

Studying the correlation between psychological skills and the performance of the national handball team u 21 years.

Zirem boudjema*¹,

¹ higher normal school of bouzareah , boudjema.zirem@ensb.dz

Received: 12/04 /2024 Accepted: 22/06 /2024 Published: 15/12 /2024

Abstract:

The study aimed to identify the correlation between psychological skills and the performance of offensive skills for the national under-21 handball team during the World Handball Championship organized by Algeria to achieve this, and the researcher used the descriptive analytical approach, where the sample was (12) players, where we applied scientific research tools to them, represented by the Mahoney and Tyler scale of psychological skills, in addition to the players' offensive performance observation card. The results showed a discrepancy in the percentages of indicators of psychological skills and players' performance.

Key Words: psychological skills, offensive skills performance.

الملخص:

هدفت هذه الدراسة الى دراسة العلاقة الارتباطية بين المهارات النفسية، بأداء المهاري الهجومي للمنتخب الوطني لكرة اليد فئة اقل من 21 سنة خلال البطولة العالمية لكرة اليد التي نظمتها الجزائر، قصد دراسة العلاقة الارتباطية بين المتغيرين استعمل الباحث المنهج الوصفي التحليلي حيث كانت العينة (12) لاعب، اين طبقنا عليهم أدوات البحث العلمي المتمثلة في مقياس المهارات النفسية لماهوني وتايلر، إضافة إلى بطاقة ملاحظة أداء الهجومي للاعبين، بينت النتائج وجود تباين في نسب مؤشرات المهارات النفسية واداء اللاعبين.

الكلمات المفتاحية: المهارات النفسية، الأداء المهاري الهجومي

* Corresponding author.

Studying the correlation between psychological skills and the performance of the national handball team u 21 years.

1-Introduction:

Physical activity has long been acknowledged as a comprehensive tool for individual development, spanning psychological, social, cognitive, and physical dimensions. Dr.Farouk Abdel Wahab stresses the significance of addressing the psychological aspect in training, recognizing players as not only bodies but also minds with varying psychological states. Coaches must acknowledge this and focus on mentally preparing players for diverse challenges. Ensuring both physical and psychological comfort is essential for fostering mental well-being and behavioral adaptability. Implementing holistic programs is crucial for enhancing athletes' mental, emotional, and physical capabilities. Athletes' daily routines, encompassing aspects such as sleep, nutrition, and recreation, must be optimized to mitigate training and competition pressures.

When performance fluctuates during competitions, coaches must pinpoint potential reasons such as anxiety, fear of failure, or lack of concentration. One of the notable models aiming to delineate the psychological skills associated with sports is Rainer Martens' 1987 model, comprising five interconnected psychological skills: mental energy, pressure management, goal-setting skills, visualization skills, and attention skills. Addressing a player's psychological needs involves offering counseling services, incorporating techniques such as mental visualization, relaxation, and nutritional guidance. It also entails providing encouragement, assisting the player in identifying strengths and weaknesses, and fostering open communication to facilitate the expression of emotions and performance concerns. Training programs play a pivotal role in instilling a sense of responsibility and self-assurance in the player. Prioritizing quality over quantity, the focus lies on facilitating effective communication and content-rich interactions during counseling sessions to bolster players' self-esteem and autonomy. Coaches equipped with these skills significantly influence performance, psychological well-being, and team cohesion, resulting in positive outcomes.

Previous studies have highlighted the importance of psychological preparation in reducing anxiety and improving performance. Beziou Salim's 2011 study on psychological preparation and competitive anxiety showed that limited psychological preparation and ineffective

Studying the correlation between psychological skills and the performance of the national handball team u 21 years.

anxiety reduction strategies contribute to pre-competition anxiety among football players. Ouchni Mustafa's 2013 study explored the relationship between psychological skills and motivational characteristics among handball players, emphasizing the need for early training of these skills to achieve better results. Ali Ahmed Hussein's 2013 study on the impact of a proposed training program on psychological skills of young handball players in Yemen underscored the importance of incorporating psychological skills in training programs to improve skill and tactical performance.

Sports psychological counseling serves a crucial role in helping athletes manage competitive pressures, thereby contributing to success in global championships and Olympic competitions. Strategies such as mental visualization, attentional focus, arousal regulation, and self-confidence are employed to enhance physical, technical, and tactical performance while minimizing errors. This research aims to investigate the impact of sports psychological counseling on the performance of the Algerian national handball team in the upcoming World Handball Championship for players under 21 years old, scheduled to take place in Algeria. Based on the available data, we found it necessary to study the correlation between psychological skills and the performance of the national handball team players. Hence, we addressed our main question: Is there a correlation between psychological skills and the performance of players in the national handball team for players under 21 years old?

To explore this question, we hypothesize that there is a significant relationship between psychological skills and the performance of the national handball team under 21 years old. Our methodology involves reviewing existing literature, conducting surveys and interviews with players and coaches, and employing quantitative methods to analyze performance data. By understanding the impact of psychological skills on performance, we aim to develop targeted interventions that enhance the overall capabilities of the players, contributing to their success in international competitions.

2- General objective of the study:

- Highlighting the reality of psychological preparation in the national handball team under 21 years old.

Studying the correlation between psychological skills and the performance of the national handball team u 21 years.

- Understanding the type of relationship between attention concentration and the performance of the national handball team under 21 years old.
- Understanding the type of relationship between anxiety and the performance of the national handball team under 21 years old.
- Understanding the type of relationship between self-confidence and the performance of the national handball team under 21 years old.
- Understanding the main determinants of the psychological preparation process for the handball team under 21 years old.

3- Procedural definition of the concepts mentioned in the research:

- **psychological skills:** Researchers in the field of physical education aim to impart psychological skills to their players or to perfect the skills they have acquired. It is natural to say that training is the method by which knowledge or abilities are acquired as a result of experience, practice, and repetitions in training.

Many coaches strive to correct performance errors by asking athletes for more practice, while in most cases the real problem is not due to a lack of physical skills but rather due to a lack of mental skills. There are athletes who need to improve and develop concentration, self-confidence, mental imagery, and other skills referred to as psychological skills at the same level of need as improving and developing other motor and physical abilities. The importance of psychological skills can be clarified by identifying the stages of their training.

Skillful performance: It is a specific system of movements performed simultaneously and sequentially. This system organizes the actual coordination of internal and external forces affecting the athlete in order to fully and effectively exploit them to achieve optimal sports results. It represents the level of players and their mastery of the skills included in the game. Additionally, it is the ideal representation of technical performance and the effective way to execute a motor skill.

Skill preparation for athletes aims at teaching, developing, refining, mastering, and solidifying the motor skills that can be used in sports competitions to achieve the highest athletic achievements. Regardless of an athlete's physical fitness level and innate and volitional traits, they will not achieve the desired results unless all of this is linked to

Studying the correlation between psychological skills and the performance of the national handball team u 21 years.

the complete mastery of motor skills in the type of activity they engage in.

High-Level Athlete - Elite: This refers to a group of athletes who engage in their sport at a national or international level with the aim of excelling and achieving prestigious victories for their country.

Handball: Handball is one of the ancient collegiate sports played between two teams, each consisting of 7 players and 5 substitutes. It is characterized by its fast-paced and precise execution, involving a large number of athletes and governed by established rules and regulations. It can also be described as a team sport that requires specific techniques and has its own set of rules, played within a limited space according to agreed-upon regulations.

This sport can be considered one of the most practiced sports in schools, with significant interaction due to the close proximity of competitors and the intensity it demands.

4- The methodological procedures used in the study:

4-1 Method and tools:

Research Method: The researcher conducted a survey experiment on March 18, 2017, with 6 players from the El Amal Sports Club in the Municipality of Mekerra, in the handball branch, aged under 21 years. We have adopted a descriptive-analytical approach for this study. According to Muhammad Shafiq, "Descriptive study does not stop at just collecting data and facts; rather, it involves classifying, analyzing, and interpreting these facts and data quantitatively and qualitatively, aiming to reach generalizable conclusions" (Muhammad Shafiq, 1998, p. 108).

Study Population: The research population comprised the players of the Algerian national handball team under 21 years old who participated in the 2017 World Championship, totaling 19 players.

The research sample and its characteristics:

The study sample consisted of 12 players selected from an original population of 19 players. These players participated in all matches and contributed to their performance through specific statistical data. The study focused on players from the Algerian national handball team under 21 years old who took part in the 2017 Handball World Championship hosted by Algeria.

Temporal boundaries: The theoretical aspect was researched starting from early December 2015. Regarding the practical aspect, it was

Studying the correlation between psychological skills and the performance of the national handball team u 21 years.

from July 2016 to August 2018. During this period, field application and analysis of the results were conducted using statistical methods.

Spatial boundaries: The research was conducted at Ferhat Hachad Stadium and Marakier Hotel.

Field Data Collection Tools: In this study, we relied on a five-point scale designed by "Mahonny, Perkins, and Taylor" to measure the basic psychological skills of high-level athletes. The scale comprises 32 items measuring four dimensions: self-confidence, attentional focus, mental readiness, and anxiety. Additionally, an observation card for offensive performance was used for the players.

Research tools:

Scale: Mahoney, Tyler, and Perkin (1997) developed the Psychological Skills Inventory for Sports to assess psychological skills associated with high-level athletic performance. The original inventory comprises 45 items across five dimensions: anxiety, attentional focus, mental readiness, self-confidence, and team orientation. Respondents rate each item on a five-point Likert scale (never, rarely, sometimes, often, always).

Mohamed Hassan Alawi, Professor of Psychology and Vice President of the International Society of Sport Psychology (ISSP), adapted the inventory for use in Egypt. His version focuses on the first four dimensions and consists of 32 abbreviated statements based on preliminary studies in the Egyptian context.

This analysis card has been approved by the International Handball Federation for evaluating the skill performance of players from the national under-21 handball team.

Psychometric properties of the scale:

Validity Testing: To ensure the validity of the scale, the researcher employed Two indicators that align with the nature of the research:

Content Validity: The questionnaire items and the scale measuring psychological skills related to athletic performance were reviewed by five specialized professors to confirm content validity. This process ensured that the content aligns with each dimension before applying it to the research sample.

Construct Validity: Construct validity was assessed in the research using an indicator known as internal consistency.

Internal Consistency: This aspect of construct validity was evaluated to ensure that all items within each dimension of the scale consistently measure the same underlying construct. Cronbach's Alpha Coefficient
Number of Items

Studying the correlation between psychological skills and the performance of the national handball team u 21 years.

0.63	8	Anxiety
0.67	8	Attentional Focus
0.69	8	Mental Readiness
0.62	8	Self-confidence

Table (01): Represents Cronbach's alpha values for the internal consistency of scale items.

Reliability

Cronbach's Alpha Coefficient: To calculate the reliability using Cronbach's alpha coefficient for the Psychological Skills Inventory, the researcher relied on the same sample of 12 players.

After calculating the reliability coefficient, it was found to be 0.58, indicating moderate reliability. Thus, it appears that the scale demonstrates a moderate level of consistency.

Cronbach's Alpha	Value	Number of Items Sample
0.58	32	12

Table (02): Represents Pearson correlation values for scale reliability.

Objectivity:

Objectivity refers to dealing with facts without bias or value judgments. Results should be free from personal beliefs, likes, or dislikes. Both data and analyses are expected to be unbiased.

4-2 Presentation and Analysis of Results:

- Presentation, analysis, and discussion of the relationship between athletic performance and attentional focus dimension.

Variables	Mean	Standard Deviation	Pearson Correlation Coefficient	Sample	Significance Level	Probability Value	Statistical Decision
Athletic Performance	13,16	9,66	0,667*	12	0,05	0,18	Signifiant
Attentional Focus	23,50	4.66					

Table (03): Represents scale item reliability.

Table representing the results of regression coefficients between athletic performance and attentional focus dimension

Variables	Coefficient Value	Coefficient Value R ²	Variability Ratio	Residual Variability Ratio
Performance/ focus	0, 667	0,44	44%	56%

Table (04): Represents results of determination coefficients between sports performance and focus dimension.

Studying the correlation between psychological skills and the performance of the national handball team u 21 years.

Presentation and Analysis of Results

The table displays the means and standard deviations for attentional focus and its relationship with athletic performance. The mean athletic performance score (13.16) differs from the mean attentional focus score (23.50), while the standard deviation for athletic performance (9.66) differs from that for attentional focus (4.68). The correlation coefficient between athletic performance and attentional focus is 0.667, indicating an acceptable and statistically significant relationship at a 0.05 significance level. This suggests that increased attentional focus correlates with increased athletic performance.

Regression coefficients show that attentional focus accounts for 44% of the variability in athletic performance, leaving 56% due to other factors not addressed in the study.

- Presentation, analysis, and discussion of the results of the relationship between athletic performance and self-confidence dimension.

Variables	Mean	Standard Deviation	Pearson Correlation Coefficient	Sample	Significance Level	Probability Value	Statistical Decision
Athletic Performance	13,16	9,66	0,664*	12	0,05	0,023	Signifiant
Self-Confidence	27,33	4,41					

Table (05):representing the results of regression coefficients between athletic performance and self-confidence dimension

Variables	Coefficient Value	Coefficient Value R ²	Variability Ratio	Residual Variability Ratio
Self-Confidence	0,646	0,41	41%	59%

Table (06): Represents results of determination coefficients between sports performance and self-confidence dimension.

Presentation and Analysis of Results:

The table demonstrates the means and standard deviations for self-confidence and its relationship with athletic performance. The mean athletic performance score (13.16) differs from the mean self-confidence score (27.33), while the standard deviation for athletic performance (9.66) differs from that for self-confidence (4.41). The correlation coefficient between athletic performance and self-confidence is 0.646, indicating an acceptable and statistically significant relationship at a 0.05 significance level. This suggests that

Studying the correlation between psychological skills and the performance of the national handball team u 21 years.

increased self-confidence is associated with increased athletic performance.

Regression coefficients show that self-confidence accounts for 41% of the variability in athletic performance, leaving 59% of the variability due to other factors not addressed in the study.

- Presentation, analysis, and discussion of the results of the relationship between athletic performance and cognitive readiness dimension.

Variables	Mean	Standard Deviation	Pearson Correlation Coefficient	Sample	Significance Level	Probability Value	Statistical Decision
Athletic Performance	13,16	9,66	0,708*	12	0,05	0,010	Significant
Cognitive Readiness	27,41	4,94					

The table (07): representing the results of regression coefficients between athletic performance and cognitive readiness dimension.

Variables	Coefficient Value	Coefficient Value R ²	Variability Ratio	Residual Variability Ratio
Cognitive Readiness	0,70	0,49	49%	51%

Table (08): Represents results of determination coefficients between sports performance and cognitive readiness dimension.

Presentation and Analysis of Results:

The table illustrates the means and standard deviations for self-confidence and its relationship with athletic performance. The mean athletic performance score (13.16) differs from the mean cognitive readiness score (27.41), while the standard deviation for athletic performance (9.66) differs from that for cognitive readiness (4.94). The correlation coefficient between athletic performance and cognitive readiness is 0.708, indicating a strong and statistically significant relationship at a 0.05 significance level. This suggests that increased cognitive readiness is associated with increased athletic performance.

Regression coefficients show that cognitive readiness accounts for 49% of the variability in athletic performance, leaving 51% of the variability due to other factors not addressed in the study.

Studying the correlation between psychological skills and the performance of the national handball team u 21 years.

Presentation, Analysis, and Discussion of the Relationship between Athletic Performance and Anxiety:

Variables	Mean	Standard Deviation	Pearson Correlation Coefficient	Sample	Significance Level	Probability Value	Statistical Decision
Athletic Performance	13,16	9,66	0,37	12	0,05	0,22	insignifiant
Anxiety	20,8	3,77					

Table (09): representing the results of regression coefficients between athletic performance and anxiety dimension.

Variables	Coefficient Value	Coefficient Value R ²	Variability Ratio	Residual Variability Ratio
Axiety	0,37	0,13	13%	97%

Table (10): Represents results of determination coefficients between sports performance and anxiety dimension.

Presentation and Analysis of Results:

The table shows the means and standard deviations for anxiety and its relationship with athletic performance. The mean athletic performance score (13.16) differs from the mean anxiety score (20.08), and the standard deviation for athletic performance (9.66) differs from that for anxiety (3.77), indicating variability in both factors. The correlation coefficient between athletic performance and anxiety is 0.37, showing a weak but statistically significant relationship at a 0.05 significance level. Regression analysis indicates that anxiety explains 13% of the variability in athletic performance, with 87% of the variability due to other factors.

4-3 Discussion and interpretation of the results:

The relationship between athletic performance and attentional focus is crucial for athletes and essential for optimal achievement. Dortha (1984) noted that athletes who cannot concentrate may not perform optimally. Abdul Fattah and Ruby (1986) emphasized the importance of attentional focus in enhancing performance accuracy and proficiency in sports. Latifi (1998) and Mahmoud Moussa Al-Akili (2004) found a positive correlation between attentional focus and performance levels in training, suggesting cognitive training improves focus. Qarqouz Mohammed, Ben Smicha Al-Aid, and Madani

Studying the correlation between psychological skills and the performance of the national handball team u 21 years.

Mohammed (2016) indicated that mental visualization strengthens attention and aids relaxation, enhancing performance. Mustafa Oshny (2013) highlighted the crucial role of attention in training and competition at all levels, noting that athletes' use of attention and concentration directly affects their sports skills. These findings support the hypothesis that athletic performance is related to attentional focus.

Discussion of the Results of the Relationship between Athletic Performance and Self-Confidence:

A player's self-confidence is crucial for effective performance, impacting technical and tactical execution, influencing teammates, and leading to better results. It is a cornerstone of an athlete's personality, affecting decisions during matches. Weak self-confidence causes hesitation, avoidance of goal-directed behaviors, and shifting responsibility. Confident athletes act decisively and efficiently, especially against similarly skilled opponents.

Ratib (1997) stated that self-confidence is the belief in one's ability to succeed, significantly affecting performance. Ratib (2000) added that performance improves with optimal confidence. Mustafa Oshny (2013) found that higher confidence and expectations enhance endurance, perseverance, and determination, preventing surrender and maintaining focus and composure under stress.

Vealy (1986) created a self-confidence model in sports based on theories by Bandura, Harter, and Nicholls. These insights suggest that young athletes should be given opportunities to succeed and feel competent in at least one sport.

Discussion of the Results of the Relationship between Athletic Performance and Mental Preparedness:

The results showed a strong relationship between mental preparedness and athletic performance, particularly for the national handball team. Gaoxia Wei and Jing Luo (2010) found that experienced athletes use mental imagery better than novices. Jen Loran and Alexandra Nicolas (2004) concluded that visual mental imagery is superior to sensory mental imagery.

Studying the correlation between psychological skills and the performance of the national handball team u 21 years.

Belaid Akeel Abdulkadir (2014) affirmed that mental ability varies with experience, supporting findings by Boukharaz Redouane (2008) and Shweya Boujema (2009) that mental training positively impacts mental imagery skills. Mohammed Qurquz, Al Eid Ben Smaicha, and Mohammed Madani also noted that mental imagery enhances performance through positive ideas, while negative thoughts hinder performance by evoking failure and inability.

Discussion of the Results of the Relationship between Athletic Performance and Anxiety:

The results revealed a weak relationship between the ability to cope with anxiety and athletic performance. This weak correlation is attributed to the results obtained from the anxiety levels of the players of the national handball team, where the findings indicated low levels of players' ability to overcome this anxiety.

These findings align with the results of Savoy (1993), which suggest that it is necessary to reduce the intensity of stress and anxiety, which paves the way for increased attentional focus to achieve better athletic achievements. This can be achieved through mental training programs, which serve as personal motivators for engaging in the game and striving for success to excel, thus serving as a gauge of the player's seriousness in striving for the best performance.

Furthermore, Bourne Sherif (2011) asserts that cognitive anxiety is one of the most significant psychological phenomena accompanying the organization of sports competitions due to the accumulation of nervous pressure. This corresponds with the findings of Osama Kamel Ratib (1997), who argues that it is obvious that there are psychological pressures in all sports competitions, leading to a kind of physiological activation in athletes. Athletes may interpret these bodily symptoms as negative (misinterpretation), leading to performance-impairing anxiety.

Studies by Hassan Sayed Abu Abdo (1993) and Sabah Ali Saqr (1994) indicated that anxiety plays a significant role in influencing players' performance, as they aspire to win the match and avoid losing. Fathi Ahmed Al-Saqqal (2001) explained that athletes face many situations directly related to anxiety during both athletic training sessions and

Studying the correlation between psychological skills and the performance of the national handball team u 21 years.

competitions, which have direct and clear effects on the player's behavior, abilities, skills, and relationships with others.

Ottrank explains cases of anxiety based on the concept of the initial shock, which is the shock of birth. Carl Jung believes that anxiety is a reaction when an individual's mind is invaded by irrational forces and fantasies emanating from the collective unconscious. Adler suggests that anxiety arises as a result of dynamic interaction between the individual and society.

Cattel, through his factorial study conducted in the early 1960s, concluded the presence of two distinct factors of anxiety: trait anxiety and state anxiety.

Conclusion:

Athletes' brilliance and superiority in high-level competitions require full preparation across all dimensions. Elite sports now feature many athletes with closely-matched levels of readiness and preparation. However, Algeria's absence from winning handball titles, despite having the necessary preparations and qualifications, results in disappointing performances contrary to expectations. This inconsistency led us to study factors affecting athletic performance, focusing on the psychological aspect and its relationship with the performance of the national under-21 handball team.

In conclusion, elite sports no longer rely on luck. To improve performance, achieve better results, and win medals at the highest levels, we must utilize all aspects of preparation, especially the psychological aspect, which is often neglected. Comprehensive training should start from childhood, integrating various dimensions of the individual. We should instill the idea of becoming champions early on, encouraging athletes to nurture their ambition and strive for excellence, as most major champions have excelled from a young age.

Sources and References used in the research:

1. Abd alfatah, abu al alaa, ahmed omar,(1999), selection pf talented people innn the sport community, books word, egypte.
2. Bakker F.C and ciol,(1992) psychological annd sport pratique, vigot Paris.

Studying the correlation between psychological skills and the performance of the national handball team u 21 years.

3. Belaid akil abdul kadir,(2014), the factor of sports experience and relationship to developing the level of some mental abilities among high-level athletes, journal of sports and training sciences university of algers03.
4. Beziou, salim,(2011), psychological preparation for sport and the phenomenon of compititive anxiety, published in the journal of humainn sciences,issue three, algeria.
5. Boukharaz redouane,(2008), mrntal preparation for motor tasks and the effectivenness of mental imagery in performance and motor control among algerian athletes, PHD theses, university of algers03.
6. Bournan cherif mustapha,(2011), sports competition anxiety and relationship to the motivationnn for sports achievement among team sports players in Aleria, academy fo social and humain studies, issue7.
7. Gaoxia Wei, jing Luo,(2010): sport expert's motor imarery: functional imaging of professional motor skills ans simple motor skills, brain research1341.
8. Hussein ahmed,(2002), physiological psychology, 1st edition, anglo-egyptian library,egypte.
9. Hussein said,(2002), skills preparation for football players, 1st edition, dar al ishaa al fania. Egypte.
10. Jean loran and alexandra nicolas,(2004), validation of traduction to french of mouvement, imagery questionnaire-revised, MIQ-R, mouvement and sports science3,N53.
11. Karkouz mouhmed, ben smicha elaid, madani mouhamed,(2016), journal of excellence in science and technology of physical activities and sports, algeria
12. Lotfi mouhamed fatim,(2002), psychological counseling and ducational guidance, 2 edition, dar almaraiKh.KSA.p71.
13. Ouchni mustapha,(2013), the relationship of psychological skills to the characteristics of sports motivation among handball players, published in the journal of sports sciences and training, algeria.
14. Oussama kamil ratib;(2007), sports psychology, dar al fikr al arabi, 4 edition, egypte.p 210.
15. Vealy, R.S(1986) conceptualisation of sport confidence ans compeetitive orientation preliminary investigation and instument development, journal od sport psychology, 8 221-246.