understanding motivational processes among individuals with a disability, research gaps remain regarding how different motivational regulation types influence sports participation decisions among this population. Limited research has examined the full spectrum of motivational factors specifically within populations with a disability and across diverse disability categories. This analysis therefore examines the motivational factors affecting sports participation among individuals with a disability, seeking to provide comprehensive insights that inform evidence-based interventions and inclusive sports policies.

Methodology

Participants. The statistical population comprises all Iranian individuals with a disability aged 18 to 65 years who are registered in specialized sports clubs and rehabilitation centers across the country. The statistical sample was selected using stratified random sampling based on disability type to ensure adequate representation across different groups. According to Houman's (2005) recommendation that structural equation modeling requires a minimum of 5 to 15 observations per

variable, the minimum required sample size was estimated at 130 participants (5 × 26 items). The actual sample size of 150 participants exceeded this minimum threshold, providing adequate statistical power for analysis.

The final sample (N=150) comprised deaf individuals (n=25), blind or visually impaired individuals (n=38), individuals with limb amputations or impairments (n=42), and individuals with other physical disabilities including spinal cord injuries (n=45). The stratified random sampling approach ensured proportional representation of each disability category across geographic regions and sports clubs, thereby enabling comparative analysis across different disability groups and enhancing the generalizability of findings to the broader population of Iranian individuals with a disability. Participants met the following inclusion criteria: (1) a minimum of one year of regular participation in sports activities, and (2) voluntary willingness to participate in the research.

Instruments The data collection instrument was the Sport Motivation Scale (SMS-II) from Pelletier et al. (2013), which was adapted to align with the research context and the specific experiences of individuals with a disability. The adaptation process involved: (1) obtaining input from five academic experts in the field of sport psychology; (2) consultation with three experienced practitioners working directly with individuals with a disability to ensure cultural and contextual relevance; and (3) cognitive interviews with four representative participants from each disability category to assess comprehension and clarity. Based on expert opinions and calculation of the Content Validity Ratio (CVR), items with coefficients below 0.60 were eliminated, and two items were reworded for enhanced clarity based on participant feedback. This process resulted in a final questionnaire comprising 26 items.

Procedure. This research employs a descriptive-survey methodology to analyze motivational factors affecting sports participation among individuals with a disability. Data collection was conducted over a two-month period through an online questionnaire platform. Participants accessed the questionnaire via a shared link to an online form and completed it independently when possible. To ensure accessibility and valid response collection across all disability types, a dedicated telephone support line was available throughout the data collection period to provide real-time guidance, answer clarification questions, and assist participants who encountered difficulties. For deaf individuals, family members proficient in sign language provided support to facilitate comprehension of items. For blind and visually impaired individuals, family members and telephone interviews were utilized when participants required assistance in completing the questionnaire.

Analysis. Prior to selecting the appropriate analytical method, the normality of data distribution was assessed using the Kolmogorov-Smirnov test, which revealed that the assumption of normal distribution was not supported. Given the presence of latent variables in the conceptual research model, the violation of the normality assumption, and the diverse sample composition, Partial Least Squares Structural Equation Modeling (PLS-SEM) was employed for data analysis. This method was preferred over covariance-based approaches as it utilizes a component-based approach

and is more suitable for analyzing non-normally distributed data, relatively smaller sample sizes, situations involving multicollinearity among variables, and heterogeneous populations.

To ensure the effectiveness and quality of the combined 26-item questionnaire, its validity was rigorously evaluated through three indicators: cross-loadings of items, convergent validity (Average Variance Extracted, AVE ≥ 0.50), and discriminant validity (Fornell-Larcker criterion). Additionally, the reliability of the questionnaire was assessed and confirmed through calculation of composite reliability (CR ≥ 0.70) and Cronbach's alpha coefficient (α ≥ 0.70) for each construct. All statistical analyses and evaluations of the measurement model and structural model were conducted using SmartPLS version 3 software.

Results

Measurement Model Assessment

Table 1 displays the Average Variance Extracted (AVE), Composite Reliability (CR), and Cronbach's Alpha values.

Table 1. Average Variance Extracted, Composite Reliability, and Cronbach's Alpha Indices

Research Variables	Cronbach's Alpha	Composite Reliability	Average Variance Extracted
Amotivation	0.838	0.903	0.756
External Regulation	0.778	0.870	0.692
Identified Regulation	0.887	0.930	0.815
Integrated Regulation	0.859	0.914	0.781
Intrinsic Motivation	0.918	0.948	0.859
Introjected Regulation	0.892	0.933	0.823
Motivational Factors	0.834	0.903	0.757
Sports Participation	0.892	0.920	0.700

During the following stage, item factor loadings were assessed. The analysis revealed that all loadings met acceptable criteria, with findings displayed in Table 2.

Table 2. Factor Loadings of Items

	Motivational Factors	**Amotivation**	**Introjected Regulation**	**External Regulation**	**Intrinsic Motivation**	**Integrated Regulation**	**Identified Regulation**	**Sports Participation**
Q01	0.860							
Q02	0.863							
Q03	0.774							

Q04	0.805						
Q05	0.896						
Q06	0.887						
O07		0.890					
Q08		0.882					
Q09		0.707					
Q10			0.943				
Q11			0.846				
Q12			0.883				
Q13				0.916			
Q14				0.919			
Q15				0.909			
Q16					0.920		
Q17					0.946		
Q18					0.917		
Q19						0.883	
Q20						0.907	
Q21						0.914	
Q22							0.848

Q23	0.876
Q24	0.884
Q25	0.824
Q26	0.763

As part of the ongoing measurement model evaluation, cross-validation procedures were conducted, with findings reported in Table 3. A key metric for assessing model adequacy is the cross-validated redundancy index (Q^2) for unobserved variables. Positive Q^2 values for these latent constructs confirm satisfactory measurement model quality.

Table 3. Index of Construct Cross validity

	SSO	SSE	Q
Amotivation	750.000	556.077	0.298
External Regulation	750.000	649.367	0.180
Identified Regulation	750.000	514.197	0.351
Integrated Regulation	750.000	423.764	0.465
Intrinsic Motivation	750.000	489.621	0.382
Introjected Regulation	750.000	562.601	0.290
Motivational Factors	750.000	792.000	
Sports Participation	1,250.000	532.449	0.597

Results demonstrated that Q^2 values for every latent variable were positive, validating the measurement instrument's satisfactory quality.

To further assess the model, discriminant validity was investigated by contrasting how constructs relate to their own indicators compared to other constructs within the model. The Fornell-Larcker matrix served as the analytical tool for this assessment in PLS-SEM.

Table 4. Loadings and Cross Loadings

	1	2	3	4	5	6	7	8
Amotivation	0.893							
External Regulation	0.695	0.946						
Identified Regulation	0.814	0.823	0.900					

Integrated Regulation	0.761	0.552	0.591	0.913				
Intrinsic Motivation	0.805	0.554	0.661	0.814	0.869			
Introjected Regulation	0.836	0.742	0.792	0.631	0.756	0.852		
Motivational Factors	0.671	0.485	0.556	0.769	0.780	0.671	0.821	
Sports Participation	0.776	0.566	0.672	0.717	0.797	0.711	0.606	0.901

Analysis of this matrix demonstrated that the square root of Average Variance Extracted (√AVE) for each construct exceeded its correlations with all other constructs, thereby confirming adequate discriminant validity of the measurement model.

Table 5 displays the Heterotrait-Monotrait Ratio (HTMT) results, which satisfy the standards established by Henseler, Ringle, and Sarstedt (2015). Notably, all variables remained below the 0.85 threshold (Raza, Qazi, & Umer, 2016).

Table 5. Correlation Matrix

	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Amotivation								
External Regulation	0.807							
Identified Regulation	0.840	0.599						
Integrated Regulation	0.716	0.605	0.648					
Intrinsic Motivation	0.789	0.835	0.730	0.811				
Introjected Regulation	0.779	0.534	0.821	0.737	0.785			
Motivational Factors	0.846	0.620	0.626	0.779	0.800	0.801		
Sports Participation	0.785	0.701	0.745	0.810	0.795	0.839	0.696	

A critical assumption underlying structural model analysis is the absence of multicollinearity among latent variables. This index is employed to verify the absence of multicollinearity among

the research variables. VIF (Variance Inflation Factor) values below 5 indicate that multicollinearity is not problematic.

Table 6. Result of VIF

Research Variables	VIF	Result
Amotivation	2.400	Acceptable
External Regulation	1.000	Acceptable
Identified Regulation	1.000	Acceptable
Integrated Regulation	1.000	Acceptable
Intrinsic Motivation	1.000	Acceptable
Introjected Regulation	1.000	Acceptable
Motivational Factors	1.000	Acceptable

Structural Model Analysis

After measurement model analysis was finalized, the research advanced to structural model assessment. The structural component delineates inter-relationships among latent constructs. The study's conceptual model is depicted in Figure 1, where pathway numbers denote standardized regression coefficients obtained from variable analyses.

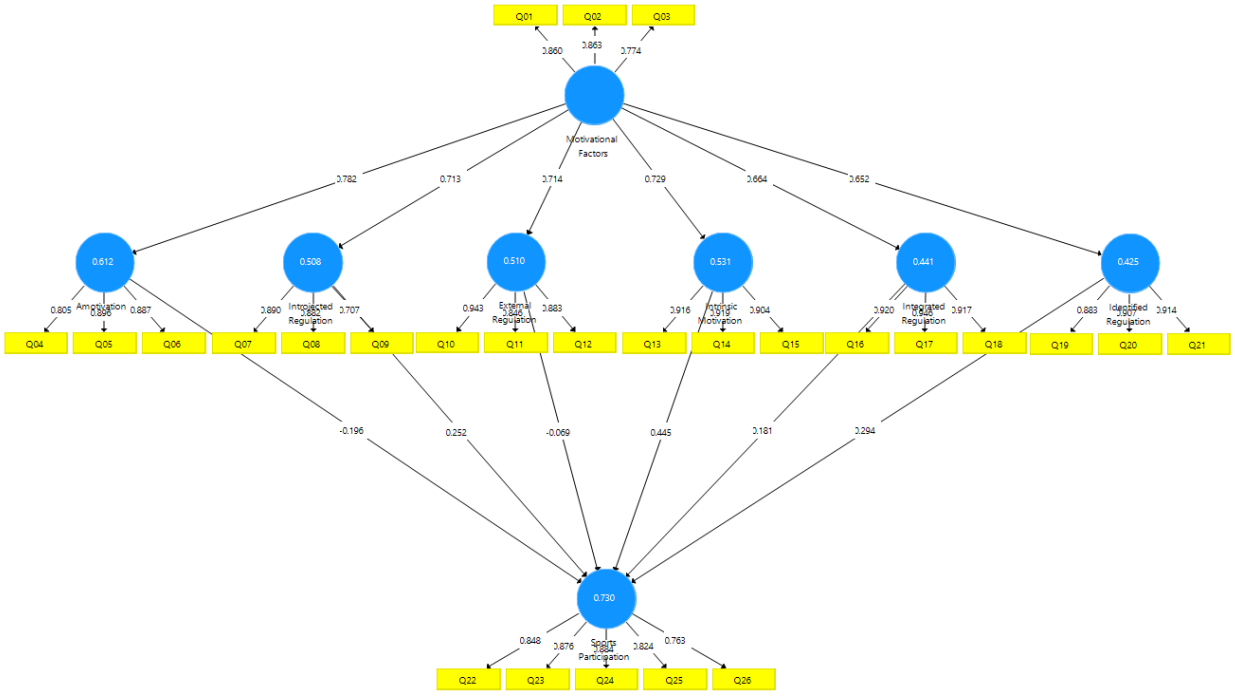

Figure 1. **Path Coefficients**

Within PLS-SEM software, the t-statistic functions as the key metric for determining whether variables significantly influence one another, forming the basis for hypothesis acceptance or rejection. Based on standard thresholds, t-statistic values greater than 1.96 confirm hypotheses at the 95% confidence level, whereas values exceeding 2.58 validate hypotheses at the 99% confidence level. Put differently, t-statistics above 1.96 demonstrate statistical significance at the 0.05 level, while those above 2.58 indicate significance at the 0.01 level.

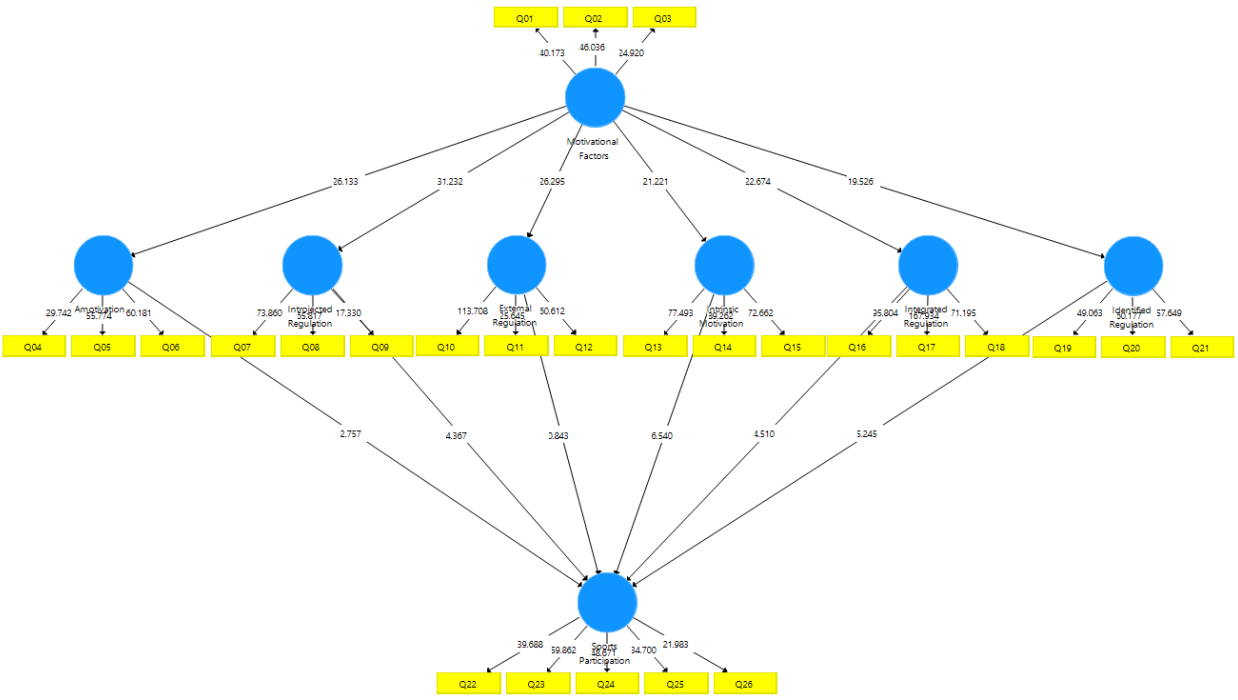

***Figure 2*. t-statistic Values for Assessing the Significance of Path Coefficients and Factor Loadings**

Table 6 presents the results of the structural model analysis. This table includes the path coefficient value, standard deviation, t-statistic value, and significance level for each of the paths in the model.

Table 7. Path Coefficients and t-test of the Structural Model

Research Variables	Path Coefficient	S. D	T-statistic	Sig.
Amotivation → Sports Participation	-0.196	0.071	2.757	0.006
External Regulation → Sports Participation	-0.069	0.082	0.843	0.400
Identified Regulation → Sports Participation	0.294	0.056	5.245	0.001

Integrated Regulation → Sports Participation	0.181	0.040	4.510	0.001
Intrinsic Motivation → Sports Participation	0.445	0.068	6.540	0.001
Introjected Regulation → Sports Participation	0.252	0.058	4.376	0.001

Based on the path analysis results, five of the six motivational dimensions demonstrated statistically significant effects on sports participation among individuals with a disability. Intrinsic motivation exhibited the strongest influence on sports participation with a path coefficient of 0.445 and a t-statistic of 6.540 (p=0.001), underscoring the critical importance of enjoyment and genuine interest in sport. Identified regulation ranked second with a coefficient of 0.294 and a t-statistic of 5.245 (p=0.001), followed by introjected regulation (β=0.252, t=4.376, p=0.001) in third place. Integrated regulation also demonstrated a substantial effect with a coefficient of 0.181 and a t-statistic of 4.510 (p=0.001). Notably, amotivation exerted a significant negative effect on sports participation (β=-0.196, t=2.757, p=0.006), indicating that lack of motivation substantially diminishes athletic engagement among individuals with a disability. In contrast, external regulation (β=-0.069, t=0.843, p=0.400) did not demonstrate a statistically significant effect on participation, as the t-statistic fell below the critical threshold of 1.96.

R^2 is a key criterion in structural equation modeling and the PLS method that measures the predictive power of exogenous independent variables on endogenous dependent variables. This criterion, which ranges from zero to one, is used to assess the fit of the structural model, and the higher its value for endogenous constructs, the better the model fit. Values above 0.19 are considered acceptable, while lower values are regarded as weak.

Table 8. Result of R^2

Research Variables	R^2	R^2 Adjusted
Amotivation	0.417	0.415
External Regulation	0.280	0.277
Identified Regulation	0.455	0.453
Integrated Regulation	0.635	0.633
Intrinsic Motivation	0.470	0.468
Introjected Regulation	0.373	0.371
Sports Participation	0.924	0.923

Based on the results presented in Table 11, the R^2 values for all research variables fall within the acceptable range (above 0.19), indicating adequate explanatory power of the independent variables relative to the dependent variables.

The SRMR and NFI indices are among the important criteria for assessing model fit in structural equation modeling. The SRMR (Standardized Root Mean Square Residual), which ranges from 0 to 1, indicates better model fit as it approaches zero; for models with adequate fit, it should be below 0.05, although values below 0.08 are also considered acceptable. Additionally, the NFI (also known as the Bentler-Bonett Index) is acceptable for values above 0.8 and indicates desirable model fit. These two indices, in a complementary manner, provide a comprehensive evaluation of the quality and accuracy of the structural model.

Table 8. Result of SRMR and NFI

Index	Value	Result
SRMR	0.056	Acceptable
NFI	0854	Acceptable

Conclusion

This study examined the impact of six motivational factors on sports participation among individuals with a disability, using path analysis to determine which dimensions of motivation most significantly influence athletic engagement in this population. The findings revealed a complex motivational landscape, with five of the six motivational dimensions demonstrating statistically significant effects on sports participation.

Intrinsic motivation emerged as the strongest predictor of sports participation among individuals with a disability. This dominant effect indicates that enjoyment, genuine interest, and inherent satisfaction derived from sports are the most powerful influences on athletic participation. individuals with a disability are primarily motivated to engage in sports because they find the activity itself rewarding and personally meaningful, rather than through external incentives or obligatory factors. This finding demonstrates that when individuals with a disability experience genuine pleasure and satisfaction from sports activities, they are significantly more likely to maintain consistent participation. The power of intrinsic motivation in this context suggests that the inherent rewards of sports—such as the thrill of competition, the joy of skill development, and the satisfaction of personal achievement—resonate particularly strongly with this population. Bozkurt et al. (2019) found that the motivation of physically, auditory and visually impaired individuals to participate in sports was high in the intrinsic motivation sub-dimension and that the intrinsic motivations of national athletes were significantly higher. Tüzer et al. (2024) also confirmed significant differences in motivation levels among individuals with a disability, noting that female participants were found to have higher levels of both internal and external motivation compared to males and that intrinsic motivation showed positive correlations with sustained participation.

Identified regulation demonstrated the second-strongest influence on sports participation. This finding suggests that individuals with a disability are significantly motivated when they recognize and value the personal relevance and benefits of sports participation. When individuals understand how sports participation aligns with their personal goals, physical health, or broader life aspirations, they are more likely to engage in athletic activities. This internalized form of motivation reflects a conscious recognition of the value of sports, demonstrating that cognitive awareness of sports benefits plays an important role in sustaining participation. For individuals with a disability, this may include recognizing how sports participation contributes to physical rehabilitation, improved mental health, enhanced social connections, or increased independence. The substantial effect size suggests that helping individuals understand these personal benefits is a valuable intervention strategy. Tüzer et al., 2024 emphasizes that targeted interventions can address motivational barriers, highlighting the importance of comprehensive regulatory approaches to promoting sports participation among individuals with a disability. Additionally, Cottingham et al. (2023) found that individuals' motivations included "physical and mental health, self-reliance, independence, and athletic competition," further confirming that individuals with a disability are significantly motivated when they understand how sports align with their personal goals and broader life aspirations, whether for rehabilitation, social connections, or enhanced independence.

Introjected regulation ranked third in its influence on sports participation. This dimension of motivation, characterized by participation driven by internalized social pressures and the desire to avoid guilt or shame, still demonstrated a statistically significant and substantial effect on participation. While less powerful than intrinsic and identified motivations, introjected regulation suggests that individuals with a disability are substantially influenced by social expectations and the internalization of external demands. For individuals with a disability, this may manifest as participation motivated by not wanting to disappoint family members, desiring to prove their capabilities to others, or seeking social acceptance within sports communities. The significant effect demonstrates that the desire to maintain a positive social image and meet perceived social expectations remains an important factor in sports engagement, even among individuals who may face additional societal pressures related to disability stigma. Jurate Pozeriene et al. (2008) found that meeting friends and social group belonging were important motivators, noting that sports activity provides ample opportunities for individuals with a disability to interact with others. Shirazipour et al (2018) specifically noted that group-based programming can foster a sense of belongingness, while (Tara Joy Knibbe et al., (2017) emphasized that supportive social environments play a critical role in promoting health and well-being for young people with disabilities.

Findings show integrated regulation contributed significantly to sports participation. This form of motivation reflects the harmonious integration of sports participation into an individual's core sense of self and personal values. The positive effect of integrated regulation indicates that when sports become aligned with an individual's identity and broader life philosophy, meaningful and

sustained engagement follows. Miquelon & Castonguay (2017) demonstrated that integrated regulation was uniquely associated with physical activity, with individuals who sustained activity because it was congruent with their sense of self showing greater long-term adherence.

Findings reveal amotivation exerted a significant negative effect on sports participation. This finding underscores that the absence of motivation—the lack of any clear reason or desire to participate in sports—represents a substantial barrier to athletic engagement. When individuals with a disability experience amotivation, they lack both intrinsic enjoyment and identified reasons for participation, resulting in significantly diminished athletic involvement. Amotivation reflects a state of helplessness or hopelessness where individuals question the value and feasibility of sports participation, often stemming from repeated experiences of failure, perceived discrimination, inaccessible facilities, or social exclusion. For individuals with a disability, amotivation may be particularly prevalent due to numerous environmental and social barriers that can accumulate and reinforce feelings of futility about sports engagement. This negative state manifests as individuals withdrawing from athletic opportunities, experiencing reduced effort and persistence, and ultimately abandoning sports participation altogether. Kouali et al. (2021) emphasized that amotivation reflects a state where athletes question "what's the point" of their participation, leading to withdrawal from athletic opportunities and ultimately abandoning sports participation altogether.

External regulation did not demonstrate a statistically significant effect on sports participation. This finding reveals a surprising and important pattern: external rewards, punishments, or controls alone do not significantly drive sports participation among individuals with a disability. Individuals in this population appear to be largely unaffected by externally imposed incentive systems such as monetary rewards, trophies, medals, or threat-based compliance mechanisms. This suggests that traditional extrinsic motivational strategies commonly used in mainstream sports—including performance-based rewards, penalties for non-compliance, and competitive incentives—may not effectively engage individuals with a disability in the way they engage populations without a disability. The absence of a significant effect for external regulation indicates that individuals with a disability fundamentally operate under different motivational dynamics, where external controls neither substantially enhance nor reliably sustain participation. However, this finding contradicts evidence from two studies (Tüzer et al., 2024; Harthy et al., 2024) which reveal complex external motivation patterns. These studies demonstrate that external factors like winning medals, social status, and peer interactions substantially drive sports participation among individuals with a disability, suggesting that external regulation does significantly influence sports participation in this population.

Collectively, these findings paint a comprehensive picture of the motivational landscape among individuals with a disability. The hierarchical pattern of motivation—with intrinsic motivation as the dominant driver, followed by identified, introjected, and integrated regulations—demonstrates that more autonomous and internalized forms of motivation are substantially more influential than controlled or external forms. The significant negative effect of amotivation and the non-

significance of external regulation together suggest that individuals with a disability respond most favorably to motivational strategies that foster genuine interest, personal relevance, social support, and identity integration rather than external incentives or controls.

Based on these findings, several recommendations emerge for future research and practical application. Future studies should employ longitudinal designs to examine how motivational profiles change over time and which interventions most effectively enhance intrinsic motivation among individuals with a disability. Future research should specifically investigate participation motives separately for each disability category using larger, disability-specific samples to identify unique motivational dynamics and tailor interventions accordingly. Research should also explore potential moderating factors, including specific disability types, age groups, gender, and cultural contexts, to better understand how motivation operates across diverse populations. Interventions designed to strengthen intrinsic and identified regulation while addressing amotivation should be developed and empirically tested. Sports organizations and coaches should prioritize creating inclusive, enjoyable, and autonomy-supportive environments that foster genuine passion for sports participation. Furthermore, programs should emphasize helping individuals with a disability understand the personal value and relevance of sports participation while building peer support networks that reinforce positive motivational pathways. Finally, policymakers should advocate for accessible and high-quality sports programming that removes structural barriers to participation, enabling individuals with a disability to engage in sports driven by authentic motivation rather than external constraints.

Limitations

While this study provides valuable insights into motivational factors affecting sports participation among individuals with a disability, several limitations should be acknowledged. Although stratified random sampling was used to represent different disability types, the sample of 150 Iranian individuals with a disability from registered sports clubs and rehabilitation centers limits generalizability to other geographical regions, cultural contexts, and unregistered individuals. The cross-sectional design, with data collected over a two-month period, prevents establishing causal relationships or tracking how motivation changes over time. The reliance on self-reported online questionnaires may introduce social desirability bias or recall limitations, particularly for participants requiring family or telephone assistance. Another limitation is that motivational factors were analyzed collectively across all disability types rather than separately for each category. Additionally, individual differences in disability severity, facility access, and socioeconomic factors were not fully explored as moderating variables, and unmeasured contextual factors such as coaching quality, program inclusivity, and family support systems may influence the strength of motivational effects on participation.

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Competing Interests

The authors declare no financial, professional, or personal competing interests that could have inappropriately influenced this research.

Informed Consent

Comprehensive written consent was obtained from all participants prior to questionnaire administration. The consent process covered study purpose, voluntary participation, confidentiality measures, data storage timelines, and publication plans.

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ORIGINAL ARTICLE

The impact of athletics sports identity on the prevalence of emotional abuse

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Abstract. The present study investigates the impact of athletic identity on the prevalence of emotional abuse among track and field athletes in Khorasan Razavi Province. Volunteer participants (N=100) completed Brewer's *Athletic Identity Measurement Scale* (1993) and the *Emotional Abuse Questionnaire* developed by Dietz et al. (2016). Data were analyzed using Pearson's correlation coefficient and multiple regression analysis. Results showed that the mean level of emotional abuse among track and field athletes was 3.99, indicating a moderate level. The average athletic identity score was 2.92, suggesting a moderate-to-low identification with the athlete role. Female athletes reported slightly higher levels of emotional abuse than males, with the highest prevalence observed among athletes aged 19–26 years and those with 5–10 years of experience. A significant positive correlation was found between athletic identity and emotional abuse, indicating that stronger athletic identity is associated with greater exposure to or internalization of emotionally abusive behaviors. Athletes with a stronger athletic identity appear to be at higher risk of enduring or normalizing coaches' abusive behaviors. Therefore, educational programs on professional ethics and communication skills should be integrated into coach development curricula nationwide.

Keywords. Track and field, Normalization, Abusive behaviors, coach development curricula, psychological knowledge.

Introduction

Recent research examining athletes' psychological well-being and the influence of coaching behavior has highlighted abuse in sport as an urgent ethical concern requiring systematic investigation. Studies have

increasingly reported the occurrence of various forms of abuse within sporting contexts, demonstrating that athletes are not immune to experiences of sexual, physical, or emotional abuse (Saffari & Jafari, 2018).

For example, Rayat Sarokolaei et al. (2022) found that more than half of Iranian adolescent football players had experienced emotional abuse, which in some cases led to psychological distress and even withdrawal from the sport. Similarly, Bidi, Vaez Mousavi, and Aminzadeh (2023) revealed that a very high proportion of retired professional athletes had experienced emotional abuse from their coaches, resulting in significant psychological and functional harm. Comparable patterns have been observed internationally. Studies conducted in Canada report that abusive behaviors are deeply embedded within sports structures (St-Pierre et al., 2022; Battaglia, 2015).

In the Netherlands, Jacobs et al. (2018) found that some sports organizations and officials normalize emotionally abusive coaching behaviors, regarding them as acceptable or even as hallmarks of professional rigor, while deflecting responsibility onto athletes and parents. Consequently, abuse in sport is not confined to any single culture or region—it represents a global issue that demands comprehensive prevention and intervention efforts (Parent & Vaillancourt-Morel, 2021).

Abuse in sport can be defined as a recurring pattern of physical, sexual, or emotional mistreatment—or neglect—by an individual in a position of authority, such as a coach, leading to actual or potential harm to an athlete (Saffari & Jafari, 2018). Emotional abuse specifically refers to deliberate, non-contact behaviors within the coach–athlete relationship that are intended to exert control and cause psychological harm (Rayat Sarokolaei et al., 2022). These behaviors may include physical intimidation (e.g., throwing objects, punching walls), verbal aggression (e.g., ridicule, humiliation), withdrawal of attention or support (e.g., ignoring or withholding feedback), threats, isolation, and inducing guilt (Stirling & Kerr, 2013).

Gervis and Dunn (2004) identified yelling, threats, and humiliation as the most prevalent forms of emotional abuse experienced by athletes. Such experiences can lead to both immediate and long-term psychological and physical harm, making it essential to address emotional abuse to safeguard athletes' well-being (Stirling & Kerr, 2013).

The most commonly cited justification for emotional abuse is that it is a disciplinary strategy aimed at correcting undesirable behaviors (Battaglia, 2015). However, because athletes vary in personality and resilience, emotional abuse can cause serious emotional and psychological harm (Bidi et al., 2023). Recent studies have started to examine the factors that increase athletes' vulnerability to abuse, one of which may be *athletic identity* (Parent & Vaillancourt-Morel, 2021; Fournier et al., 2022).

Athletic identity is defined as the degree to which an individual identifies with the athlete role and seeks validation of that role from others (Brewer et al., 1993; Brewer & Petitpas, 2017). Individuals with a strong athletic identity are more likely to devote themselves to sport participation and performance (Brewer et al., 1993). However, such athletes may also be less inclined to report emotional abuse, fearing that doing so might jeopardize their athletic identity or career (Alexander et al., 2024). As emotional abuse by a coach increases, it may become internalized and distort the athlete's self-concept, leading to guilt, shame, and normalization of the behavior (Rayat Sarokolaei et al., 2022).

Over time, younger athletes may incorporate these experiences into their sense of self, perceiving them as inherent to the sporting culture. As Stirling and Kerr (2008) noted, a strong athletic identity may reduce an

athlete's ability to recognize and respond to emotional abuse. Similarly, research by Muhonen, Stirling, and Kokkonen (2024) demonstrated that athletes with prominent athletic identities are more likely to experience and less likely to disclose emotional abuse. Consequently, a strong athletic identity can serve as a *risk factor*, exposing athletes to emotionally harmful coaching practices (Kokkonen & Holopainen, 2022).

As athletic identity becomes more central to an individual's self-concept, athletes may increasingly normalize hostile or aggressive coaching behaviors, adhering to sport-specific norms that valorize toughness and obedience (Douglas & Carless, 2009; Stirling & Kerr, 2008). Emotional abuse, such as yelling or intimidation, may thus become accepted as a "normal" feature of competitive sport (Stirling & Kerr, 2013). Athletes may tolerate these behaviors due to motivations for success, denial, fear of consequences, or conformity to sport culture (Kerr, 2023; Douglas & Carless, 2009).

Given that coaches serve as powerful role models, particularly for youth athletes, there is a risk that these abusive coaching practices will be perpetuated across generations. Therefore, considering the increasing prevalence of emotional abuse and its normalization within sport, it is imperative to examine the relationship between athletic identity and emotional abuse to inform prevention strategies and protect athletes' psychological well-being (Tomlinson & Strachan, 1996).

Based on the aforementioned literature, the present study aims to investigate the impact of athletic identity on the prevalence of emotional abuse among track and field athletes in Mashhad, Iran.

Methodology

Participants. The participants in the present study consisted of all professional and semi-professional track and field athletes in the city of Mashhad, aged 12 to 40 years. They voluntarily participated in the study with the cooperation of the Khorasan Razavi Province Track and Field Board and specialized track and field sports clubs across the city. Moreover, a snowball sampling method was used to recruit entitled participants. Subsequently, considering the statistical population, the sample size was determined to be 100 individuals using Morgan's table. An examination of the participants' demographic characteristics indicates that the Gender distribution in the sample was equal, with 50% of participants being female and 50% male. Regarding Age, the highest frequency was in the 33 to 40-year-old group (28.5%), while the lowest was in the 26 to 33-year-old group (23%). In terms of Professional Field, the majority of participants competed in Long-Distance Running (56.5%) and Sprinting (31%), while disciplines such as Long Jump (1%), Pole Vault (0.5%), and Discus Throw (1.5%) established a small portion of the sample. Concerning the Highest Athletic Rank level, the highest frequency was at the Provincial level (44%), followed by the National level (25.5%). Additionally, 19% of the participants were Unranked, while a small percentage had competed at the Asian (7%) and Universal (4.5%) levels. In the relation of Athletic Experience, the largest share belonged to the group with 1 to 3 years of experience (25%). Groups with less than one year (19.5%) and more than 10 years (19.5%) of experience were equally described, while 16% had 3 to 5 years and 17% had 5 to 10 years of Athletic Experience.

Table 1- participants 'demographic characteristics

Demographical Variable	Category	Frequency Percentage
Gender	Female	50
	Male	50
Age	12- to 19-year-old	24.5
	19- to 26-year-old	24.0
	26- to 33-year-old	23.0
	33- to 40-year-old	28.5
Professional Field	Sprinting	31.0
	Long-Distance Running	56.5
	Long Jump	1.0
	Pole Vault	0.5
	Shot Put	9.5
	Discus Throw	1.5
Highest Athletic Rank	Unranked	19.5
	Provincial	44.0
	National	25.5
	Asian	7.0
	Universal	4.5
Athletic Experience	1 to 3 years	25.0
	3 to 5 years	16.0
	5 to 10 years	17.0
	More than 10 years	19.0

Instruments. In order to collect the required data, a demographic questionnaire was first used to gather participants' personal information such as age, gender, professional level, and specialized track and Professional Field.

Brewer's Athletic Identity Measurement Scale (AIMS). This questionnaire, developed by Brewer et al. (1993), consists of 10 items and 4 components (Social Identity, Self-Identity, Exclusivity, and Negative Emotional Vulnerability). Responses are scored on a 7-point Likert scale, ranging from 1 (Strongly Disagree) to 7 (Strongly Agree). The sum or average of the item scores is considered as the index of Athletic Identity. Moreover, the test-retest reliability of the Athletic Identity scale was reported as r = 0.89 and the convergent validity was established through its moderate correlation with the Self-Role Scale (Curry & Weaner, 1989; r = 0.61) and the three subscales of the Sport Orientation Questionnaire (Gill & Deeter, 1988; r = 0.26 to 0.53). In addition, results represented that there is no significant correlation between the Athletic Identity scale and the Rosenberg Self-Esteem Scale (Rosenberg, 1968; r = -0.01) as well as the

subscales of the Physical Self-Perception Profile (Fox & Corbin, 1989; r = -0.03 to 0.19), indicating the scale's discriminant validity. Given the number of items and the Likert scale, data from this instrument are generally analyzed as interval data in most studies.

Emotional Abuse Questionnaire (CAREMS). This instrument, developed by Dietz et al. (2016) as a self-report tool, consists of 19 items and 5 components (Performance Degradation, Direct Personal Humiliation, Shaming Behaviors, Indirect Personal Humiliation, and Intimidating Behaviors). Responses on this questionnaire are documented using a 7-point Likert scale, ranging from 1 (Never Experienced) to 7 (Always Experience). The sum or average of the items is calculated for each subscale and the total score. Furthermore, the reported reliability for the questions in this questionnaire is 0.96, and its validity has been assessed using the Questionnaire on Emotional Response in Sport (Q-RES) by Graves (2009). Considering the multi-item nature and the 7-point scale range, the resulting data are regarded as interval-level data, and analyses have been conducted consequently.

Procedure. The present study is applied in purpose and descriptive-correlational in nature. Firstly, the researcher provided explanations with regard to the research topic and the variable of Emotional Abuse to inform the participants. Following this, the athletes were asked to complete the demographic questionnaire. Subsequently, the research questionnaires were distributed to the athletes. In this study, the content validity of the questionnaires was confirmed by three expert professors. Their reliability was also reviewed and confirmed after a pilot study with 15 individuals, using Cronbach's alpha(r). The researcher distributed 125 questionnaires during the year 2025 and after discarding invalid questionnaires, 100 completed questionnaires were analyzed.

Analysis. In the descriptive statistics section, Central Tendency Indicators, Dispersion Indices, Percentages, and Frequency Distribution tables were reported. Moreover, for a more precise analysis of the research variables, the gathered data were examined through statistical comparisons. Quantitative data analysis was performed using SPSS software, version 27. A one-way ANOVA test was used to compare the research variables and the participants' demographic characteristics. Further, an Independent Samples T-test was used to evaluate the difference in the two variables of Emotional Abuse and Athletic Identity between the male and female participants of the study. Then, to examine the relationship between the two variables of Emotional Abuse and Athletic Identity, Pearson's Correlation Coefficient was used. In addition, linear regression was utilized to investigate whether the Athletic Identity variable could be a suitable predictor for Emotional Abuse.

Results

This study included 100 track and field athlete participants from the city of Mashhad, comprising 50 females and 50 male athletes, with an age range of 12 to 40 years. Firstly, Cronbach's alpha coefficient was used to assess the reliability of the research instruments. The test results showed that the research instruments, with a Cronbach's alpha of 0.878, possess desirable and acceptable reliability and are considered appropriate tools for measuring the research variables.

Table 2-1 Data Differences Report

Variable	Gender	
	Male	Female
Emotional Abuse Mean	3.97	4.02
SD	0.59	0.61
Athletic Identity Mean	2.93	2.92
SD	0.35	0.42

Based on Table 1-2, the findings indicated that the Emotional Abuse experienced by female athletes, with a mean of 4.02, was statistically higher than that of male athletes, with a mean of 3.97, while the difference was not substantial. In contrast, the Athletic Identity variable for female athletes, with a mean of 2.92, was nearly equal to that of male athletes, with a mean of 2.93.

Table 2-2 Data Differences Report

Variable		Age			
		19-12	19-26	26-33	33-40
Emotional Abuse	Mean	3.93	4.18	3.93	3.99
	SD	0.55	0.67	0.61	0.60
Athletic Identity	Mean	2.91	2.97	2.87	2.94
	SD	0.37	0.45	0.35	0.38

According to Table 2-2, the evaluation of participants' age ranges revealed that the highest level of experienced Emotional Abuse, with a mean of 4.18, was in the 19 to 26-year-old age range. In contrast, the 12 to 19-year-old and 26 to 33-year-old age ranges reported equal means of 3.93. Moreover, the results indicated that regarding the Athletic Identity variable, the most notable Athletic Identity belonged to the 19 to 26-year-old age range with a mean of 2.97, while the lowest mean belonged to the 26 to 33-year-old age range with a mean of 2.87.

Table 2-3 Data Differences Report

Variable		Athletic Experiences				
		Less than 1 year	1-3 years	3-5 years	5-10 years	More than 10 years
Emotional Abuse	Mean	3.84	4.06	4.06	4.08	3.92
	SD	0.67	0.61	0.66	0.62	0.48
Athletic Identity	Mean	2.96	2.90	3.05	2.87	2.87
	SD	0.40	0.45	0.96	0.34	0.32

Accordingly, Table 2-3, the results revealed that the highest rate of experienced Emotional Abuse, with a mean of 4.08, belongs to athletes with 5 to 10 years of sports experience. In contrast, the lowest mean of experienced Emotional Abuse relates to athletes with less than one year of sports experience. Additionally, the most prominent reported Athletic Identity relates to athletes with 3 to 5 years of experience, reported with a mean of 3.05, while the lowest mean belongs equally to the ranges of 5 to 10 years and more than 10 years, both with a mean of 2.87.

Table 2-4 Data Differences Report

Variable		Highest Athletic Rank				
		None	Provincial	National	Asian	Universal
Emotional Abuse	Mean	4.07	3.97	3.92	4.21	3.88
	SD	0.58	0.56	0.65	0.680	0.33
Athletic Identity	Mean	2.96	2.90	2.88	3.14	2.94
	SD	0.32	0.42	0.36	0.43	0.35

As the table above indicates, the highest percentage of experienced Emotional Abuse, with a mean of 4.21, belongs to Asian-level medalist athletes, while the lowest mean of 3.88 belongs to Universal-level medalist athletes.

Table 2-5 Data Differences Report

Variable		Professional Field					
		Sprinting	Long Distance	Long Jump	Pole Vault	Shot Put	Discus Throw
Emotional Abuse	Mean	4.4	3.97	4.00	4.00	3.94	2.90
	SD	0.55	0.64	0.0	0.0	0.62	0.50
Athletic Identity	Mean	2.90	2.92	3.15	2.80	3.04	2.90
	SD	0.42	0.37	0.21	0.0	0.36	0.50

Conversely, Asian-level medalist athletes, with a mean of 3.14, possess a more prominent Athletic Identity; however, the lowest reported mean for Athletic Identity, at 2.88, belongs to national-level medalist athletes.

According to the data comparison reported in Table 2-5 concerning the specialized Professional Field, it can be stated that the highest mean of Emotional Abuse belongs to the Sprinting with a very negligible difference, the Long Jump and Discus Throw, with a mean of 4.00, have the highest statistical means.

Table 3- The Independent T-test Emotional Abuse Variable

Group	N	Mean	Standard Deviation	t	df	Sig(2-tailed)
Female	50	4.02	0.62	-0.58	98	0.56
Male	50	3.97	0.59			

According to Table 3, the results of the Independent T-test showed that the mean of Emotional Abuse in women (M=4.02) was slightly higher than in men (M=3.97), but this difference was not statistically significant. Thus, it can be concluded that gender did not play a determining role in the rate of Emotional Abuse experienced among the track and field athletes.

Table 4- The Independent T-test Athletic Identity Variable

Group	N	Mean	Standard Deviation	t	df	Sig(2-tailed)
Female	50	2.92	0.42	0.199	98	0.843
Male	50	2.93	0.35			

Moreover, the results of the Independent T-test indicated that the mean Athletic Identity in men (M=2.93, SD=0.35) and women (M=2.92, SD=0.42) did not show a significant difference (P=0.843). Therefore, gender did not have a significant effect on the Athletic Identity of the track and field athletes in Mashhad.

Table 5- Data Correlation Results

Variable	Pearson Correlation	Sig
Emotional Abuse	0.364	0.001
Athletic Identity		

Subsequently, Pearson's correlation coefficient was used to evaluate the relationship between the variables. According to the table mentioned above, the results revealed a significant positive correlation between Emotional Abuse and Athletic Identity ($r = 0.364$, $p = 0.001$). This finding suggests that as Emotional Abuse increases, the level of Athletic Identity also increases.

Table 6- Linear Regression

Indicator	R	R Square	Adjusted R Square	STD
Amount	0.364	0.132	0.128	0.565

The results of the linear regression analysis in Table 6 show that Athletic Identity can predict Emotional Abuse ($R=0.364$). The coefficient of determination ($R^2=0.132$) indicates that approximately 13% of the variance in Emotional Abuse is explained by Athletic Identity. Thus, Athletic Identity is a significant predictor of Emotional Abuse.

Discussion

The present study was conducted with the aim of investigating the impact of Athletic Identity on the prevalence of Emotional Abuse among track and field athletes in Mashhad. Its results indicate new horizons in understanding the dynamics of the coach-athlete relationship and the necessity for supportive interventions. The findings revealed that the average level of Emotional Abuse among Mashhad's track and field athletes was at a moderate level (3.99), and their Athletic Identity was reported as moderate to low (2.92). These figures alone sound a serious alarm; because even at a moderate level, Emotional Abuse can have profound negative consequences on individuals' psychological well-being and athletic performance (Stirling & Kerr, 2013; Lundqvist et al., 2024; Willson et al., 2021).

The results of the Independent T-test in this study revealed that the mean was slightly higher than in men ($M=3.97$), but this difference was not statistically significant ($p=0.56$). Additionally, the results related to

Athletic Identity indicated that the mean Athletic Identity of men (M=2.93) and women (M=2.92) did not differ substantially from each other, and this difference was also not significant (p=0.843). These findings overall demonstrate that, contrary to what has been suggested in some studies, the variable of gender did not play a determining role in the experience of Emotional Abuse or the level of Athletic Identity among the track and field athletes in Mashhad. One possible reason for the lack of a significant difference between women and men may relate to the nature of track and field. This sport, compared to some team or high-contact sports, involves less direct and prolonged interaction between the coach and the athlete. Consequently, the likelihood of Emotionally Abusive behaviors happening might be generally similar for both genders. In other words, the individual nature of track and field could mean that the psychological and behavioral pressures from the coach are not distributed based on gender, creating almost equal conditions for all athletes. From the perspective of Athletic Identity, the absence of a significant difference between women and men could reflect a similar process of athletic socialization in contemporary society. Given the increased participation of women in professional sports in recent years and the closer alignment of opportunities and facilities in training, competition, and achieving championship titles, it is expected that women and men would not show a marked difference in constructing their Athletic Identity. This finding aligns with some recent studies that have shown Athletic Identity is influenced more by factors such as duration of sports participation, competition level, and social support than by gender (Muhonen et al., 2024). These findings, while perhaps seeming straightforward at first glance, carry fundamental theoretical and practical implications. Firstly, they indicate that we must avoid stereotypical views of Emotional Abuse in sports. It is not the case that women are inherently more victimized by Emotional Abuse or that men are immune to it. Rather, environmental conditions, the nature of the coach-athlete relationship, performance-related psychological pressures, and the cultural structure of clubs and federations play a more significant role in this context (Adams et al., 2024; Smits et al., 2018). Therefore, preventive and supportive interventions should be designed to encompass both genders and not focus solely on one group. On the other hand, the findings of this study are also consistent with some international results. For instance, research conducted in Finland and Canada has also shown that gender differences in the experience of Emotional Abuse are not very prominent, and that the intensity of the coach-athlete relationship and the organizational culture of clubs are more determining factors (Kaski et al., 2023; Willson et al., 2021). This consistency in findings reveals that the phenomenon of Emotional Abuse in sports has a transnational and global nature and should generally be addressed at the macro level of sports.

Another key finding of the study was the significant positive correlation between Athletic Identity and Emotional Abuse (r=0.364, p=0.001). This finding indicates that as Athletic Identity increases, the likelihood of experiencing or internalizing Emotional Abuse also increases. This aligns with previous theories and research emphasizing the high importance of Athletic Identity in athletes' lives and its role in their persistence and commitment to sports (Brewer et al., 1993; Muhonen et al., 2024). Athletes with a stronger Athletic Identity may be less likely to report abuse or may even normalize coaches' abusive behaviors due to their deep commitment to the athlete role and fear of losing this identity (Adams et al., 2024). This normalization, also mentioned in the introduction (Jacobs et al., 2018; Smits et al., 2018), can

trap the athlete in a vicious cycle of enduring abuse. By confirming this hypothesis, the present study reinforces the critical necessity of raising awareness among athletes, particularly those with a stronger Athletic Identity, to identify and confront harmful behaviors. Further analysis revealed that female athletes experienced slightly more Emotional Abuse than males. This finding, consistent with some prior research (Alexander et al., 2024), highlights the need for deeper investigation into gender-related factors influencing the experience of abuse in sports. Moreover, the highest levels of emotional abuse were observed in the 19-26 age group and among athletes with 5-10 years of experience. This age and experience group, which often encompasses the peak of athletic performance and professional ambitions, might be more vulnerable due to greater pressure to succeed and a heavier reliance on the coach. Interestingly, athletes with 5-10 years of experience had the highest mean Emotional Abuse score (4.08), while the lowest mean belonged to athletes with less than one year of experience. This suggests that with increased time in the sports environment and perhaps a deepening relationship with the coach, the likelihood of experiencing Emotional Abuse increases. Regarding the highest sports achievement, Asian-level medalists experienced the highest level of Emotional Abuse (M=4.21) and simultaneously possessed the most prominent Athletic Identity (M=3.14). This could confirm the hypothesis of the normalization of inappropriate behaviors at higher levels of sport, where athletes might accept psychological pressure and abusive behaviors as part of the path to championship in order to maintain their position and achieve further success. This situation requires special attention from sports institutions to support this group of athletes. The results of the linear regression analysis also showed that Athletic Identity can predict Emotional Abuse (R=0.364), with 13% of the variance in Emotional Abuse explained by Athletic Identity (R^2=0.132). Although this percentage of variance explained might seem low at first glance, given the complexity of the phenomenon of Emotional Abuse and the involvement of numerous psychological, social, and environmental factors, the importance of Athletic Identity as a significant predictor is noteworthy. This finding means that the more athletes define themselves by their athletic role, the more vulnerable they become Emotionally Abused, which further underscores the necessity of developing awareness programs and support systems to safeguard athletes' mental health.

Practical Suggestions

Based on the study's findings, it is essential to propose practical solutions for preventing and addressing Emotional Abuse in sports environments:

Training Programs for Coaches: It is crucial to implement ongoing workshops and training courses for coaches focusing on professional ethics, effective communication skills, sports psychology, and identifying signs of Emotional Abuse. These trainings should emphasize creating a respectful and empathetic environment and help coaches improve athlete performance without resorting to abusive behaviors. As a result, training in anger management techniques, providing constructive feedback, and understanding the psychological needs of athletes should be prioritized.

Establishing Support Mechanisms and Safe Reporting Channels: Federations and sports organizations must provide confidential and safe reporting systems for athletes, enabling them to report abuse without fear of negative consequences. These mechanisms should also include psychological and legal support for victimized athletes. Creating support hotlines, independent ethics committees, and employing sports psychologists within sports organizations can contribute significantly to this goal.

Enhancing Athletes' Psychological Awareness: Educational programs should help athletes develop a healthy Athletic Identity and avoid defining themselves solely by their sporting role. More, these programs should enhance their ability to recognize abusive behaviors and improve their coping skills. Training in resilience, stress management, and self-awareness can be effective in this regard.

Regular Monitoring and Evaluation: Sports organizations must regularly monitor and evaluate the status of Emotional Abuse and Athletic Identity among athletes to ensure the effectiveness of intervention programs. This monitoring can be conducted through periodic surveys, interviews with athletes and coaches, and analysis of data related to complaints or reported cases.

Limitations and Suggestions for Future Research

Like any research, the present study had limitations that could inspire future investigations:

Population of the Study: This research focused on track and field athletes in the city of Mashhad. To generalize the findings, conducting similar studies in other sports fields and different geographical regions of the country is essential. Additionally, including athletes at various levels (amateur, professional, national) could add greater diversity to the findings.

Data Collection Methods: The use of self-report questionnaires may be subject to biases. Employing qualitative methods, such as in-depth interviews, could provide a richer understanding of athletes' experiences. Moreover, direct observation of coach and athlete behaviors in the training environment could offer new perspectives.

Influential Factors: Although Athletic Identity was identified as a fundamental predictor, other factors could also play a role in the prevalence of Emotional Abuse (e.g., coach's leadership style, social support, and athlete's personality traits). Future research could explore multivariate models. For example, investigating the role of the athlete's self-efficacy, their attachment style, and the support from family and friends in moderating the relationship between Athletic Identity and Emotional Abuse could be particularly valuable.

Study design: This study was descriptive-correlational in nature and does not establish a cause-and-effect relationship. Conducting longitudinal studies can contribute to a better understanding of the dynamics of changes in Athletic Identity and the experience of Emotional Abuse over time. Following athletes from the early stages of their entry into sports to higher levels could dynamically illustrate changes in Athletic Identity and the likelihood of Emotional Abuse occurrence.

Coaches' Perspective: Examining the phenomenon of Emotional Abuse from the viewpoint of coaches, including potential reasons for these behaviors and the obstacles they face in adopting supportive approaches, could yield valuable results. Understanding coaches' perspectives regarding their expectations of athletes, the pressures they themselves face, and their knowledge of sports psychology can contribute to designing more effective interventions.

By considering these suggestions, more effective steps can be taken towards creating a safe and supportive environment for all athletes in the country, thereby fostering their growth and development while safeguarding their psychological well-being. This research marks the beginning of this important path, and

it is hoped that through its replication and expansion, a fundamental reduction in instances of Emotional Abuse and an enhancement of psychological health within the nation's sports community will be witnessed.

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SYSTEMATIC REVIEW

The effect of exercise intervention on fatigue and quality of life in individuals with sarcoidosis; a systematic review

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Abstract. This systematic review synthesized current evidence on the effects of exercise-based interventions on fatigue and health-related quality of life (HR-QoL) in adults with sarcoidosis. Following PRISMA guidelines, PubMed, Scopus, Web of Science, and Google Scholar were searched from inception to December 2025. Six studies comprising 11–57 participants across varying disease stages met inclusion criteria. Exercise interventions were generally safe and feasible, including high-intensity resistance training. Across studies, structured exercise and pulmonary rehabilitation consistently improved exercise capacity, muscle strength, dyspnea, and HR-QoL. Reductions in fatigue were observed in several interventions; however, fatigue outcomes were heterogeneous and not always correlated with physiological improvements. Physical activity levels were more associated with exercise capacity and HR-QoL than with fatigue severity, underscoring the multifactorial nature of fatigue in sarcoidosis. Future research should employ standardized fatigue measures, larger samples, and longer follow-up to optimize exercise prescription and address the complex symptom profile of this population.

Keywords: Pulmonary rehabilitation, Physical activity, Chronic inflammatory disease, Quality of life, Systematic review

Introduction

Sarcoidosis is a systemic inflammatory disorder characterized by the differentiation and proliferation of immune cells, leading to granuloma formation across multiple tissues (Grunewald et al., 2019; Iriarte et al.,

2020). The condition triggers an exaggerated immune response. Inflammatory mediators and oxidative stress impair mitochondrial function and amino acid metabolism in muscle cells. Lipid homeostasis is also affected (Cho et al., 2019). Fatigue is among the most disabling and frequently reported symptoms in patients with sarcoidosis, often persisting even when pulmonary manifestations are well controlled (Marcellis et al., 2011). These processes interact in a complex and dynamic manner, without being driven by a single factor. Clinically, sarcoidosis presents with nonspecific symptoms such as fatigue, arthralgia, reduced exercise tolerance, and dyspnea (Bargagli et al., 2017; Simonen et al., 2016). Gender appears to play a significant role in sarcoidosis, as the condition is more prevalent in women (Musellim et al., 2009), who also report lower health-related quality of life compared to men (Gwadera et al., 2021).Increasing evidence indicates that the disease not only affects organ-specific functions but also leads to nonspecific problems, including low energy, pain, anxiety, depression, and cognitive symptoms, which significantly impair health-related quality of life (HR-QoL) (Drent et al., 2015; Judson, 2015).

Exercise intolerance is a common issue in sarcoidosis and is associated with multiple factors. Several studies have reported that it correlates with reduced quality of life, increased dyspnea, and heightened fatigue in affected individuals (Karadallı et al., 2016; Marcellis et al., 2015). Decreased muscle strength and impaired quality of life are commonly observed in individuals with sarcoidosis, including those with mild forms of the disease (Kallianos et al., 2015). Recent evidence indicates that patients with sarcoidosis engage in significantly lower levels of physical activity compared to healthy individuals (Cho et al., 2019). In various chronic pulmonary and inflammatory conditions, structured physical training has been shown to enhance exercise capacity, alleviate muscle weakness, improve quality of life, and reduce fatigue, without causing adverse effects (Holland et al., 2012; Kullberg et al., 2020). Accumulating evidence in sarcoidosis shows that participation in rehabilitative exercise programs, designed to address the disease's specific pathophysiology, alleviates fatigue, muscle weakness, and dyspnea, and significantly improves patients' quality of life (Karadallı et al., 2016; Marcellis et al., 2015; Mendes et al., 2021; Naz et al., 2018; Strookappe et al., 2015).

Although the pathophysiological mechanisms of interstitial lung disease (ILD) and chronic obstructive pulmonary disease (COPD) differ, patients with ILD often experience fatigue, dyspnea, reduced exercise capacity, and diminished quality of life (Dowman et al., 2021). Utilizing exercises involving small muscle groups has facilitated the differentiation of peripheral muscle dysfunction from central cardiovascular and pulmonary limitations (Heidorn et al., 2023). Therefore, this systematic review aims to synthesize current evidence on the effects of exercise interventions on fatigue and quality of life in individuals with sarcoidosis, highlighting effective approaches and identifying gaps for future research. We applied the PICO framework (Population, Intervention, Comparison, and Outcomes) to filter, select, and review the literature (Amir-Behghadami & Janati, 2020).

Methodology

Search Strategy. This systematic review was conducted according to the PRISMA guidelines (Page et al., 2021). The databases PubMed, Scopus, and Web of Science were searched from the databases' inception until December 2025. Google Scholar was also searched for additional records. Keywords were selected

according to Table 1 and searched using Boolean operators. The search was conducted in English-language databases using English terms.

Inclusion and Exclusion Criteria. Studies were included if they investigated adults diagnosed with sarcoidosis and examined the effects of exercise-based interventions (e.g., resistance training, aerobic exercise, pulmonary rehabilitation, or structured exercise programs) on fatigue and health-related quality of life. Eligible studies comprised randomized controlled trials and quasi-experimental studies, published as original research articles in peer-reviewed journals. Only articles published in English were considered. Studies were excluded if they did not involve an exercise intervention, focused on diseases other than sarcoidosis, or were conference abstracts, review articles, case reports, or editorials. Studies lacking quantitative outcome measures related to fatigue and quality of life were also excluded.

Study selection. After searching the databases, the results were transferred to EndNote 7X software. Then, the titles and abstracts of the articles were screened by two independent researchers (M.KH., A.L.). Relevant articles were selected for full-text review. In case of disagreement, the consensus method was used by the supervisor (E.E.).

Data extraction and quality assessment. After extracting eligible articles, general data, study characteristics, and results were extracted from the articles and summarized in Table 2. Data extraction was performed by two independent researchers (M.KH., A.L.). The quality of the studies was assessed with the JBI tools for quasi-experimental studies (Table 3) (NA, 2017).

Table 1: Search strategy used for this study

Variable	**Keywords**
exercise intervention	(“Exercise” OR “Training” OR “Protocol” OR “Rehabilitation” OR “physical therapy” OR “therapeutic exercise” OR “exercise therapy” OR “Exercise Movement Techniques” OR “physiotherapy”)
Sarcoidosis	AND ("Sarcoidosis" OR sarcoidosis OR "sarcoid disease" OR "systemic granulomatous disease" OR "non-caseating granuloma*" OR "noncaseating granuloma*")

Table 2 - Characteristics of the included studies

Authors (Year)	Title	Study Design	Participants	Intervention	Outcome Measures	Key Findings
Grongstad A. et al. (2020)	The acute impact of resistance training on fatigue in patients with pulmonary sarcoidosis	Randomized crossover	41 patients with pulmonary sarcoidosis (mean age 53±11 yrs)	One session high-intensity RT (4×5RM) vs. one session moderate-intensity RT (2×25RM)	Fatigue (VAS-F), blood lactate	High-intensity RT did not induce larger fatigue than moderate RT; both protocols feasible and safe
Bahmer T. et al. (2018)	Physical Activity and Fatigue in Patients with Sarcoidosis	Prospective observational	57 patients with sarcoidosis (mean age 50 yrs, 56% male)	Accelerometry (SenseWear Armband) for 1 week	Steps/day, lung function, 6MWD, QoL (SGRQ, SF-12), fatigue (MFI-20)	Physical activity associated more strongly with exercise capacity and QoL than fatigue; fatigue weak predictor of inactivity
Naz I. et al. (2018)	Efficacy of a Structured Exercise Program for Improving Functional Capacity and QoL in Stage 3–4 Sarcoidosis	Randomized controlled trial	18 patients (stage 3–4 sarcoidosis)	12-week supervised exercise program (breathing, endurance, strength, stretching) vs. usual care	6MWD, muscle strength, dyspnea, fatigue (FSS), QoL (SGRQ, SF-36), anxiety/depression	Exercise improved functional capacity, muscle strength, dyspnea, fatigue, oxygenation, QoL, anxiety
Tahmaz T. et al. (2025)	Comparison of One-Legged and Two-Legged Exercise Training on Exercise Capacity and Fatigue in Sarcoidosis	Randomized controlled trial	26 patients (stage 2–4 sarcoidosis, all female)	8-week cycling program: one-legged vs. two-legged	6MWT, ISWT, ESWT, FAS, MFI-20, blood lactate, muscle strength, QoL (SGRQ)	Both groups improved fatigue, strength, QoL; one-legged cycling superior for activity-related QoL

Table 2 - Characteristics of the included studies

Authors (Year)	Title	Study Design	Participants	Intervention	Outcome Measures	Key Findings
Kullberg S. et al. (2020)	High-intensity resistance training in newly diagnosed sarcoidosis	Exploratory intervention study	11 untreated patients with newly diagnosed sarcoidosis	12-week high-intensity RT (80% 1RM, 2×/week) + inspiratory muscle training	Lung function, muscle strength, fatigue (FSS), dyspnea, QoL (SGRQ), BAL immune cells	Increased muscle strength, reduced fatigue/dyspnea, improved QoL; decreased BAL lymphocytes
Grongstad A. et al. (2020)	Pulmonary Rehabilitation in Patients with Pulmonary Sarcoidosis: Impact on Exercise Capacity and Fatigue	Pre-post study	41 patients with pulmonary sarcoidosis	4-week multidisciplinary PR program (endurance + resistance training, education, psychosocial support)	VO2peak (CPET), fatigue (FAS), 6MWD, QoL	PR improved VO2peak, reduced fatigue; baseline fatigue predicted improvement in VO2peak

Abbreviations: **RT** = Resistance Training, **RM** = Repetition Maximum, **PR** = Pulmonary Rehabilitation, **6MWD** = Six-Minute Walk Distance, **6MWT** = Six-Minute Walk Test**, ISWT** = Incremental Shuttle Walk Test, **ESWT** = Endurance Shuttle Walk Test, **VO_2peak** = Peak Oxygen Uptake, **FAS** = Fatigue Assessment Scale, **MFI-20** = Multidimensional Fatigue Inventory (20 items), **FSS** = Fatigue Severity Scale, **SGRQ** = St. George's Respiratory Questionnaire, **SF-12 / SF-36** = Short Form Health Survey (12 or 36 items), **BAL** = Bronchoalveolar Lavage, **QoL** = Quality of Life, **ACTH** = Adrenocorticotropic Hormone, **CPET** = Cardiopulmonary Exercise Test

Results

Figure 1 illustrates the study selection process. Initially, 535 articles were identified. After removing

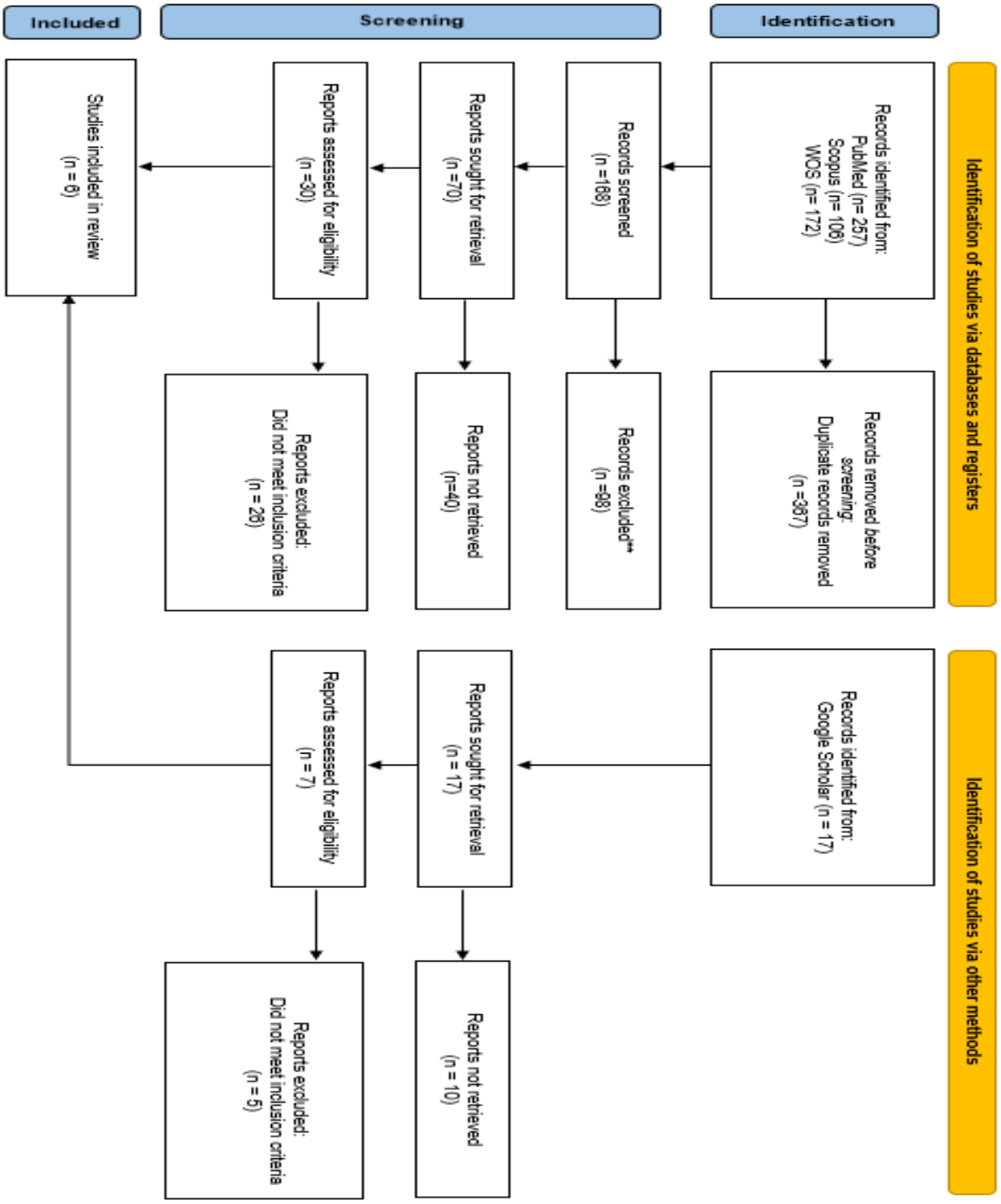

Figure 1. Flow diagram for eligible studies

duplicates, 168 abstracts were screened. Based on the abstract review, 98 studies were excluded, leaving 70 articles for full-text assessment. Following a thorough evaluation of the full texts, 64 articles were excluded, resulting in 6 studies included in the final analysis (Figure 1). Table 2 presents a summary of the findings from these articles.

Study Characteristics. Six studies met the inclusion criteria, encompassing 11–57 participants with sarcoidosis across varying disease stages. Grongstad et al. reported that acute high-intensity RT (5RM) did not exacerbate fatigue compared to moderate-intensity RT (25RM), while Kullberg et al. demonstrated that a 12-week RT program significantly improved muscle strength, reduced fatigue and dyspnea, and enhanced HR-QoL in newly diagnosed patients. Another study by Grongstad et al. found that baseline fatigue predicted the magnitude of improvement in VO_2peak. Tahmaz et al. compared one-legged and two-legged cycling, showing that both protocols improved fatigue, muscle strength, and QoL, with superior gains in activity-related QoL in the one-legged group. Naz et al. reported that a structured 12-week exercise program improved functional capacity, muscle strength, dyspnea, fatigue, and psychological outcomes, including anxiety and depression. Bahmer et al. highlighted that physical activity levels were more strongly associated with exercise capacity and HR-QoL than with fatigue, suggesting that fatigue alone is insufficient to explain inactivity. Braam et al. further demonstrated that severely fatigued patients exhibited lower VO_2max and workload during repeated cardiopulmonary exercise testing.

Table 3: Critical appraisal results of eligible systematic reviews

	Study	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Overall Score
1	Grongstad A. et al. (2020)	Y	Y	Y	Y	Y	Y	Y	N	Y	8
2	Bahmer T. et al. (2018)	Y	Y	Y	Y	Y	Y	Y	N	Y	8
3	Naz I. et al. (2018)	Y	Y	Y	Y	Y	Y	Y	N	Y	8
4	Tahmaz T. et al. (2025)	Y	Y	Y	Y	Y	Y	Y	N	Y	8
5	Kullberg S. et al. (2020)	Y	Y	Y	Y	Y	Y	Y	N	Y	8
6	Grongstad A. et al. (2020)	Y	Y	Y	Y	Y	Y	Y	N	Y	8

Quality Assessment. A methodological quality appraisal was conducted for all included studies using the JBI checklist. All six studies demonstrated high methodological rigor, each achieving an overall score of 8 out of 9. The majority of studies fulfilled critical quality domains, including well-defined objectives, appropriate outcome measures, and robust data collection processes, reflecting a moderate to good quality with some limitations. However, a notable limitation was observed in criterion Q8 (Was follow-up complete, and if not, were differences between groups in terms of their follow-up adequately described and analyzed?), which was not satisfied by any of the studies. Despite this issue, the uniformity of high scores across studies highlights the overall strength and reliability of the included research.

Discussion

This systematic review evaluated evidence from six original studies investigating the effects of structured exercise, pulmonary rehabilitation, and repeated exercise testing on exercise capacity, fatigue, and patient-reported outcomes in individuals with sarcoidosis (Bahmer et al., 2018; Braam et al., 2013; Anita Grongstad et al., 2020; A. Grongstad et al., 2020; Kullberg et al., 2020; Tahmaz et al., 2025). Overall, the findings suggest that exercise-based interventions are feasible and generally beneficial for improving functional capacity, although their effects on fatigue are less consistent. Across the included studies, improvements in objective measures of exercise performance were a common finding following structured exercise training or pulmonary rehabilitation programs (Bahmer et al., 2018; Anita Grongstad et al., 2020; Kullberg et al., 2020; Tahmaz et al., 2025). In both randomized controlled and prospective intervention studies, gains were observed in parameters such as peak oxygen uptake, six-minute walk distance, and maximal workload, even among patients with moderate to advanced pulmonary involvement (Anita Grongstad et al., 2020; Kullberg et al., 2020; Tahmaz et al., 2025). These results suggest that impaired exercise capacity in sarcoidosis is at least partly attributable to reversible functional limitations and physical deconditioning rather than fixed disease-related impairment alone.

In contrast, the impact of exercise interventions on fatigue was more heterogeneous. While some studies reported significant reductions in self-reported fatigue following structured exercise or pulmonary rehabilitation (Grongstad et al., 2020; Kullberg et al., 2020; Tahmaz et al., 2025), others found limited or no association between fatigue severity and changes in objective physiological measures (Bahmer et al., 2018; Braam et al., 2013; A. Grongstad et al., 2020). In particular, studies assessing repeated maximal exercise testing demonstrated that exercise-induced physiological and biochemical responses were not correlated with subjective fatigue levels (A. Grongstad et al., 2020). This dissociation indicates that fatigue cannot be fully explained by peripheral physiological stress or acute exercise responses (Shadi et al., 2026). One possible explanation is that sarcoidosis-related fatigue may be driven by central nervous system dysregulation, including altered neurotransmitter balance, neuroinflammatory processes, and impaired central motor drive (Drent et al., 2012). In addition, chronic systemic inflammation and immune activation may contribute to reduced motivation and persistent perceptions of tiredness despite preserved physical capacity (Straub, 2017). Autonomic dysfunction and hypothalamic–pituitary–adrenal (HPA) axis alterations have also been proposed as underlying mechanisms that may influence energy regulation and

stress responses in this population (Tsigos & Chrousos, 2002). The variability in fatigue outcomes across studies highlights the complex and multifactorial nature of fatigue in sarcoidosis. Although exercise training improves physical efficiency and functional performance, fatigue appears to be influenced by additional factors such as sleep disturbances, psychological burden, and central mechanisms, which were not consistently addressed in the included studies (Bahmer et al., 2018; Kullberg et al., 2020). Furthermore, behavioral and cognitive factors such as illness perception, fear of symptom exacerbation, and reduced self-efficacy may mediate the subjective experience of fatigue independently of measurable physiological improvement (Breukers et al., 2019). Consequently, improvements in exercise capacity do not uniformly translate into proportional reductions in fatigue severity.

Several studies also reported favorable effects of exercise-based interventions on health-related quality of life, dyspnea perception, and emotional well-being (Anita Grongstad et al., 2020; Kullberg et al., 2020; Tahmaz et al., 2025). Notably, these improvements were sometimes observed even when changes in fatigue were modest, suggesting that enhanced functional ability and increased confidence in physical performance may independently contribute to better patient-reported outcomes. Enhanced exercise capacity, increased muscle strength, and improved tolerance to physical activity may foster greater functional independence and self-efficacy (Ebrahimi et al., 2025), thereby positively influencing patients' perception of health and well-being. Collectively, these findings indicate that exercise-based interventions can meaningfully enhance quality of life and emotional health in sarcoidosis, underscoring the importance of targeting functional and psychosocial outcomes alongside symptom-specific measures.

Despite the overall positive direction of findings, substantial heterogeneity exists among the included studies. Differences in study design, intervention duration, exercise modality, and outcome measures limit direct comparability and preclude firm conclusions regarding optimal training protocols (Braam et al., 2013; Anita Grongstad et al., 2020; Kullberg et al., 2020; Tahmaz et al., 2025). Sample sizes were generally small, and follow-up periods were relatively short, restricting the assessment of the long-term sustainability of the observed benefits. In addition, the substantial heterogeneity in fatigue assessment instruments across the included studies represents an important methodological limitation. The use of different measurement tools with varying constructs, scoring systems, and sensitivity reduces comparability between studies and limits the ability to draw consistent conclusions or synthesize findings with high confidence (Bahmer et al., 2018; Kullberg et al., 2020). From a clinical perspective, the evidence synthesized in this review supports the integration of structured exercise and pulmonary rehabilitation into the management of sarcoidosis, particularly to improve functional capacity and exercise tolerance (Anita Grongstad et al., 2020; Kullberg et al., 2020; Tahmaz et al., 2025). These findings suggest that individualized, progressive, and supervised exercise programs may be safely incorporated into routine care to enhance physical performance outcomes. However, the inconsistent effects on fatigue indicate that exercise alone may be insufficient to comprehensively address this symptom. Multidimensional and individualized management strategies, potentially incorporating psychosocial support, education, and symptom-targeted interventions, may therefore be required to effectively manage fatigue in this population.

Conclusion

This systematic review demonstrated that exercise-based interventions and pulmonary rehabilitation are safe and effective strategies for improving health-related quality of life in individuals with sarcoidosis. Although reductions in fatigue were observed in several studies, the effects were inconsistent, reflecting the multifactorial nature of fatigue in this population. Future research should focus on standardized outcome measures, larger sample sizes, and long-term follow-up to optimize exercise prescription for this population.

Declarations:

Ethics approval and consent to participate

Not applicable

Consent for publication

Not applicable

Competing interests

The authors declare no competing interests.

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Not applicable

Authors contributions

MKH and AL contributed to the study design and data collection. MKH, AL, and EE drafted the manuscript and made critical revisions to the manuscript. All authors read and approved the final manuscript.

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Availability of data and material

The data that support the findings of this study are available from the corresponding author upon reasonable request.

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REVIEW ARTICLE

Safeguarding Athletes Against Emotional Abuse

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Abstract: This review article examines emotional abuse in the coach–athlete relationship, a pervasive yet often underrecognized form of relational maltreatment in sport. Emotional abuse is characterized as a repetitive, non-contact pattern of intentional behaviors aimed at control, which harm the victim's emotional, cognitive, or physical well-being. It encompasses acts such as humiliation, belittling, yelling, threats, isolation, withholding attention or affection, inducing guilt, excessive criticism, and disregarding athletes' concerns or needs. In sport, these behaviors frequently manifest when coaches prioritize performance and winning above athlete well-being, normalizing pressure, "suffering," and punitive practices as necessary for elite success. Common examples include verbal assaults on appearance or performance, threats of benching or reputational damage, and neglect of emotional support—often perceived by athletes as more damaging than overt anger or physical aggression due to its erosion of self-esteem and relational security. Notably, intent to harm is not required for classification as abuse; behaviors need only be persistent and harmful over time. Many coaches remain unaware of the long-term consequences—such as diminished self-worth, fear, burnout, and eventual sport withdrawal—rationalizing their actions through moral disengagement mechanisms (e.g., goal justification, displacement of responsibility, or viewing practices as industry norms). Victims may similarly fail to recognize or report abuse due to power imbalances and fear of repercussions. The article underscores that psychological safety is essential for optimal athlete development and performance. It calls for greater awareness, education, and accountability to prevent the normalization of emotionally abusive coaching and to foster healthier, more ethical sport environments.

Keywords: Coach-athlete relationship, Young athletes, Withdrawing from Sport, Psychological Harm, Sport Clubs, Sport Parenting.

Introduction

A substantial body of literature supports the numerous benefits of participation in organized sport, including improvements in physical strength, coordination, self-esteem, perseverance, teamwork, and leadership. In most societies, sport is predominantly regarded as an inherently positive environment and is commonly viewed by parents as a means of promoting the overall health and development of their children (Brackenridge, 2002). In addition to the physical health benefits for children and adolescents, participation in sport during formative years enhances self-esteem and helps young people develop physical competencies and emotional regulation skills. Developmental discourse suggests that through sport participation, children acquire values, norms, and skills that contribute to healthy growth and psychosocial development. The fact that millions of children and adolescents participate annually in organized sports partially reflects parents' belief that sport constitutes a positive context for youth development. In recent years, there has also been a growing international trend toward participation in competitive sports among adolescents and young adults, such that approximately 45% to 75% of youth sport participation now occurs within competitive settings.

Why Do Some Young Athletes Withdraw from Sport?

Despite the availability of opportunities for sport participation, many children and adolescents withdraw from sport each year for various reasons. A considerable number of these athletes discontinue their athletic careers not only at grassroots levels but also at advanced and elite levels, even after achieving significant success (Fraser-Thomas et al., 2008). Since sport habits are formed during childhood and adolescence, it is important to identify the causes and factors associated with sport withdrawal at early ages (Dennison et al., 1988).

Various reasons have been proposed for withdrawal and performance decline, including lack of interest in the chosen sport, external pressure—particularly from parents—in selecting a specific sport, the modern lifestyle that increasingly facilitates physical inactivity, and exposure to high-pressure environments that discourage athletes. At elite levels, burnout resulting from excessive training has been observed to cause disappointment and fatigue among athletes, thereby facilitating withdrawal (Cresswell & Eklund, 2006).

Research has also indicated that the relationship with coaches significantly influences young athletes' continued participation in sport. Coaches play a central role in creating an ideal sport environment and can positively affect young athletes by fostering enjoyment and motivating them to embrace challenges. Conversely, certain coaching behaviors may negatively affect young athletes and discourage them from continuing participation (Møllerløkken et al., 2017; Monteiro et al., 2016).

Nevertheless, abundant evidence suggests that one of the primary reasons for dropping out of sport—particularly at competitive and advanced levels—is an inappropriate sport environment and excessive pressure from significant others for rapid success and victory. One of the major criticisms of children's participation in sport in recent years concerns the highly competitive climate characteristic of most organized sports. In the early 1970s, Terry Orlick conducted several studies on children's sport participation and reported that excessive emphasis on outcomes and winning reduces children's enjoyment of sport. Although participation in sport has beneficial effects on children's and adolescents' physical and mental health, overemphasis on winning can turn it into a source of stress and anxiety.

Martens (1986) reported that competitive sport can negatively affect the psychological well-being of child athletes. Similarly, Scanlan (1986) identified sources of stress experienced by young athletes, including highly competitive anxiety, fear of failure, and concern about evaluation by others. The prevailing win-centered philosophy in sport can therefore create substantial psychological pressure. Pressure to succeed, along with poor relationships with coaches, parents, or peers, may lead to isolation and eventual withdrawal. Thus, despite generally positive views regarding sport, concerns about the competitive nature of youth sport—including the "win-at-all-costs" approach and the "high rate of injury"—have been raised for some time (Coakley & Donnelly, 2009). Research has shown that while physical activity contributes to high standards of health, intensive and early specialization training may negatively affect athletes' physical and psychological well-being. Physical growth may be hindered by intense training, and overall health may be compromised because the athlete's body may not be able to supply sufficient energy for normal growth under demanding training conditions (David, 1999).

Moreover, in pursuit of early success and rapid advancement, parents, peers, coaches, and media may impose psychological pressure on young athletes, placing their mental health at risk. In addition to direct pressure, athletes may indirectly internalize others' expectations. Due to a strong sense of responsibility and loyalty, they may feel obligated to perform optimally and push themselves beyond their mental and physical capacities.

Courage: A Misinterpretation

Research by Smith (2016) and Young (2004) indicates that enduring grueling training sessions, intense competition, and even injury in sport is often interpreted as an athlete's "courage." Athletes are frequently encouraged and rewarded by parents, coaches, and others for their ability to tolerate pain and hardship.

In many cases, young athletes do not have the autonomy to decide whether to continue participating in sport or to define their own goals. Their objectives are often determined by parents and coaches, and they are expected to pursue goals set by others rather than those they have chosen for themselves (Shogan, 1999).

Early specialization

Early specialization in a single sport can lead to two distinct and often contradictory outcomes. While such specialization may facilitate athletes' physical, psychological, and emotional development, it can also result in social isolation (Adams, 2018; Baker, 2003; Malina, 2010). Early specialization has been associated with social withdrawal, excessive dependency, loss of autonomy, maladaptive social behaviors, burnout, and injuries arising from continuous and intensive training. These conditions increase athletes' vulnerability to abusive behaviors, largely due to heightened dependency and social isolation (Baker, 2003; Malina, 2010).

At competitive levels, athletes are frequently required to focus almost exclusively on their sport, often sacrificing other domains of life. Evidence suggests that families may also contribute to this one-dimensional lifestyle by encouraging early success and prioritizing training and competition over balanced development (Kerr & Stirling, 2012). This occurs despite the fact that children have a fundamental right to family life, leisure time, and adequate rest. Nevertheless, athletes—both at elite and developmental levels—often adopt atypical lifestyles, spending limited time with family members and peers. Many young athletes involved in elite sport are required to leave home at an early age in order to pursue professional training.

Even those who continue to live with their parents may have little opportunity for family interaction due to the combined demands of intensive training and schooling.

In addition, forming friendships may be particularly challenging for athletes participating in individual sports, as opportunities for social interaction outside the sporting environment are often restricted (Grenfell & Rinehart, 2003). For example, an elite young athlete who trains several hours per day, six days a week, has minimal time available for activities other than school, sleep, and meals. Consequently, opportunities to pursue interests beyond sport are extremely limited, particularly at higher competitive levels (Farstad, 2007). These athletes enter competitive and social environments earlier than their peers and are exposed to stressors that often exceed their coping capacities. In many cases, they also miss out on valuable educational and social experiences. Collectively, these factors illustrate the significant pressures placed on young athletes, especially at early ages.

As a result of such concerns, regulations governing children's participation in competitive sport have been introduced since the 1980s. For example, in 1977 the minimum age for participation in the Olympic Games was set at 15 years, and this was increased to 16 in 1980 due to concerns regarding the risks of elite competition for young athletes and reports of abuse. Research in elite sport has suggested that children under the age of six should not be exposed to competitive environments, as they are unable to fully comprehend the implications of such participation and therefore require protection by responsible adults, such as parents and coaches. Despite considerable effort and commitment, many young athletes fail to achieve elite success due to intensive training demands and recurring physical and psychological injuries, ultimately leading to withdrawal from sport. Only a small proportion progress to elite status and gain opportunities for medal success (Donnelly, 1997; David, 1999; Grenfell & Rinehart, 2003).

When Performance Pressure Becomes Psychological Harm

In light of the issues discussed, new dimensions of pressure placed on athletes have emerged in recent years—pressures that directly threaten their physical and psychological safety. Research examining sources of stress among athletes has highlighted the powerful influence of social agents such as parents, teachers, and especially coaches on youth development. Previous studies have emphasized that the quality of the coach–athlete relationship is one of the most critical factors in athlete satisfaction and motivation, to the extent that coaches can play a decisive role in whether athletes continue or withdraw from sport.

Stirling and Kerr (2009), in their examination of elite sport culture, identified key features such as the coach's authority, excessive closeness between coach and athlete, and the coach's involvement in multiple aspects of the athlete's life—including education, lifestyle, and personal matters. In many cases, the coach–athlete relationship becomes the most influential relationship in a young athlete's life. Some child athletes may even view their coach as more important than their parents and seek their guidance in various life domains (Brackenridge & Fasting, 2004). Interviews with former Olympic female swimmers, conducted 6 to 12 years after retirement, revealed that many still considered their former coaches to be the most influential figures in their lives (Gustovson & Ogilvie, 1977).

Importantly, a coach's authority often extends beyond training sessions to areas such as diet, sleep patterns, and even interpersonal relationships (Tomlinson & Yorganci, 1997). As athletes progress to more competitive levels, they spend increasing amounts of time with their coaches, strengthening this relationship.

Coaches also hold substantial power over athletes' career trajectories (Brackenridge & Fasting, 2004). During competition seasons, athletes may spend most of their time training, traveling, and attending long training camps with their coaches—time that non-athlete peers would typically spend with family.

The coach–athlete relationship is inherently unequal. Coaches possess authority based on age, expertise, experience, access to resources and rewards, and past achievements (Tomlinson & Strachan, 1996). Athletes often seek validation from their coaches and may perceive them as the sole pathway to success. Additionally, sports organizations and clubs frequently place high value on coaches with records of repeated victories, granting them trust and autonomy. This power dynamic creates conditions in which coaches may—intentionally or unintentionally—exert physical or psychological pressure on athletes in the name of performance enhancement. Coaches may also hold influence over parents, asking them to entrust full control of their child's athletic development to them. However, interviews with parents reveal concerns that excessive trust can lead to the coach becoming the central and defining figure in the athlete's life (Smith et al., 2017; Stirling & Kerr, 2012).

Although coaches can positively influence athlete performance, research shows that their impact is not always beneficial (Stirling & Kerr, 2013). Certain conventional coaching practices in competitive sport may threaten athletes' physical and psychological well-being. The imbalance of power within the coach–athlete relationship creates conditions where exploitation—whether deliberate or unintentional—can occur.

Until the 1990s, such concerns received little attention. This changed when multiple cases of sexual abuse by coaches were exposed in several Western countries. One notable case involved Graham James, a prominent Canadian men's hockey coach and former "Coach of the Year," who was convicted of multiple counts of sexual abuse in the mid-1990s. Following such revelations, more athletes came forward with their experiences. Beyond sexual abuse, reports also highlighted other forms of mistreatment that had not previously been recognized as abuse. Athletes began speaking about the suffering and pressures imposed on them under the guise of training and performance preparation.

Many of the behaviors athletes described were considered routine coaching methods aimed at building mental toughness and resilience. However, reports revealed that some coaches used psychological aggression—intentionally or unintentionally—as a tool to develop athletes' mental strength (Stirling & Kerr, 2014). As media investigations brought these issues to public attention, the long-held perception of sport as an inherently moral and positive domain was challenged. Sports organizations were pressured to examine athlete safety and abuse more seriously.

Subsequent investigations revealed that sexual abuse was not the only form of misconduct involving abuse of power. Many standard coaching techniques, widely regarded as effective and even essential for producing successful athletes, were found to carry potential risks to athletes' physical and psychological health. In some cases, coaches known for producing champions were able to use harmful methods without being questioned (Smith et al., 2017; Stirling & Kerr, 2014).

Research in athlete safeguarding has identified three primary forms of abuse in sport: sexual, physical, and emotional. Although sexual abuse cases have received intense media attention, the most commonly reported form of maltreatment among athletes is **emotional abuse** (Alexander et al., 2011; Kirby et al., 2000).

Studies indicate a high prevalence of emotionally harmful coaching practices. In the first large-scale study of youth experiences in organized sport in the United Kingdom, Alexander et al. (2011) interviewed over 6,000 young athletes. While many participants viewed sport positively, a significant number reported negative experiences. Specifically, 75% reported emotional abuse, 29% sexual abuse, 24% physical abuse, and 10% self-harm. Additionally, Vertommen et al. (2016) interviewed over 4,000 adults in Belgium and the Netherlands regarding interpersonal violence in sport before the age of 18. Results showed that 44% had experienced at least one form of violence (sexual, psychological, or physical): 11% reported physical violence, 38% psychological violence, and 14% sexual violence. Alexander et al. (2011) further reported that 23% of participants experienced emotional abuse by their coach before the age of 16.

The Nature of Emotional Abuse

Emotional abuse, which is the focus of this article, is a repetitive pattern of non-contact, intentional behaviors in human relationships that are used to control individuals and are harmful to the victim's emotional, cognitive, or physical well-being. According to the National Olympic Committee, emotional abuse includes any unwanted act such as restricting freedom, isolation, verbal assault, humiliation, intimidation, belittling, or any behavior that diminishes a person's sense of identity, dignity, or self-esteem (Athlete Protection Guide, p. 30). Christensen (1999) defines *active emotional abuse* as continuous exposure to verbal insults, rejection, or lack of care and attention by a caregiver.

In some definitions, emotional abuse is considered a form of relational maltreatment. In relational maltreatment, an individual in a position of lower power depends on another for security, trust, and the fulfillment of needs (Crooks & Wolfe, 2007). Examples of significant relationships include parent–child, teacher–student, doctor–patient, and coach–athlete (Kerr & Stirling, 2019).

Emotional abuse of athletes by coaches may specifically include:

- ***Humiliation***: belittling or devaluing the athlete or their performance (e.g., insulting comments about a young athlete's appearance or weight).
- ***Yelling,*** repeated denial of reasonable requests, isolation (e.g., preventing leisure time, limiting contact with family and friends, unnecessary separation from teammates, prolonged camps without reason).
- ***Threatening***: threatening to bench the athlete, deny permission to compete elsewhere, or damage the athlete's reputation.
- ***Ignoring or withholding attention and affection:*** neglecting the athlete during practice or competition for poor performance or unmet expectations.
- ***Inducing guilt:*** blaming the athlete for team losses or goals conceded.
- ***Frequent criticism for technical or non-technical mistakes.***

- **Disregarding or devaluing athlete concerns:** ignoring emotional needs, minimizing the importance of rest, family contact, or financial support.
- ***Verbal abuse, ridicule, or extreme anger*** (e.g., shouting, mocking, throwing equipment without causing physical harm).

Additionally, certain coaching practices used as punishment, such as benching a player, may overlap with emotional abuse (Battaglia et al., 2017). Athletes have reported that the most common forms of emotional abuse they experience in sport are yelling, threats, and humiliation. However, denial of attention and support has been reported to have even more harmful effects, whereas physically aggressive behaviors stemming from coach anger show comparatively lower harm. This is partly because neglecting attention is perceived as a threat to the coach–athlete relationship, often conveying a sense of worthlessness and undermining self-esteem.

Research on child abuse has reached a consensus that *intent to harm is not required* to define emotional abuse and neglect (O'Hagan, 1993; Moran et al., 2002). Similarly, in sport, while a coach may intentionally employ harmful methods, explicit intent to harm the athlete is not necessary for a behavior to be classified as emotional abuse (Stirling & Kerr, 2008).

Moreover, in the general domain, research shows that emotionally harmful behaviors are often normalized as standard child-rearing practices. In many cases, the abuser may not realize they are committing abuse, and the victim may not recognize that they are being abused (Krugman & Krugman, 1984). Many coaches are likely unaware of the negative impact of their behavior and may perceive their actions as positive within the coach–athlete relationship. Although many do not intend to harm athletes, their insulting behavior can have long-term destructive effects on young athletes (Stirling & Kerr, 2008). Violence can lead athletes to experience feelings of worthlessness, fear, and anger (Brackenridge & Fasting, 2004).

A crucial point here is **awareness**. In many cases, coaches are unaware of their negative behaviors and mistakenly believe that achieving victory alone justifies their methods. However, they remain unaware of the long-term impact of these behaviors on the athlete's future in sport. Many athletes, after prolonged exposure to such abusive practices in sport, may experience burnout and eventually withdraw from their professional athletic careers. Interviews with former athletes indicate that the consequences of such behaviors are often felt long after they have stopped participating in sport.

It is important to recognize that for a behavior to be classified as abuse, it must be *persistent and repeated over an extended period*. Behaviors that occur briefly or rarely cannot generally be considered abusive. However, research recommends that any behavior that could negatively affect an athlete's mental health in the long term should be avoided, both to enhance performance and to protect psychological well-being. Experience shows that *the best environment for athlete development is the safest environment*, which encompasses both physical and psychological safety.

Emotional abuse often occurs when coaches prioritize athlete performance over their well-being—when winning becomes the sole objective (Gervis & Dunn, 2004; Parent & Demers, 2011). In elite sport, "suffering" is not unusual, and therefore, unnecessary pressure or hardship imposed on children and

adolescents is sometimes normalized as a necessary part of building elite athletes (Gervis, 2013). For example, evidence shows that punishment in sport may involve negative coaching methods such as forcing athletes to endure physically demanding training without rest due to misbehavior or criticizing athletes for failing to meet high-performance standards (Andrews, 2016).

Athletes report that emotionally abusive behaviors by coaches are often used as a tool for punishment because, in sport—both at grassroots and elite levels—a coach's reputation depends on the successful athletes they develop. Many coaches have made personal investments in their athletes, which are directly linked to their career progression. Therefore, when an athlete achieves high performance, the coach's status in the sport is elevated; to ensure this success, they may impose any form of pressure necessary on the athlete (Gervis & Brierley, 1999).

Donnelly (1997) explained that while coaches may believe they are acting in the athlete's best interest, they quickly realize that their career advancement and income are contingent on their athletes' performance. Thus, even if a coach's power and control over an athlete are not intentionally exercised for harm, the pressure to achieve success may lead to decisions that compromise the athlete's health and well-being. This creates a dilemma for young athletes who want to succeed but no longer enjoy training.

In other cases, emotional abuse has been reported as a method for establishing or reinforcing dominance and control over athletes. Often, this same power and authority serve as a reason for non-intervention in cases of misconduct. Potential complainants fear punishment from the coach, while coaches resist acknowledging abusive behavior because many justify it as a motivational tool necessary for success (Stirling & Kerr, 2013). Coaches are aware that if they achieve victory, they are unlikely to be held accountable for these behaviors.

Many of these findings can be understood through Bandura's concept of *moral justification*. This concept explains that individuals, under "special circumstances" (e.g., when the goal justifies the means), convince themselves to override standard ethical norms. In other words, emotional abuse may be rationalized if it is perceived to enhance performance and contribute to winning a competition. Another mechanism of moral justification relates to *displacement of responsibility*, such as when a coach convinces themselves that abusive practices are widely accepted in coaching and commonly used to produce successful athletes. Finally, moral justification can shift focus onto the *victim*, with the abuser arguing that the athlete voluntarily participated in training or competition, absolving themselves of responsibility (Grove, 2016).

The Role of Organizations and Sports Clubs

The role of organizations and sports clubs in this context is also highly significant. Over the years, the policies of both private and public sports institutions have largely focused on achieving victory and success. In these organizations, rewards are typically given to the player or players who win, and a "successful athlete" is often defined solely as a victorious one. Consequently, all resources and facilities are made available to the coaching staff to achieve success as quickly as possible, and athletes are expected to devote all their efforts to reaching the club's goals.

This unconditional trust in coaches creates a culture of *coach-centered authority*, where everything revolves around the coach, who becomes perceived as the sole determinant of an athlete's success or failure. In

contrast, emphasizing *athlete-centered development*—rather than coach-centered dominance—can foster a healthier environment for athlete growth.

Additionally, most clubs and sports organizations tend to hire coaches with prior successful experience and reputations. Given their past achievements, these coaches are often trusted completely, and their strategies and tools for preparing athletes are rarely scrutinized. In practice, sporting success is often judged solely by outcomes. Thus, the principle of *"the end justifies the means"* frequently applies to both coaches and athletes, allowing abusive behaviors to remain hidden behind victories (Gervis & Dunn, 2004).

For this reason, sport can create a context in which behaviors that would be considered abusive in other settings appear ethical and necessary. There are therefore many reasons to highlight the prevalence of emotionally abusive coaching practices (Kerr & Stirling, 2016). It is also important to consider that coaches often serve as role models for young athletes, and negative coaching behaviors may even lead to peer-to-peer violence and jeopardize the athletes' future careers.

The Effects of Emotional Abuse

Emotional abuse perpetrated by coaches negatively affects athletes in various ways. In the family context, experiencing emotional abuse from parents during childhood has serious consequences for a child's mental health and psychosocial functioning, and it has been reported to have a stronger association with adult depression and anxiety compared to other forms of childhood adversity, including physical abuse, sexual abuse, and neglect (Kent & Waller, 1998).

Research in the field of sport similarly indicates that abuse against child athletes is associated with increased psychological distress and reduced quality of life in adulthood (Vertommen et al., 2018). Emotional abuse may also be linked to a range of long-term consequences, including depression, maladaptive eating behaviors, and social withdrawal (Stirling & Kerr, 2013). In more severe cases, secondary outcomes of these conditions may include self-harm and suicide (Gervis, 2013).

Numerous studies have identified "eating disorders" and "burnout" as two primary consequences of abuse in sport settings. These studies suggest that eating disorders largely arise due to psychological pressure, particularly among female athletes and especially in aesthetic sports such as gymnastics and figure skating, where there is intense focus on the athlete's body. Excessive pressure, combined with criticism and scrutiny of the athlete's body to achieve an ideal weight, may lead to anorexia nervosa or bulimia nervosa. It is estimated that in gymnastics, diving, and figure skating, approximately 35% of athletes experience eating disorders.

Another issue resulting from intensive training and continuous pressure is burnout. An athlete suffering from burnout no longer has the motivation to strive, let alone to perform at a highly professional level that involves long training hours. This lack of motivation is particularly evident among children who have been subjected to intense training from a very young age (David, 1999).

Binggeli et al. (2001) categorized the consequences of emotional abuse into five domains:

1. ***Negative interpersonal thoughts, feelings, and behaviors*** (e.g., low self-esteem, negative life attitudes, symptoms of anxiety, depression, and suicidality);

2. ***Emotional problems and symptoms*** (e.g., emotional instability, borderline personality disorder, impulse control problems, anger, self-injury, eating disorders, and substance abuse);
3. ***Social and antisocial functioning*** (e.g., attachment problems, low social competence, low empathy, sexual maladjustment, dependency, aggression, delinquency, and crime);
4. ***Learning problems*** (e.g., poor academic achievement, learning disabilities, impaired moral reasoning); and
5. ***Physical health*** (e.g., failure to thrive, physical complaints, poor adult health, and increased mortality).

In addition, abuse of athletes generates negative emotions and self-blame. Athletes have reported feelings such as stupidity, worthlessness, sadness, low self-confidence, anger, frustration, and humiliation in response to abusive coaching behaviors. These findings reflect a destructive and vicious cycle in which the athlete loses belief in their ability to succeed and perform effectively. This, in turn, may intensify the coach's abusive behavior, as unmet performance expectations lead to increased pressure on the athlete to improve performance (Gervis & Dunn, 2004).

Furthermore, Stirling and Kerr (2013) organized their findings on the effects of emotional abuse into three main categories: perceived psychological effects, perceived training effects, and perceived performance effects. Negative perceived psychological effects included decreased mood, reduced self-esteem, lowered self-efficacy, poor body image, anger, and anxiety. Negative perceived training effects included changes in motivation (both decreases and increases), reduced enjoyment, impaired concentration, and difficulties in acquiring new skills. Perceived performance effects included decreased performance.

On the other hand, it is possible that emotional abuse by a coach may initially increase athletes' efforts due to fear of reprimand. However, over time, the psychological effects of abuse may manifest in the long term, reducing athletes' enjoyment of and interest in sport. This claim is supported by previous research in which athletes reported increasing experiences of emotional abuse throughout their professional careers.

Moreover, abuse can influence the type of motivation experienced by athletes. It has the potential to shift athletes' intrinsic motivation toward extrinsic motivation. Although negative coaching methods may increase compliance, obedience, and extrinsic motivation through behavioral control techniques such as criticism, blame, and other displays of power that pressure athletes to conform, they ultimately diminish intrinsic motivation. This is a critical point, as intrinsic motivation is associated with sustained participation and enjoyment in sport. One of the factors contributing to athlete dropout—beyond issues of abuse and pressure—is reliance on extrinsic motives (e.g., pleasing others, receiving praise or rewards) rather than intrinsic motives (personal enjoyment) (Ryan et al., 1995).

Internalization of Abuse

Mistreatment can be particularly destructive for athletes because they tend to internalize the harmful behaviors to which they are exposed. They attribute their coaches' misconduct to themselves and

consequently experience feelings of shame and guilt. These athletes often perceive themselves as responsible for the coach's behavior and attempt to compensate for it. As athletes internalize their coaches' negative words, their self-esteem, mental health, and identity are damaged (Stirling & Kerr, 2007, 2008).

One of the reasons for this harm, as discussed in earlier sections, is the restricted nature of athletes' lives. When a child athlete progresses and becomes established in their sport, their identity becomes strongly intertwined with it and may even be entirely defined by it (Stirling & Kerr, 2007; Tofler et al., 1996). This is referred to as a unidimensional identity, which can intensify social isolation and athlete withdrawal, ultimately hindering both athletic and personal development across multiple life domains.

Moreover, another key factor contributing to the internalization of abuse is athletes' lack of awareness regarding what constitutes abuse. When athletes normalize their coach's behavior due to this lack of awareness, they may interpret their own behavior as inadequate or wrong and blame themselves for mistakes they did not actually commit.

Barriers to Reporting Abuse

As the literature and research in this area are still emerging, athletes' awareness of abuse in sport remains very limited. One reason for the underreporting of misconduct is athletes' lack of awareness that abuse can occur in sport at all. Many athletes assume that abuse is not possible within the sporting context. Moreover, when such behaviors occur across many teams and affect multiple players, they become normalized, reducing athletes' doubts about the appropriateness of reporting them.

In a study of retired athletes, participants recalled that all team members had experienced emotionally abusive coaching practices. Observing similar abusive experiences among teammates—and witnessing peers' acceptance of such treatment—was identified as a primary factor in normalizing and accepting these behaviors. At younger ages, peers' and teammates' reactions often serve as the standard for judging whether a behavior is right or wrong. Since a general lack of awareness about abuse is common among players, the likelihood of disclosure is significantly reduced.

Research also indicates that athletes may refrain from reporting abuse due to fear of the coach's reaction or uncertainty about whether speaking up is justified. They may believe that, given the coach's reputation for success, no one would believe their report of abuse (Stirling, 2009). Another major barrier to reporting emotional abuse is fear of being removed from the team or jeopardizing one's athletic future. Unfortunately, insufficient awareness among team officials and sport governing bodies, unconditional trust in technical staff, inappropriate responses to reports, and lack of support for athletes further discourage disclosure and perpetuate these problems.

Additionally, one of the most significant reasons for not reporting abuse is athletes' strong achievement motivation and intense desire for progress. This ambition may lead them to overlook abusive behaviors. Many athletes aspire to reach higher competitive levels and resist anything that might threaten their professional future. In some cases, athletes may tolerate almost anything in pursuit of their championship dreams. Cook and Cole (2001) highlighted specific ways in which competitive sport makes young athletes vulnerable to abuse. When winning becomes more important than other reasons for participating in sport, the athlete quickly becomes an instrument to be trained to fulfill a role. As this identity shift occurs, the

athlete is no longer viewed as an individual with personal needs and rights but rather as a tool for achieving sporting success. This places the athlete in a vulnerable position, particularly children, who risk becoming instruments for adult goals.

Ultimately, these dynamics contribute to an environment that normalizes abuse and leaves athletes defenseless. It should also not be overlooked that a considerable number of athletes, both at grassroots and elite levels, refrain from reporting abusive behaviors due to affection or loyalty toward their coaches. They may feel that disclosure would betray the coach and damage the coach's professional future. In this context, some athletes even interpret abusive behaviors as expressions of care or concern for their development.

For these reasons, emotional abuse has received comparatively less clinical and research attention, likely due to the acceptance of an aggressive sport culture, the absence of clear malicious intent on the part of perpetrators, and the failure to recognize the urgency of intervention (Brassard & Donovan, 2006). In many cases, discussing the issue with coaches does not yield positive results, as they tend to deny such behaviors. Nevertheless, one study reported that approximately 65% of coaches acknowledged using verbal aggression toward their young athletes (Yabe, 2018).

Normalization of Abuse

The normalization of abuse is likely one of the primary reasons athletes may fail to report it. Abusive coaches may portray harmful coaching practices and demeaning behaviors as normal or typical. In this context, athletes themselves may normalize the abuse they experience, particularly when the coach holds a strong reputation for success within the sporting community (Cense & Brackenridge, 2001; Papathomas & Lavallee, 2012; Stirling, 2012). Abused athletes may especially normalize such behavior in response to the power held by coaches. This normalization may even intensify as athletes progress to elite levels (Gervis et al., 2016).

It appears that athletes often accept emotional abuse as part of ordinary coaching and training. When they believe that such treatment is necessary for successful performance, they are unlikely to question their coaches' behavior (Kavanagh et al., 2017; Stirling & Kerr, 2007, 2014).

Research on the normalization of abuse has also identified "positive interpretation and perception of abuse" as a contributing factor. Stirling and Kerr (2013) reported that abuse may both decrease and increase athletes' motivation. This suggests that perceptions of abuse differ across individuals. In other words, it is the individual's interpretation of the behavior that determines whether it is perceived as abusive (Findlay & Corbett, 1999). These researchers explained that athletes who achieve success and victory may develop a positive interpretation of their coach's misconduct and may even attribute their performance success to it. In contrast, athletes experiencing performance decline or plateau are more likely to interpret the coach's abusive behavior negatively. Overall, competitive level and performance outcomes significantly influence athletes' perceptions.

Research by Gervis and Dunn (2004) further showed that abusive coaching behaviors are more prevalent in unsuccessful competitive contexts and at advancing competitive levels. Consequently, such misconduct appears particularly common among "unsuccessful elite" athletes. These findings support earlier research indicating that emotional abuse is more frequently experienced by those competing at higher levels. In such cases, abusive behavior may be viewed as a necessary method for achieving peak performance. Interestingly,

although the prevalence of abuse increases with athletic progression, its negative effects appear less severe among elite athletes compared to grassroots athletes. Sub-elite athletes not only reported continuous experiences of abuse but also held more negative perceptions of it. In explaining these findings, Brackenridge (2002) suggested that athletes may be particularly vulnerable during stages of "imminent success." It can therefore be inferred that grassroots athletes are often, and sometimes even more than elite athletes, exposed to abuse that carries more harmful consequences. Overall, these findings suggest that success itself may contribute to underreporting of abuse, as many athletes not only fail to perceive the behavior as abusive but may even consider it a primary factor in their achievements.

Numerous studies have also highlighted "unique characteristics of athletes" as facilitating factors in the normalization and underreporting of abuse. One important factor influencing different interpretations of abuse is resilience. Resilience is a core characteristic of athletes—especially at elite levels—and may strengthen positive appraisal and perseverance in the face of adversity. However, it may also contribute to underreporting in sport. Many athletes, due to strong self-reliance, may perceive disclosure of abuse as a sign of weakness and prefer to endure the mistreatment.

In this regard, Iwaniec et al. (2006) categorized factors contributing to resilience against abuse into three domains: (1) facilitating factors, (2) internal factors, and (3) environmental factors. Facilitating factors include the nature of the abuse, early positive childhood experiences, and secure attachment style (Shonkoff & Phillips, 2000). Internal resilience factors include positive self-perception, external attribution style, adaptive coping strategies resistant to coercive behavior, personality traits such as high positive temperament, problem-solving skills, planning ability, social competence, goal-directed planning, positive peer relationships, high self-esteem, and confidence (Daniel et al., 1999; Doyle, 2001; Wolfe, 1987; Crittenden & Ainsworth, 1989). Environmental resilience factors include a positive educational setting (e.g., school) and the presence of a supportive relationship that provides unconditional positive regard and helps the child understand how and why abuse occurs (Toth & Cicchetti, 1997; Doyle, 1997).

Other athlete characteristics that may perpetuate dysfunctional coach–athlete relationships include high achievement motivation, strong commitment, and athletic identity. Intense ambition and exemplary dedication may enable athletes to tolerate harsh conditions. As discussed previously, athletic identity is often unidimensional. Many athletes define themselves entirely through sport, and sport may be the only activity they have pursued extensively. Separation from friends, family, and other life domains makes the idea of quitting sport extremely difficult. Consequently, athletes may blindly accept both the positive and negative aspects of sport. Therefore, attention must be paid to individual differences and competitive level when interpreting abuse. In interviews on this topic, the first step should be assessing athletes' level of awareness and their understanding of what constitutes abuse.

Normalization of abusive coaching behaviors may also occur among parents, as the elite sport environment can pressure them into silence and compliance. The value parents place on athletic success contributes to this silence. In 1998, research examining parents' role in preventing sexual abuse in sport reported that parents often place uncritical trust in coaches, thereby increasing young athletes' vulnerability (Brackenridge, 1998). Fewer than 45% of surveyed parents were aware of the coach's qualifications, and

80% were unaware of whether the coach adhered to ethical principles. Some parents were even aware of unethical coaching practices but allowed respect for the coach to override their concerns, thereby enabling misconduct without fear of consequences. Over time, parents' positive perceptions of harsh treatment as "normal" may be reinforced, unintentionally making them complicit. Kerr and Stirling (2012) described such parents as "silent bystanders." In many cases, parents acknowledged witnessing abusive behavior toward their children but remained silent due to their desire to secure a successful future for them.

Athletes often model their parents' responses. They may interpret protesting against a coach as disrespectful and therefore remain silent. Following family and cultural norms, they learn to obey coaches unquestioningly, as any deviation may be perceived as disrespectful and as jeopardizing their future success. Research has shown that some athletes may not even admit to themselves that they have been abused, or may not fully recognize their experiences as abuse (Kavanagh et al., 2017; Papathomas & Lavallee, 2012; Stirling & Kerr, 2009). In many cases, athletes are simply too young to fully understand the nature of the treatment they are experiencing. They may lack the vocabulary to describe mistreatment, making disclosure unlikely at the time. A developmental perspective helps explain why many young athletes fail to recognize abuse (Stirling & Kerr, 2009). As athletes grow older and gain experience, their confidence and awareness increase, and even if they do not report past experiences, they may later categorize them as abusive. Indeed, lack of education and awareness about abuse prevents athletes from recognizing themselves as victims, and therefore from reporting it. Arguably, one of the greatest risks in emotional abuse is the victim's inability to recognize it as problematic behavior.

Other key factors contributing to non-reporting or delayed disclosure in sport include the coach's power, fear of damaging the coach–athlete relationship, and fear of being blamed or questioned. Such fear is particularly understandable when other adults, including parents, do not label the behavior as abusive and instead normalize it (Stirling & Kerr, 2010). Furthermore, although emotional abuse may become normalized during athletes' careers, research suggests that upon retirement many athletes begin to question the dominant culture of elite sport and subsequently speak out against emotionally abusive coaching behaviors (Stirling & Kerr, 2007).

Who Perpetrates Abuse?

Abuse in sport does not occur solely at the hands of coaches. According to definitions of psychological abuse and neglect, abuse takes place within a relationship where one individual holds power over another and is responsible for meeting that person's needs. In the context of emotional abuse in sport, any form of verbal humiliation, denial of attention and support, rejection, or similar behaviors carried out by individuals in positions of authority and responsibility falls within the scope of abuse.

Therefore, in monitoring and safeguarding processes, all members of the technical staff and any individuals who interact directly or indirectly with athletes should be subject to oversight.

Regarding the characteristics of those who perpetrate abuse, Stirling and Kerr (2013) reported that emotionally abusive coaching practices may have both emotional and instrumental origins. Emotional roots refer to a coach's emotional reactivity and inability to regulate emotions in performance environments, particularly in response to athletes' mistakes. Instrumental roots, on the other hand, refer to behaviors adopted deliberately to achieve a desired outcome, such as winning or improved performance.

Research also suggests that individuals who were abused during childhood—particularly by their parents—may be more likely to engage in abusive behaviors later in life. Some perpetrators may exhibit personality disorders, including narcissistic or obsessive traits. Individuals with narcissistic characteristics tend to be self-centered, self-satisfied, and inclined to dominate others. In relationships, they may exploit others to fulfill their own desires and act irresponsibly. Those with obsessive traits may be possessive, rigid, and insistent that tasks be performed strictly according to their own standards. While these characteristics may be present in some abusive coaches, they are not universal; therefore, assessing coaches' mental health should also be a priority.

Coaches must recognize that all forms of harassment and abuse—regardless of intention—violate athletes' rights. As emphasized by the International Olympic Committee, "All athletes have the right to participate in 'safe sport'; a sporting environment that is respectful, fair, and free from all forms of non-accidental violence against athletes" (Mountjoy et al., 2016). Protecting athletes from harassment and abuse is formally embedded within the fundamental principles of good governance in the Olympic Movement and international sport under the concept of athlete safeguarding.

Protective Measures

1) Developing and Evaluating Safeguarding Initiatives

Public exposure of abuse cases through media scrutiny has prompted sport organizations to take action regarding athlete safety and maltreatment. As a result, various safeguarding measures—such as policies, educational programs, and support services—have been implemented to assist athletes. While these developments reflect positive social attitudes toward the importance of child protection in sport, it is essential that such measures be empirically evaluated to ensure their effectiveness and sustainability.

Over the past two decades, strong reactions to cases of child and youth maltreatment in sport have led to the expansion of preventive initiatives. However, without grounding these initiatives in solid theoretical frameworks and empirical evidence, their long-term impact may remain limited. It must also be emphasized that the absence of reports does not mean that abuse has not occurred. Kirby et al. (2000) noted that without effective harassment policies, not only will abuse be underreported, but the likelihood of investigation will also be significantly reduced.

Despite increasing public attention—particularly following high-profile international cases involving organizations such as the USA Gymnastics—research on sub-elite athletes remains limited in many countries. Most studies on emotional abuse in sport have focused on adult or retired athletes, often years after their professional careers ended. Given the documented negative effects of emotional abuse during formative years and its persistence into adulthood, prevention efforts should begin before athletes enter elite or professional levels. Understanding the climate within sub-elite sport may help predict and improve the future culture of elite sport.

In some national contexts, no specialized research has yet examined the prevalence of emotional abuse or athletes' responses to it. Athletes' reactions to abusive behavior can serve as indicators of their awareness and understanding of abuse. Greater transparency in this area may also support coaches who, due to lack of

knowledge, use harmful methods, helping them adopt healthier and more effective performance-enhancing approaches.

The first step in preventing emotional abuse and protecting athletes is identifying these behaviors and investigating how athletes perceive them, including the factors shaping those perceptions. This requires equipping athletes—beginning at grassroots levels—with the skills to distinguish between normal sport-related challenges and abusive conduct. Accordingly, a structured safeguarding system should exist across all sports disciplines to educate athletes about abuse, process complaints confidentially, and ensure that athletes can report concerns without fear of retaliation. Education for coaches regarding emotional abuse and its psychological and social consequences should also be an integral component of this system.

2) Addressing Organizational and Structural Factors

Nearly twenty years have passed since the first formal safeguarding initiatives in sport emerged. Although progress has been made, systematic evaluation and comprehensive analysis remain insufficient. Significant gaps persist in theoretical knowledge and robust data regarding child protection in sport.

Most behavioral science research has concentrated on individual-level factors—such as the psychological characteristics of perpetrators or victims (Mountjoy et al., 2016). Far fewer studies have examined abuse at the organizational level. Consequently, there is limited understanding of the structural and social mechanisms within sport organizations that may enable or even reinforce abusive practices.

Abuse is widely recognized as a multi-causal phenomenon, resulting from interactions between individual, organizational, and broader societal factors. Overemphasizing individual wrongdoing while ignoring systemic influences may hinder meaningful progress in prevention.

One important organizational factor is the relative autonomy of sport clubs and governing bodies. Many clubs worldwide operate informally or with limited oversight. In countries such as the United States, much athlete development occurs outside the formal education system. In nations like the Canada and the United Kingdom, only certain clubs receive government funding and supervision. In other contexts, most clubs operate privately. This raises concerns about whether minimum coaching and educational standards are consistently enforced.

Key questions arise:

- To what extent do clubs or governing bodies contribute to abusive environments?
- Do their values and norms implicitly encourage harmful coaching methods?

Research suggests that independent and insufficiently regulated clubs may fail to meet necessary safeguarding standards (Kerr & Stirling, 2014). Therefore, in addition to internal monitoring systems, independent oversight bodies should evaluate clubs' policies, norms, and practices, revising them when necessary.

Current international regulations are also insufficient to guarantee effective child protection. Although many sport federations include safeguarding clauses, oversight often focuses on competitions rather than daily training environments—where most harm occurs (Weber, 2009). Stronger regulations addressing training practices are therefore essential.

Another critical issue is the intergenerational transmission of abusive coaching styles. Coaches who experienced verbal or physical abuse as athletes may replicate similar methods. Because successful athletes often become future coaches, breaking this negative cycle is vital. Education, supervision, and competency development for both athletes and coaches should therefore be prioritized in youth sport organizations.

Clubs also play a central role in shaping sport culture. Policies that grant unconditional trust to coaches, reward success without regard for athlete wellbeing, prioritize victory over development and enjoyment, and overlook mental health risks can contribute to abuse and discourage reporting (Smits et al., 2017). Safeguarding must therefore be embedded in organizational values, not treated as a peripheral issue.

3) Strengthening Reporting and Disclosure Systems

Most children and adolescents who experience abuse delay disclosure until adulthood. Because signs of emotional abuse are often difficult for others to detect, disclosure remains the primary method of identifying abuse (Kerr & Stirling, 2012). For this reason, accessible, confidential reporting systems within organizations serving children—such as sport clubs—are essential.

However, limited information exists regarding whether reporting channels in sport are genuinely accessible, trusted, and safe for all athletes. Effective safeguarding requires that reporting mechanisms be:

- Clearly communicated to athletes and parents
- Independent and confidential
- Free from retaliation risks
- Supported by trained personnel capable of responding appropriately

Without such systems, athletes may remain silent, and abuse may persist unchallenged.

Protective measures in sport must move beyond reactive policies toward proactive, evidence-based, and system-wide safeguarding strategies. Abuse prevention requires coordinated efforts at individual, organizational, and cultural levels. Only through education, independent oversight, structural reform, and accessible reporting systems can sport environments become genuinely safe spaces that uphold athletes' rights and wellbeing.

What Should Be Done If an Athlete Reports Abuse?

Stirling and Kerr (2011) suggest the following steps:

1. ***Listen carefully and calmly.***

   The athlete must feel that their voice is heard and that their disclosure is taken seriously.

2. ***Encourage the athlete to feel comfortable sharing details.***

   Invite the athlete to describe what happened in as much detail as possible. In some cases, it may be the athlete's interpretation of the situation that shapes their understanding of the behavior, rather than the objective nature of the behavior itself. Careful clarification is therefore essential.

3. ***Avoid speaking negatively about the alleged perpetrator and remain composed.***
   Some athletes may feel protective toward the individual involved (e.g., a coach). Strong or hostile reactions toward that person may reduce the athlete's willingness to continue reporting or to cooperate with further investigation.

4. ***Reassure the athlete that the abuse is not their fault.***
   Make it clear that they are not responsible for the mistreatment and express appreciation for their courage in reporting it.

5. ***Address the culture of silence in sport.***
   A culture of silence often surrounds abuse in sport. Because mental toughness is frequently emphasized as a defining characteristic of athletes, they may perceive help-seeking as a sign of weakness. It is crucial to reinforce that reporting abuse is not a sign of weakness; rather, it is a courageous act that may protect other athletes and empower them to speak out.

6. ***Report the abuse to the appropriate authority.***
   Proper procedures must be followed to ensure that the matter is investigated professionally and ethically.

What Everyone Should Know to Prevent and Address Abuse

1. Establish clear personal boundaries in relationships.
2. Take responsibility for protecting oneself from exploitative behavior and recognize that no one — not even close individuals — has the right to abuse.
3. Respond assertively to abusive behavior.
4. Do not delay reporting in the hope that time will resolve the situation.
5. Practice assertiveness skills.
6. Avoid engaging in tasks that cause discomfort and are not part of one's responsibilities.
7. Do not yield to aggressive or domineering behavior.
8. Value rest and recovery time.
9. Refrain from becoming involved in unhealthy conflicts.
10. Regulate emotions and remain mindful of tone.

11. If abuse is experienced, speak with a trusted person (preferably a professional counselor).

If You Suspect Abuse but Are Not Certain

1. Look for signs and behavioral indicators.
2. Report concerns directly to an appropriate authority so that a formal investigation can determine the validity of the suspicion. Determining the facts is the responsibility of designated authorities, not the observer.

How Can Sport Psychologists Contribute to the Prevention of Athlete Abuse?

1. ***Prioritize athlete well-being above performance outcomes.***
   The physical, psychological, social, and spiritual well-being of the athlete must take precedence over competitive success.
2. ***Educate stakeholders about professional boundaries.***
   Conduct workshops for athletes, coaches, and parents on healthy coach–athlete relationships and ethical boundaries.
3. ***Promote psychological empowerment.***
   Strengthening self-esteem, self-efficacy, and assertiveness reduces the likelihood of internalizing abusive behavior.
4. ***Encourage safe reporting cultures.***
   Support the development of confidential and non-retaliatory reporting systems.
5. ***Advocate for ethical oversight.***
   Collaborate with sport organizations to develop and implement safeguarding policies and ethical codes of conduct.

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A LETTER TO THE EDITOR

Practical Considerations in Administering the Wechsler Intelligence Scales to Athletes with Intellectual Disabilities: Clinical Experiences and Recommendations

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This is a letter to the esteemed editor in chief from SeyedehMaryam Komarati, Ph.D. in General Psychology, and a psychologist working with athletes with intellectual disabilities. I prepare and organize their eligibility files for participation in Virtus competitions. Given that I have exclusively used the Wechsler Intelligence Scales in my assessments, I would like to share my experience in administering this test to athletes with intellectual disabilities with the readers of your journal and highlight several important points that may guide other psychologists working in this field.

Virtus is the international sports organization for athletes with intellectual disabilities. It manages the eligibility and classification of athletes with intellectual impairment for participation in competitions and for sport development pathways. Virtus has committed to increasing support and opportunities for athletes with intellectual disabilities to participate in international sport by 2030. As the official organization recognized by the International Paralympic Committee (IPC), Virtus has established strict standards for the classification of athletes with intellectual impairment. These assessments play a vital role in ensuring fair competition and determining the appropriate competition level for each athlete.

According to the American Association on Intellectual and Developmental Disabilities (AAIDD), whose definition is consistent with that of the World Health Organization (WHO), ICD-10, and the International Classification of Functioning, Disability and Health (ICF), intellectual disability is characterized by significant limitations in both intellectual functioning and adaptive behavior. This disability originates before the age of 21. Limitations in adaptive behavior affect both everyday life and the individual's ability to respond to life changes and environmental demands.

Based on this definition, the Virtus eligibility criteria for athletes with intellectual disability are as follows:

1. Significant impairment in intellectual functioning, defined as a Full-Scale IQ score of 75 or below.

2. Significant limitations in adaptive behavior, manifested in conceptual, social, and practical skills.
3. Onset of the above conditions during the developmental period, from pregnancy through 21 years of age.

Athletes who meet all three of the above criteria are eligible for evaluation to participate in competitions for athletes with intellectual disabilities. The assessment of intellectual functioning must be conducted by a qualified professional using an internationally recognized and valid intelligence test. The Virtus list includes the following standardized tests:

1. Wechsler Intelligence Scale for Children (WISC) or Wechsler Adult Intelligence Scale (WAIS)
2. Stanford–Binet Intelligence Scales
3. Raven's Progressive Matrices

The Wechsler test that I use is designed to assess intelligence and cognitive functioning and plays an important role in diagnosing intellectual disabilities and evaluating overall cognitive abilities in children and adults. It is one of the most valid and widely used cognitive assessments of intellectual ability. The test was first developed in 1939 by Dr. David Wechsler, and over the years, different versions have been introduced for various age groups. In his research, Wechsler found that individuals' IQ scores are directly influenced by their living environment. In addition, he recognized that both biological and environmental factors play a role in the development of intelligence and cognitive abilities.

The verbal scale of the Wechsler test is influenced by cultural factors. Its subtests primarily measure knowledge, language, and personal experiences, which vary across cultures. In general, athletes performed better on the performance (nonverbal) scale than on the verbal subtests.

Most athletes with intellectual disabilities performed weakly on the subtests of Information, Arithmetic, and Similarities. Individuals with intellectual disabilities often have difficulty understanding complex instructions or abstract questions, which leads to poorer performance. Subtests such as Comprehension or Arithmetic require language skills, and acquiring and applying these skills can be challenging for some of these individuals. According to the test administration manual, it is necessary to use clear and understandable language during administration. The athlete should be encouraged throughout the testing process; however, encouragement must not guide them toward the correct answer. Athletes with very low scores on verbal subtests may quickly forget their sport-specific strategies, have difficulty learning movement sequences, may perform well when executing simple and immediate commands, but struggle to understand complex strategies.

In the assessments conducted, athletes demonstrated better performance on nonverbal scales. Most athletes obtained higher raw scores on four out of the five nonverbal subtests. However, a considerable number performed poorly on the Block Design subtest. Since individuals with intellectual disabilities often have difficulty understanding instructions—and many Wechsler subtests require comprehension of abstract concepts, verbal reasoning, or following multi-step instructions—they may fail to process the questions

correctly, even if they possess stronger practical abilities. In the Block Design subtest, the individual must reconstruct a visual pattern using blocks; however, if they do not understand the instructions, they may be unable to complete the task, even if they are practically capable of doing so.

Verbal subtests (such as Similarities, Comprehension, or Arithmetic) are particularly difficult for individuals with language and communication difficulties. Some individuals with intellectual disabilities may not understand idiomatic expressions or abstract questions. For example, in the Comprehension subtest, questions such as "Why do people pay taxes?" or "Why are special laws needed regarding child labor?" require social reasoning, judgment, and understanding of social rules and norms, which may be complex processes for an individual with intellectual impairment.

Some Wechsler subtests (such as Coding or Picture Completion) are time-limited, whereas individuals with intellectual disabilities may have slower processing speed, which negatively affects their performance. These individuals often have weaker working memory and attention. Subtests such as Digit Span require strong working memory, while many individuals with intellectual disabilities have difficulty retaining and processing information, resulting in lower scores.

Individuals with intellectual disabilities are also more easily distracted and may struggle to maintain attention during lengthy tasks. The Wechsler test is relatively long (approximately 60–90 minutes) and may lead to fatigue or loss of motivation. Some athletes discontinued participation after a period of time. In some cases, allowing a short break resolved the issue; in other cases, incomplete testing affected the final scores obtained.

The recommendations I offer to fellow psychologists to facilitate smoother administration of intelligence testing are presented in two sections: the Verbal Scale and the Nonverbal Scale, as follows:

Verbal Scale:

1. During test administration, the athlete should be encouraged; however, encouragement must not lead them toward the correct answer.

2. Each question should be read slowly to the athlete. If necessary, the question may be repeated once, but no changes should be made to the wording.

3. It is essential to use clear and understandable language when administering the test.

4. Words should be pronounced clearly. If the athlete provides an ambiguous or incorrect response, ask them to elaborate slightly to ensure they have understood the meaning of the question.

Nonverbal Scale:

1. Since individuals with intellectual disabilities may have weak verbal skills, in certain subtests such as Picture Completion, if they indicate the correct answer by pointing, the response should be accepted.

2. Due to slower processing speed in individuals with intellectual disabilities, athletes may demonstrate slower performance on performance-based subtests. The examiner should be patient and allow them to complete the task within the time limits specified in the administration manual.

3. To encourage athletes to continue working, if they are unable to complete a task correctly within the allotted time, avoid giving discouraging feedback. You may correct the incomplete task (without awarding a score for it) so that they do not become discouraged by failure, and then encourage them to proceed to the next activity.

In summary, my experience in assessing athletes with intellectual disabilities has led me to conclude that, in order to ensure smoother and more appropriate test administration, psychologists should strengthen the following qualities in themselves:

1. Individuals with intellectual disabilities may see, hear, or process information differently. Therefore, the psychologist must demonstrate greater patience.

2. Create a safe and trustworthy environment. This may be especially important for these athletes. A highly formal atmosphere and the perception that repeated incorrect answers indicate inferiority compared to others can cause significant anxiety. Reassure them that the test is not a judgment of their performance, but rather a tool to better understand their strengths.

The following points should also be observed:

1. Before beginning the test, engage in brief conversation about their sporting interests, achievements, experience in their specialized sport, and other topics commonly used as icebreakers in professional sessions.

2. After 30–40 minutes, a noticeable decline in concentration, response quality, and increased restlessness may appear. When signs of fatigue or disinterest are observed, provide a short break and light refreshment if possible.

3. Anxiety affects every athlete’s performance. By establishing rapport at the beginning of the session and explaining the test in a simple and clear manner, you can help reduce the athlete’s anxiety and facilitate optimal performance.

4. Individuals with intellectual disabilities are more easily distracted and may struggle to concentrate on tasks. Choose a quiet environment with minimal external stimuli for test administration. Conducting the assessment in crowded settings or rooms filled with numerous visual stimuli is not recommended.

In closing, I wish success to all esteemed colleagues who carry the important responsibility of conducting fair and equitable assessments.

References

Karami, A. (2024). *Wechsler Adult Intelligence Scale: Administration, Scoring, and Score Conversion Manual*. Ravansanji Publications.

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