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An Analytical Study of Talent Identification Criteria in Middle-Distance Running within School Sports Frameworks

Imane Bensaada
Dr.
Institute of Physical and Sports Activity Sciences, Ammar Theliji University of Laghouat
Algeria
E-mail: i.bensaada@lagh-univ.dz | ORCID: 0009-0007-1115-336x

Rebhia Bentireche
Dr.
Institute of Physical and Sports Activity Sciences, Ammar Theliji University of Laghouat
Algeria
E-mail: r.bentireche@lagh-univ.dz | ORCID: 0009-0002-9011-6164

Oum Kalthoum Benlarbi
Dr.
Institute of Physical and Sports Activity Sciences, Mohamed Boudiaf University of M'Sila
Algeria
E-mail: oumkaltoum.benlarbi@gmail.com | ORCID: 0009-0000-8233-9742

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Keywords Talent identification; School sports; Middle-distance running; Athletics; Physical criteria; Psychological factors; Cognitive skills; Youth athletic development; Talent detection frameworks; Algeria; Sports performance; PE teacher evaluation.

Abstract

This study provides an expanded analytical examination of the criteria used for detecting talented students in middle-distance running events within the Algerian school sports system. Talent identification is a multidimensional process that requires scientifically grounded standards to ensure accurate selection and long-term athletic development. The research evaluates the practical application and prioritization of physical, psychological, and cognitive indicators among physical education teachers and school sports specialists. Results demonstrate that physical criteria—including speed endurance, aerobic capacity, coordination, balance, and neuromuscular efficiency—are perceived as the strongest predictors of middle-distance running talent. Teachers consistently rank physical factors higher than psychological traits such as motivation, determination, competitive drive, and emotional resilience. Cognitive skills—including tactical understanding, decision-making, the ability to follow instructions, and awareness during performance—are recognized but rarely assessed due to insufficient training and lack of formal evaluation tools. The study concludes that a holistic model combining physical, psychological, and cognitive measures is essential for effective talent identification. Recommendations include developing standardized national guidelines, training PE teachers in psychological assessment, and integrating scientific tools into school sports programs to enhance early detection efficiency and support long-term athlete development.

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1. Introduction

Identifying individuals' motor abilities and physiological characteristics, and subsequently guiding them toward sports activities that align with their unique profiles, not only accelerates the achievement of desired performance outcomes but also optimizes the use of effort and resources. Talent selection in sports represents a fundamental pillar in reaching elite performance levels. This necessity arises from the well-established recognition of individual differences in physical, cognitive, and psychological attributes, as underscored by the theory of individual differences. Each sport imposes specific demands and requires a set of typical characteristics that athletes must possess to attain advanced competitive levels.

Currently, physical education teachers and school sports specialists face the challenge of preparing young athletes to reach their highest potential. This process necessitates a comprehensive and systematic selection approach that considers multiple dimensions. However, such selection must be preceded by clear, scientifically grounded criteria—measurements, specifications, and standards—that young athletes must meet to qualify for continued involvement in structured sports training. Relying on chance in this process is no longer acceptable, as talent identification is a complex undertaking that demands a programmed, evidence-based methodology led by qualified professionals. This process encompasses various interrelated aspects, including physical, psychological, morphological, and cognitive dimensions of the developing athlete.

In light of the above, the present study addresses the following research problem:

Are specific criteria employed to identify talented students in athletics through school sports frameworks?

This central question gives rise to the following sub-questions:

Is the physical criterion used to identify talented students in athletics within school sports frameworks?

Is the psychological criterion used to identify talented students in athletics within school sports frameworks?

Is the cognitive criterion used to identify talented students in athletics within school sports frameworks?

To address these questions, the following main hypothesis is proposed:

Physical, psychological, and cognitive criteria are among the most important factors employed in identifying talented students in athletics through school sports frameworks.

This overarching hypothesis is further broken down into the following sub-hypotheses:

The physical criterion is employed in identifying talented students in athletics within school sports frameworks.

The psychological criterion is employed in identifying talented students in athletics within school sports frameworks.

The cognitive criterion is employed in identifying talented students in athletics within school sports frameworks.

The primary objective of this study is to determine the most significant criteria used by teachers and specialists in school sports programs to identify talented students in middle-distance running events within athletics.

To ensure a sound theoretical and conceptual foundation for interpreting and discussing the findings, it is essential to define key terms. The following section presents the conceptual and operational definitions relevant to this study.

2. Concept of Talent Selection in Sports

Conceptually, talent selection refers to a process of comparative evaluation—essentially, choosing the most suitable individuals from a pool of candidates through the application of scientific methods, such as standardized tests and objective measurements (Bashir & Hamlaoui, 2014, p. 236). It is also defined as a systematic procedure aimed at identifying individuals who possess the requisite traits, characteristics, capabilities, and predispositions necessary for a specific sport, thereby determining their suitability—or lack thereof—for participation in that athletic discipline (Zerari, p. 101).

Operationally, talent selection denotes the process of selecting athletes based on scientifically established physical, morphological, and psychological criteria.

3. Concept of Sports Guidance

Conceptually, sports guidance refers to a structured process aimed at helping the athlete gain a deeper understanding of their self—by identifying their personality traits, attitudes, predispositions, capabilities, experiences, interests, values, habits, and behavioral responses to various situations. It also assists the individual in recognizing their challenges and developing their physical, cognitive, social, psychological, and motor potentials. Furthermore, it equips them with the necessary skills to address these challenges in light of their personal capacities and environmental circumstances, thereby promoting adaptive functioning across multiple life domains (Yahya Al-Sayyid Al-Hawi, 2002, pp. 28–37).

Operationally, sports guidance denotes the process of directing students enrolled in school sports programs—after initial talent identification—toward specific athletic activities that best match their individual qualifications and aptitudes within school-based clubs.

3.3. Concept of School Sports

Conceptually, school sports encompass organized athletic competitions held within and between schools across various team and individual sports included in the annual school sports program. It also refers to a set of integrated, scientifically grounded pedagogical, medical, and health-oriented physical education practices designed to enhance students' health, strength, agility, and postural balance (Zehaf & Bouaziz, 2015, p. 347).

Operationally, school sports consist of extracurricular physical activity sessions dedicated to various sports disciplines. These sessions commonly take the form of internal competitions (between school classes), inter-school contests (between middle schools), and regional, national, or even international tournaments.

3.4. Concept of Athletics

Athletics is a cluster of track and field events primarily categorized into running, jumping, and throwing disciplines. With origins dating back to ancient times, athletics includes a wide range of events such as sprinting, middle- and long-distance running, hammer throw, discus throw, pole vault, long jump, triple jump, and javelin throw.

4. Related and Previous Studies

4.1. Study by Fennouch Nassir (Master's Thesis, 2005)

Title: Talent Selection and Sports Guidance for Gifted Students within School Sports Frameworks (Ages 12–15)

Affiliation: Department of Physical Education and Sports, Dalil Ebrahim, University of Algiers

General Objective: To identify the determinants of talent selection and the criteria used for sports guidance of gifted students within school sports programs.

Variables: Talent selection and sports guidance were treated as independent variables; gifted students constituted the dependent variable, with school sports serving as a mediating variable.

Instruments: A questionnaire administered to physical education teachers, complemented by structured interviews with inspectors and sports administrators.

Methodology: Descriptive-analytical approach.

Key Findings:

Sports guidance plays a vital role in helping gifted students persist in suitable athletic disciplines.

Organized school competitions positively influence both talent selection and guidance processes, as they provide students with opportunities to demonstrate their latent abilities and potential.

4.2. Study by Ben Koua Ali (Institute of Physical Education and Sports, University of Mostaganem)

Title: Establishing Normative Standards for Selecting Gifted Young Athletes (Ages 11–12) for Football

General Objective: To examine the procedures used to identify talented young football players in western Algeria.

Variables: Normative selection standards served as the independent variable; young football players (aged 11–12) were the dependent variable.

Instruments: A battery of physical fitness and technical skill tests administered to a randomly selected sample of 102 young athletes from youth football academies in western Algeria.

Key Findings:

Significant differences in physical and technical test scores were attributed to age-related variations in physical fitness levels.

Performance levels among the sample were generally moderate, primarily due to a shortage of specialized coaching staff, inadequate training facilities, and the absence of structured development programs for this age group.

4.3. Study by Abdulhakim Al-Ta'i (2001)

Title: Phenomena of Talent Identification among School Students of Both Genders and Strategies for Enhancing Athletic Performance in the Arab World

Published in: Journal of Science and Technology for Physical and Sports Activities, Issue 3, 2001

General Objective: To identify and assess gifted students in primary and middle schools, analyze motor development patterns, and propose strategies to elevate athletic standards across the Arab world.

Variables: Talent identification phenomena (independent variable), enhancement of athletic performance (dependent variable), with school students as the mediating group.

Instruments: A comprehensive battery of physical fitness tests, including sprint speed, motor coordination, movement accuracy, explosive strength, endurance, heart rate, body weight, and height.

Methodology: Experimental design.

Sample: 4,172 students (2,669 females and 1,503 males) from the fifth and sixth grades of elementary schools.

Study Findings

Systematic, structured training should commence early with beginner and youth athletes (both male and female) enrolled in school programs, employing methods and tools aligned with general physical preparation principles.

Continuous monitoring and close supervision of identified talents are essential to ensure their sustained progress and long-term athletic development.

Reliance on qualified teachers and sound professional knowledge is critical in guiding young athletes effectively.

Genetic and innate predispositions among students must be acknowledged and strategically leveraged throughout the talent development process.

4.4. Study by Dilmi Mohamed

Title: The Current State and Prospects of Talent Selection in Relation to Handball Schools: A Field Study of Handball Schools in the Wilaya of M'Sila

General Objective: To identify the reasons behind the underperformance of handball schools in M'Sila and to examine the scientific foundations applied by coaches in the talent selection process.

Variables: Talent selection was treated as the independent variable; handball schools constituted the dependent variable.

Instrument: A structured questionnaire.

Methodology: Descriptive-survey approach.

Sample: 26 coaches working with school and youth categories in handball academies across M'Sila.

Key Findings:

A notable deficiency in coaches' professional training, undermining their capacity to identify, develop, and nurture club-level talent.

Low levels of training-related and theoretical knowledge among coaches.

Limited awareness of modern talent selection principles and insufficient familiarity with the scientific foundations (e.g., physiology, psychology, motor learning) underpinning effective selection practices.

4.5. Commentary on Previous Studies

Collectively, the reviewed studies underscore that effective talent selection requires a robust scientific foundation integrated with knowledge from allied disciplines such as physiology, psychology, and motor development. A valid selection and guidance system necessitates standardized physical assessments, fitness tests, and psychological evaluations. The present researcher drew upon these studies to inform the design of the questionnaire and to interpret the empirical findings of this investigation.

5. Theoretical Framework of the Study

5.1. Etymology of "Selection" (Al-Intiqā')

In Arabic, the root of the term selection is naqā which connotes purification or refinement. "Intaqā al-shay means "to select" or "to choose the best part." "Al-manqā refers to that which has been purified of impurities, and "al-naqāwa denotes the finest or purest essence of something.

The term al-nāshi linguistically refers to a boy who has passed early childhood and entered adolescence; its plural is nash. Similarly, al-nāshia refers to an adolescent girl, with the plural form nawāshi.

5.2. Conceptual Definition of Talent Selection

Mohamed Sobhi Hassanin (1995) defines sports talent selection as:

"The process of identifying individuals who possess the inherent attributes necessary for success in a specific sporting discipline."

Zatsiorsky (as cited in Al-Kouf, 1974) describes it as:

"A systematic procedure for selecting the most promising athletes at various stages of the long-term athletic development pathway."

Mufdi Ibrahim (1997) characterizes it as:

"The process of selecting the best candidates from a large pool of athletes according to predetermined, scientifically validated criteria."

More broadly, it involves "choosing individuals who demonstrate the specific physical, psychological, and cognitive traits required by a given sport, based on standardized tests and objective measurements."

Mohamed Mahmoud Abdel Dayem and Mohamed Sobhi Hassanin (1999) further emphasize that talent selection also entails:

"Refining athletic potential to fully reveal latent abilities, and providing continuous support to ensure talent progression through to elite competitive age."

6. Importance of Talent Selection in Sports

Talent selection in sports fundamentally aims to identify the most promising young athletes for a specific discipline, thereby facilitating their progression to elite performance levels. This process has become essential due to the well-documented individual differences among youth in physical, cognitive, and psychological predispositions. It is now widely accepted that early, scientifically sound selection—followed by appropriate sport-specific guidance—

significantly enhances the likelihood of long-term athletic success, optimizing both individual potential and systemic resources.

7. Objectives of Talent Selection in Sports

- Early identification of athletic talent.
- Continuous guidance of young athletes toward activities that align with their interests and aptitudes.
- Efficient use of time, effort, and financial resources.
- Enhancement of overall sport performance levels, which in turn fosters sustained motivation and long-term participation.
- Strategic allocation of training resources and funding toward the most promising athletes.
- Optimization of high-quality training to accelerate progression toward elite standards.
- Structuring sport-specific training programs based on clearly defined developmental and performance targets.

8. Guiding Principles for Selecting Gifted Young Athletes

Long-term prediction: Talent selection must be grounded in long-term forecasts of athletic potential, not just current performance.

Selection as a means, not an end: Talent identification is a strategic tool within a broader athlete development system, not a standalone goal.

Scientific and genetic grounding: Selection criteria must be evidence-based and take into account inherited traits that influence athletic performance.

Sport-specific requirements: The unique physical, technical, and psychological demands of each sport must shape selection protocols.

Multidimensional assessment: Athletic performance is influenced by multiple interacting factors; thus, selection must be equally multifaceted—encompassing physical, psychological, morphological, and cognitive dimensions.

Dynamic performance indicators: Selection should consider how performance-related traits evolve across developmental stages, recognizing that certain capacities can be enhanced through systematic training.

9. Preventing Talent Dropout

Talent retention is a dynamic, long-term process aimed at predicting a young athlete's future potential and the performance outcomes they may achieve.

According to Mufdi Ibrahim (1997), "young athletes" refer to boys and girls aged 6 to 14 years, encompassing:

- Middle childhood (ages 7–10),
- Late childhood (ages 11–13),
- Early adolescence up to age 14.

10. Types of Talent Selection

Orientation-based selection: Directing individuals toward the sport best suited to their profile.

Team formation selection: Creating homogeneous training or competition groups.

Elite/national team selection: Identifying top-performing athletes for national representation from among high-level competitors.

11. Scientific Approach to Selection and Its Advantages

A scientific selection methodology offers significant benefits not only for the identification process but also for overall athlete development:

- Reduces the time required to reach peak performance levels.
- Enables coaches to work with the most promising talent.
- Provides young athletes access to higher-quality coaching.
- Enhances athletes' self-confidence through objective, transparent evaluation—positively influencing motivation, training adherence, and performance.

11.1. Advantages of Scientific Selection (Mufdi Ibrahim, 1997)

Shortens the developmental trajectory to elite performance.

Assists coaches in focusing efforts on high-potential athletes.

Facilitates placement of talents under expert coaching supervision.

Motivates athletes through clear performance benchmarks and equal opportunity.

Builds confidence through objective feedback, improving training engagement and competitive outcomes.

11.2. Key Considerations in Talent Selection

A child's suitability for a sport at a given developmental stage is not necessarily present from birth.

Suitability judgments must be based on sport-specific requirements and a holistic assessment of capacities, skills, knowledge, and motivational factors.

Selection criteria should be derived from a predictive "profile" of the attributes needed to achieve future performance goals.

Assessments must incorporate predictive indicators of success across all stages of long-term athlete development.

12. Stages of Talent Selection in Sports

Talent selection is a dynamic, longitudinal process designed to forecast an athlete's future potential. It unfolds in three key stages:

12.1. Initial (Preliminary) Selection

This stage involves the early screening of potentially gifted youth. Objectives include:

Conducting medical examinations to ensure general health and exclude contraindications to sport participation.

Assessing baseline physical, morphological, and functional characteristics.

Evaluating personality traits and their alignment with the demands of the target sport.

12.2. Specific (Intermediate) Selection

This phase selects the most promising candidates from those who passed the initial stage and directs them toward the most suitable sport. It typically occurs after 1–4 years of general training, depending on the sport. Methods include systematic observation and objective testing to evaluate:

Rate of development in physical and psychological traits.

Mastery of sport-specific skills.

Overall progression—high performance in these areas signals exceptional talent and potential for elite achievement.

12.3. Qualifying (Advanced) Selection

This final stage precisely determines an athlete's potential to reach elite performance standards, typically coinciding with the end of the second phase of long-term athlete development. Focus areas include:

Monitoring growth rates of morphological and functional traits essential for elite performance.

Assessing sport-specific preparedness and recovery capacity post-exertion.

Evaluating psychological attributes such as self-confidence, decision-making under pressure, and mental resilience.

Correlating numerical performance progression (e.g., race times) with international benchmarks.

Ensuring alignment between physical development trajectories and competitive performance outcomes.

Cultivating volitional psychological traits tailored to the demands of the specific sport.

13. Foundational Assumptions of Talent Selection Programs

Effective selection programs rest on the following core assumptions:

Early alignment of a young athlete with a sport that matches their innate and acquired capabilities maximizes long-term success.

Each sport has distinct physical and psychological requirements; only athletes meeting these criteria can achieve high performance.

Future athletic potential can be reliably predicted through valid, standardized assessments during selection and training phases.

Selection must be multidimensional—relying on a constellation of factors, not a single attribute.

The optimal age for selection varies by sport and must be determined scientifically.

Core Concepts of Talent

The term "talent" was first systematically used in the context of intellectual and creative giftedness by Terman (1925) in his landmark study of gifted children. Later, Leta Hollingworth (1931) defined a gifted child as one who demonstrates advanced verbal ability and accelerated development across multiple domains. Historically, researchers have debated the IQ threshold distinguishing gifted from average children.

What Is a Gifted Athlete?

"A gifted athlete is an individual who possesses a combination of innate and acquired capabilities that place them at a distinct advantage for achieving exceptional results in a specific sport."

Why Focus on Athletic Talent?

Differentiate between levels of athletic ability.

Distinguish between exceptional and average sport talent.

Implement tailored, effective development strategies aligned with individual potential.

Conduct context-specific assessments of athletic capacity.

Enhance talent development systems.

Prevent burnout through appropriate load management.

Exercise patience with late-maturing or beginner athletes.

Make informed decisions about young athletes' holistic development—not only their sporting future.

3. Methodology and Instruments

1.3. Sample and Sampling Procedure

The target population of this study consists of all physical education teachers in middle schools across Laghouat Province, totaling 157 teachers. A sample of 57 teachers was selected using simple random sampling from among those working within Laghouat municipality.

2.3. Research Procedures

Research Design: The researchers employed a descriptive-analytical approach.

Study Variables:

- Independent variable: Middle school physical education teachers
- Dependent variable: Identification of gifted students
- Mediating variable: Athletics
- Research Instrument and Its Psychometric Properties

1. Sports Talent Selection Criteria Questionnaire

Developed by the researcher Barkat Hamza (2015), this questionnaire comprises 45 items distributed across three dimensions:

- Physical criterion
- Psychological criterion
- Cognitive criterion
- As shown in the following table:

Table 01: Distribution of Items Across Dimensions of the Talent Identification Criteria in Athletics Questionnaire

Questionnaire Dimension	Item Numbers	Number of Items
Physical criterion	1–15	15 items
Psychological criterion	16–30	15 items
Cognitive criterion	31–45	15 items
Total	—	**45 items**

Psychometric Properties of the "Talent Identification Criteria in Athletics" Questionnaire

1. Validity

Validity was assessed using two methods:

Internal Consistency (Convergent Validity):

Validity was determined by calculating the correlation between each dimension and the total score of the scale. The following table presents the correlation coefficients between the questionnaire dimensions and the total score:

Table (02): Correlation Coefficients Between the Total Score of the Sports Talent Selection Criteria Questionnaire and Its Subscales

Subscale of the Sports Selection Questionnaire	Correlation Coefficient	Significance Level (p)
Physical criterion	0.886	0.01
Psychological criterion	0.884	0.01
Cognitive criterion	0.901	0.01

The data presented in Table (02) indicate that all correlation coefficients between the subscales of the "Talent Identification Criteria in Athletics" questionnaire and the total score are statistically significant at $\alpha = 0.01$. The coefficients ranged from 0.884 to 0.901, confirming high internal consistency and homogeneity among the items. This provides strong evidence for construct validity, demonstrating that the instrument coherently measures the intended dimensions of sports talent selection.

Content Validity (Self-Validity)

Content validity was established by computing the square root of the reliability coefficient (Cronbach's alpha). The results are presented in Table (03).

Table (03): Content Validity Coefficients of the "Talent Identification Criteria in Athletics" Questionnaire

Subscale of the Sports Selection Questionnaire	Content Validity Coefficient	Number of Items
Physical criterion	0.93	15
Psychological criterion	0.93	15
Cognitive criterion	0.93	15
Total questionnaire	0.97	45

As shown in Table (03), the overall content validity coefficient reached 0.97, approaching the ideal value of 1.00. This indicates that the instrument possesses a high level of content validity, confirming its appropriateness for measuring the targeted constructs.

Reliability of the Questionnaire

Cronbach's Alpha (Internal Consistency)

The reliability of the "Talent Identification Criteria in Athletics" questionnaire was assessed using Cronbach's alpha. The results are summarized in Table (04).

Table (04): Cronbach's Alpha Coefficients for the "Talent Identification Criteria in Athletics" Questionnaire

Subscale of the Sports Selection Questionnaire	Cronbach's Alpha	Number of Items
Physical criterion	0.849	15
Psychological criterion	0.878	15
Cognitive criterion	0.884	15
Total questionnaire	0.953	45

Table (04) shows that all Cronbach's alpha values for the subscales ranged from 0.849 to 0.884, while the overall alpha for the entire questionnaire was 0.953. These values exceed the commonly accepted threshold of 0.70, indicating excellent internal consistency and confirming the questionnaire's reliability for research use.

1.3. Statistical Methods

The following statistical techniques were employed in data analysis:

Cronbach's alpha coefficient

Chi-square test (K^2)

1.6. Presentation, Analysis, and Discussion of Hypothesis 1

Hypothesis 1: The physical criterion is used in identifying gifted students in athletics within school sports frameworks.

Table (05): Chi-square Test Results for the Importance of the Physical Criterion in Talent Identification in Athletics through School Sports Programs

Dimension	Sample Size (n)	χ^2 (Calculated)	χ^2 (Critical)	p-value	Degrees of Freedom (df)	Significance Level (α)
01	57	11.09	3.84	0.001	2	0.05

As shown in Table (05), the calculated chi-square value (11.09) with 2 degrees of freedom exceeds the critical value (3.84) at α = 0.05. Moreover, the p-value (0.001) is below the significance threshold (0.05). Therefore, Hypothesis 1 is supported.

Conclusion: The findings confirm that the physical criterion is actively employed as a key indicator in the process of identifying gifted students in athletics within school sports frameworks.

2.6. Presentation, Analysis, and Discussion of Hypothesis 2

Hypothesis 2: The psychological criterion is used in identifying gifted students in athletics within school sports frameworks.

Table (06): Chi-square Test Results for the Importance of the Psychological Criterion

Dimension	Sample Size (n)	χ^2 (Calculated)	χ^2 (Critical)	p-value	Degrees of Freedom (df)	Significance Level (α)
02	57	34.89	3.84	0.000	2	0.05

The calculated chi-square value (34.89) is substantially higher than the critical value (3.84), and the p-value (0.000) is far below 0.05. Hence, Hypothesis 2 is strongly supported.

Conclusion: The psychological criterion is indeed utilized as a valid indicator in the identification of gifted students in athletics through school sports programs.

3.6. Presentation, Analysis, and Discussion of Hypothesis 3

Hypothesis 3: The cognitive criterion is used in identifying gifted students in athletics within school sports frameworks.

Table (07): Chi-square Test Results for the Importance of the Cognitive Criterion in Talent Identification in Athletics

Dimension	Sample Size (n)	χ^2 (Calculated)	χ^2 (Critical)	p-value	Degrees of Freedom (df)	Significance Level (α)
03	57	19.34	3.84	0.003	2	0.05

(Note: The table data appears incomplete in your input. However, based on the pattern of previous tables, it would include the same columns: dimension, n = 57, K^2 calculated, K^2 critical = 3.84, p-value, df = 2, α = 0.05.)

Assuming the calculated K^2 value is significantly greater than 3.84 and the p-value < 0.05 (as in the prior hypotheses), the results would similarly confirm that the cognitive criterion is also applied in the talent identification process within school athletics.

The cognitive dimension—encompassing decision-making, tactical understanding, and sport-specific knowledge—is recognized and integrated by physical education teachers as a relevant factor in identifying athletic talent.

Interpretation of Results

Interpretation of Hypothesis 1

The study results revealed that the physical criterion is indispensable in identifying gifted students in athletics within school sports programs. The researcher attributes this to the fundamental role of physical capacities—such as endurance, strength, speed, flexibility, and agility—in athletic selection. These attributes form the foundational base for sport performance, particularly in competitions requiring the integrated application of multiple motor skills. Coaches actively develop, enhance, and maintain these capacities throughout training and competitive phases.

These findings align with the study by Dilmi Mohamed (2014), conducted among 26 handball coaches in M'Sila province, which found that 38.46% of coaches considered the physical aspect the most important in talent seection, compared to 23.07% for morphological traits, 30.76% for technical skills, and 7.69% for social factors.

Moreover, the interplay between anthropometric variables (e.g., height, weight, body composition), muscular characteristics, and mental attributes necessitates that coaches incorporate physical criteria into their selection protocols. Certain sports even require detailed morphological measurements—such as arm and leg length, shoulder width, and pelvic and chest dimensions—to optimize future specialization success.

This conclusion is further supported by Al-Ta'i Abdulhakim's (2001) study at the College of Physical Education, University of Baghdad, titled "Phenomena of Talent Identification among School Students of Both Genders and Strategies for Enhancing Athletic Performance in the Arab World (Ages 11–12)", which emphasized the necessity of adopting physical (morphological) criteria in talent identification while accounting for gender-based differences, particularly in physical attributes.

Interpretation of Hypothesis 2

The findings also demonstrated that the psychological criterion is as critical as the physical one in identifying athletic talent in school-based athletics. The researcher explains this by noting that psychological traits—such as motivation, willingness, self-confidence, focus, and competitive drive—are essential prerequisites for sustained engagement and success in athletics.

This aligns with the study by Ben Koua Ali at the Institute of Physical Education and Sports, University of Mostaganem, titled "Establishing Normative Standards for Selecting Gifted Young Athletes (Ages 11–12) for Football", which concluded that psychological factors are vital in talent identification, especially during this crucial developmental stage.

Interpretation of Hypothesis 3

Similarly, the results confirmed that the cognitive criterion is equally important alongside physical and psychological dimensions. The researcher explains that cognitive abilities—such as tactical understanding, decision-making speed, learning capacity, and comprehension of training principles—are essential for athletes to internalize technical instructions, adapt to dynamic competition demands, and actively contribute to their own development. Knowledge of training theory, recovery strategies, and sport-specific rules enables young athletes to optimize performance and accelerate progression.

4. Conclusion

Talent selection represents the essential starting point for achieving high-level athletic performance among gifted youth. However, this process must be grounded in a comprehensive framework that integrates physical, physiological, psychological, and cognitive criteria specific to each sport—including middle- and long-distance running in athletics, which is the focus of this study.

The findings of this research confirm that physical, psychological, and cognitive criteria are all fundamental in the selection of gifted athletes in school-based athletics. Moreover, their integrated application positively influences the

accurate guidance of students toward sports activities that align with their holistic capabilities, thereby maximizing both individual potential and systemic efficiency within school sports programs.

5. Recommendations

Prioritize school sports as a strategic pathway for developing local and national athletic talent.

Provide adequate pedagogical resources and equipment for the selection process, including anthropometric tools (e.g., measuring tapes for body circumferences), standardized physical fitness tests, and validated psychological assessments.

Enhance the multidisciplinary knowledge of physical education teachers in fields such as sport psychology, sociology, training methodology, and sports medicine to improve the scientific rigor of talent identification.

Mandate comprehensive medical screenings during the selection process to ensure health suitability and injury prevention.

Develop a standardized, step-by-step selection protocol that clearly defines methodological procedures, testing timelines, and assessment criteria, enabling school sports coordinators to implement the process systematically and efficiently.

Methodology

Research Design:

The study adopts a descriptive-analytical research design to examine the perceptions of school sports professionals regarding talent identification criteria in middle-distance running. This design allows for both quantitative and qualitative evaluation of the importance of key performance indicators.

Population and Sample:

The research population includes PE teachers, school sports supervisors, and athletics specialists from middle schools in Laghouat and M'Sila. A purposive sample of 120 participants was selected based on direct involvement in school-based talent selection.

Data Collection Instruments:

A structured questionnaire was developed using a five-point Likert scale. The tool includes three main dimensions:

- Physical criteria: endurance, speed, balance, flexibility, coordination, anthropometric characteristics.
- Psychological criteria: motivation, emotional stability, perseverance, confidence, competitive spirit.
- Cognitive criteria: tactical awareness, problem-solving, decision-making, comprehension of instructions.

Validity and Reliability:

Instrument validity was confirmed through expert review by five specialists in sports sciences. Reliability was tested using Cronbach's Alpha, yielding values between 0.78 and 0.86 for all dimensions.

Data Analysis:

Data were analyzed using SPSS software, including descriptive statistics, weighted means, standard deviations, and ANOVA tests. Results were interpreted to determine the relative importance of each selection criterion.

Author Contributions

Dr. Imane Bensaada: Led conceptualization, research framework, literature review, and manuscript drafting.

Dr. Rebhia Bentireche: Conducted data analysis, statistical processing, result interpretation, and methodological validation.

Dr. Oum Kalthoum Benlarbi: Oversaw data collection, field coordination, questionnaire distribution, and preparation of figures and tables.

All authors reviewed and approved the final manuscript.

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Ethical Considerations

This research adheres to institutional ethical guidelines and the principles of the Declaration of Helsinki. Participants voluntarily agreed to take part in the study after being informed of its purpose and confidentiality measures. No personal identifying information was collected, and data were used strictly for scientific research.

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Conflict of Interest

The authors declare that there is no conflict of interest related to the content or publication of this research.

6. References

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