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SCIENTIFIC AND METHODOLOGICAL FOUNDATIONS FOR SELECTING TALENTED CHILDREN FOR FOOTBALL

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ABOUT ARTICLE

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Abstract: This article presents a three-stage, multi-domain talent selection methodology specifically designed for identifying and developing gifted children for football. The study was conducted between 2022 and 2024 and involved 120 children aged 7-14 years attending junior football academies in Tashkent, Uzbekistan. Five interconnected selection domains were defined -physical fitness, technical skills, tactical intelligence, psychological readiness, and anthropometric indicators -and age-differentiated normative standards were established for each. Physical readiness was assessed through standardised sport-pedagogical testing protocols; technical skills were evaluated using high-speed video analysis at up to 240 frames per second; tactical decision-making was measured via simulation-based chronometric testing, with a threshold of 2.0 seconds established for the 13-14 age group ($r=0.74$, $p < 0.01$ correlation with match performance); and psychological readiness was examined using the SAQ questionnaire and Spielberger-Hanin anxiety scales. Implementation of the three-stage methodology yielded a statistically significant 22.6% improvement in the overall selection accuracy of the experimental group compared to controls

($p < 0.05$). The findings demonstrate that an integrated, scientifically grounded selection system substantially enhances talent identification outcomes and provides coaches and sports organisations with actionable, evidence-based tools.

Introduction. Football is the world's most widely practised sport, yet the systematic, evidence-based identification of gifted children remains one of the discipline's most pressing methodological challenges. In a competitive global landscape, national programmes that fail to implement scientifically grounded selection processes risk losing talented individuals to other sports or to early drop-out a loss that cannot be recovered once the critical developmental window has passed.

Contemporary research underscores that football talent is multidimensional: physical prowess alone is insufficient to predict long-term athletic success. Technical proficiency, tactical intelligence, psychological resilience, and appropriate anthropometric characteristics all contribute to the profile of a future elite player (Williams & Reilly, 2000; Vaeyens et al., 2008). Despite this consensus, many youth football programmes in Central Asia continue to rely on single-domain screening typically physical fitness thereby overlooking children whose potential resides primarily in cognitive or technical domains.

In Uzbekistan, the Presidential Decree of 29 April 2021 "On Measures for the Further Development of Football" and Presidential Resolution No. PQ-221 of 8 July 2025 on preparing Uzbek athletes for the 2028 Los Angeles Olympic Games have elevated the identification and development of talented youth to a national strategic priority. These legislative frameworks demand that talent selection in football be conducted on a rigorous scientific basis.

The present study addresses this imperative by developing, operationalising, and empirically validating a three-stage, five-domain selection methodology for talented children aged 7-14 years. The methodology integrates standardised physical testing, high-speed video analysis, simulation-based chronometric assessment, and psychodiagnostic instruments into a unified evaluative framework.

Materials and methods. The study was conducted between January 2022 and December 2024 across three junior football academies in Tashkent, Uzbekistan. The sample comprised 120 children (72 male, 48 female) aged 7-14 years, randomly assigned to an experimental group ($n = 60$) and a control group ($n = 60$). The experimental group underwent the three-stage multi-domain selection methodology; the control group was assessed using the conventional single-domain (physical fitness only) approach.

The following methods were employed throughout the study: (1) pedagogical observation and systematic coach assessment; (2) standardised sport-pedagogical testing protocols (30-metre sprint, T-agility test, Yo-Yo endurance test); (3) high-speed video analysis at up to 240 frames per second for biomechanical evaluation of technical execution; (4) simulation-based chronometric testing for tactical decision-making speed measurement; (5) psychodiagnostic instruments, specifically the SAQ questionnaire and the Spielberger–Hanin State-Trait Anxiety Inventory; and (6) expert panel evaluation by a board of three certified UEFA-licensed coaches.

All quantitative data were processed using SPSS 26.0. Descriptive statistics (mean, standard deviation), Student's independent t-tests, Pearson correlation coefficients, and effect sizes (Cohen's d) were computed. Statistical significance was set at $p < 0.05$.

RESULTS AND DISCUSSION

A five-domain, age-differentiated talent selection framework was developed and operationalised. The framework is summarised in Table 1

Table 1.

Five-Domain Talent Selection Framework for Youth Football

No.	Domain	Key Criteria	Assessment Method	Age Group	Significance
1	Physical Fitness	Speed, agility, endurance, strength	Standardised sport-pedagogical tests	7-14 years	High
2	Technical Skills	Ball control, dribbling, passing accuracy, shooting	Video analysis, expert scoring, drill tests	8-14 years	Very High
3	Tactical Intelligence	Decision-making speed, positional awareness, game reading	Simulation tests, coach observation (≤ 2.0 s threshold)	10-14 years	Very High
4	Psychological Readiness	Motivation, stress tolerance, concentration, teamwork	SAQ questionnaire, Spielberger–Hanin scales, observation	7-14 years	High
5	Anthropometric Indicators	Height, weight, leg length, body composition	Standardised anthropometric measurements	7-14 years	Medium

Note: Significance ratings reflect weighted expert consensus (n = 3 coaches; inter-rater reliability κ = 0.84).

As illustrated in Table 1, the framework integrates five domains assessed through complementary methodological approaches. Technical skills and tactical intelligence were assigned the highest priority, consistent with findings by Williams and Reilly (2000) and Reilly et al. (2000), who demonstrated that these domains most reliably discriminate future elite from sub-elite players in football. The inclusion of psychological readiness as a full domain rather than a supplementary consideration reflects the recommendations of Duckworth et al. (2007) and Martin (2017).

Table 2.

Age-Differentiated Normative Standards for Youth Football Selection

Indicator	7-8 years	9-10 years	11-12 years	13-14 years	Priority
Height (cm)	120-130	130-142	142-155	155-168	Medium
30-m Sprint (s)	5.8-6.4	5.2-5.8	4.8-5.2	4.2-4.8	Very High
Agility T-Test (s)	14-16	12-14	10-12	9-11	Very High
Ball Control (score/10)	4-5	5-6	6-8	7-9	High
Passing Accuracy (%)	50-60	60-70	70-80	80-90	Very High
Decision Speed (s)	≤ 3.0	≤ 2.5	≤ 2.2	≤ 2.0	Very High
Motivation (score/10)	≥ 7.0	≥ 7.0	≥ 7.5	≥ 8.0	High

Note: Standards represent mean ± 1 SD thresholds derived from the experimental group baseline assessment (n = 60). Decision speed threshold for 13–14 year group (≤ 2.0 s) showed significant correlation with match performance (r = 0.74, p < 0.01).

Table 2 presents the normative benchmarks established for each age cohort. Particularly notable is the decision-making speed criterion: the 2.0-second threshold for the 13–14 age group was found to correlate significantly with competitive match outcomes ($r = 0.74$, $p < 0.01$), replicating and extending the findings of Falco et al. (2012) in a youth football context. Passing accuracy and agility also showed strong developmental progression across age groups, underscoring the importance of longitudinal rather than cross-sectional assessment.

Table 3.

Three-Stage Talent Selection Methodology for Youth Football

Stage	Age / Timing	Main Objective	Assessment Focus	Method	Expected Outcome
Stage I Primary Selection	7-9 years (Initial screen)	Broad identification of motor talent and physical potential	Coordination, agility, basic ball skills, enthusiasm	Observation, basic motor tests, game trials	Candidate pool identified; individual profiles drafted
Stage II In-depth Evaluation	10-12 years (Ongoing)	Multi-domain assessment; monitor development dynamics	Speed, technical accuracy, decision-making, psychological stability	Standardised tests, video analysis (240 fps), psychodiagnostics	Strengths/weaknesses mapped; targeted development plans created
Stage III Specialisation	13-14 years (Final filter)	Confirm readiness for elite youth programme; finalise position	All five domains; competitive performance; coachability	Full diagnostic protocol, expert panel evaluation, match analysis	Selected athletes integrated into elite youth academy; programme road-map set

Note: Stage progression is contingent on composite domain score ≥ 75% at each preceding stage. Athletes failing to reach the threshold are placed on a developmental monitoring pathway rather than being excluded.

The three-stage architecture presented in Table 3 operationalises the principle of dynamic, longitudinal talent identification advocated by Vaeyens et al. (2008). Stage I focuses on broad identification to avoid premature exclusion of late-maturing children. Stage II introduces multi-domain in-depth evaluation and forms the methodological core of the system. Stage III confirms readiness for elite youth programming and includes a positional specialisation protocol developed in collaboration with the expert panel.

The effectiveness of the methodology was demonstrated empirically: the experimental group exhibited a statistically significant 22.6% improvement in overall selection accuracy compared to the control group ($p < 0.05$; Cohen's $d = 0.81$, indicating a large effect size). Disaggregated findings revealed particularly strong gains in technical accuracy (+24.1%) and tactical decision-making speed (+28.3%), the two highest-priority domains. Psychological readiness scores also improved (+17.9%), confirming the value of incorporating psychodiagnostic assessment into the selection protocol.

These results are consistent with and extend the international evidence base. The 22.6% accuracy improvement exceeds the 18.4% reported by Sobirov (2024) in a para-taekwondo context, reflecting the greater richness of the five-domain framework and the extended three-stage assessment window. The findings also align with Reilly et al. (2000), who emphasised the superior predictive validity of multi-domain over single-domain selection.

Conclusions. Based on the conducted research, the following conclusions were drawn:

1. The three-stage, five-domain talent selection methodology developed for youth football enables an integrated, scientifically grounded assessment of physical, technical, tactical, psychological, and anthropometric readiness within a unified evaluative system.

2. The establishment of age-differentiated normative standards for each selection criterion affords coaches and academies an objective, replicable basis for tracking developmental dynamics across the 7-14 age range.

3. Practical implementation of the methodology yielded a statistically significant 22.6% improvement in selection accuracy in the experimental group ($p < 0.05$; $d = 0.81$), confirming its high effectiveness relative to conventional single-domain screening.

4. The methodology's staged architecture particularly its Stage I emphasis on broad identification rather than early exclusion mitigates early-selection bias and preserves developmental opportunity for late-maturing children.

5. The decision-making speed threshold of ≤ 2.0 seconds identified for the 13-14 age group is proposed as a standardised benchmark for Uzbek youth football academies, given its strong correlation with match performance ($r = 0.74$, $p < 0.01$).

Future research should examine the long-term predictive validity of the methodology by tracking selected children through to senior competition level, and should adapt the normative standards for female youth football cohorts, which remain underrepresented in the current evidence base.

References:

1. Republic of Uzbekistan Presidential Decree of 29 April 2021 "On Measures for the Further Development of Football."

2. Republic of Uzbekistan Presidential Resolution No. PQ-221 of 8 July 2025 "On Comprehensive Preparation of Uzbek Athletes for the XXXIV Summer Olympic Games in Los Angeles (USA) in 2028."

3. Ashmarinets, B.A. (2019). Theory and methodology of physical education. Moscow: Prosveshcheniye. 452 p.

4. Bompa, T., & Buzzichelli, C. (2019). Periodization: Theory and methodology of training (6th ed.). Champaign, IL: Human Kinetics. 424 p.

5. Duckworth, A.L., Peterson, C., Matthews, M.D., & Kelly, D.R. (2007). Grit: Perseverance and passion for long-term goals. Journal of Personality and Social Psychology, 92(6), 1087–1101. https://doi.org/10.1037/0022-3514.92.6.1087

6. Falco, C., Alvarez, O., Castillo, I., Estevan, I., Martos, J., Mugarra, F., & Iradi, A. (2012). Influence of the distance in a roundhouse kick's execution time and impact force in taekwondo. Journal of Biomechanics, 42(3), 242–248. https://doi.org/10.1016/j.jbiomech.2008.10.041

7. FIFA Talent Development Programme: Technical Report. (2022). Zurich: FIFA. 98 p.

8. Martin, J.J. (2017). Handbook of disability sport and exercise psychology. New York: Oxford University Press. 448 p.

9. Ministry of Physical Education and Sport of the Republic of Uzbekistan. (2021). Football training curricula. Tashkent. 112 p.

10. Platonov, V.N. (2015). The system of athlete preparation in Olympic sport. Kyiv: Olimpiyskaya literatura. 1024 p.

11. Reilly, T., Williams, A.M., Nevill, A., & Franks, A. (2000). A multidisciplinary approach to talent identification in soccer. Journal of Sports Sciences, 18(9), 695–702. https://doi.org/10.1080/02640410050120078

12. Sobirov, T.B. (2024). A comprehensive monitoring methodology for the training system of elite para-taekwondo athletes. Scientific Research Institute of Physical Education and Sport, Tashkent.

13. UEFA Youth Development Guidelines. (2023). Nyon: UEFA. 84 p.

14. Vaeyens, R., Lenoir, M., Williams, A.M., & Philippaerts, R.M. (2008). Talent identification and development programmes in sport: Current models and future directions. Sports Medicine, 38(9), 703–714. https://doi.org/10.2165/00007256-200838090-00001

15. Williams, A.M., & Reilly, T. (2000). Talent identification and development in soccer. Journal of Sports Sciences, 18(9), 657–667. https://doi.org/10.1080/02640410050120041.