

A Comparative Study Measuring Algerian Track and Field Athletes' Attitudes Toward Sports Psychology Using the SPA-R Scale Based on Certain Variables

دراسة مقارنة لقياس مواقف رياضي ألعاب القوى في الجزائر تجاه علم النفس الرياضي باستخدام مقياس SPA-R وفق بعض المتغيرات

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Abstract: The study aimed to examine athletes' attitudes toward sports psychology using the revised SPA-R scale. A descriptive approach was adopted, and the research was conducted on a sample of 154 Algerian track and field athletes. The findings revealed the following: There are differences in athletes' attitudes toward sports psychology based on gender (male-female) using the SPA-R scale. There are differences in athletes' attitudes toward sports psychology based on the nature of the activity (running, throwing, jumping) using the SPA-R scale.

Keywords: Athletics, Sports Psychology, Psychological Attitudes and Perceptions

المخلص : هدفت الدراسة لمعرفة موقف الرياضيين اتجاه علم النفس الرياضي، وذلك باستخدام النسخة المنقحة من مقياس SPA-R، حيث تم الاعتماد على المنهج الوصفي، وطبقت الدراسة على عينة من رياضي ألعاب القوى الجزائريين والبالغ عددهم (154)، توصلت الدراسة الى النتائج التالية: 1- هناك فروق في مواقف رياضي ألعاب القوى في الجزائر تجاه علم النفس الرياضي باستخدام مقياس SPA-R وفق متغير الجنس (ذكور-إناث) 2- هناك فروق في مواقف رياضي ألعاب القوى في الجزائر تجاه علم النفس الرياضي باستخدام مقياس SPA-R وفق متغير طبيعة النشاط (الجري-الرمي-القفز)
- الكلمات المفتاحية: ألعاب القوى، علم النفس الرياضي، الاتجاهات والمواقف النفسية.

1. Introduction and Research Problem:

Psychology is one of the fundamental pillars in understanding and guiding human behavior, as it aims to analyze mental and emotional processes that govern the interaction between individuals and their environment. Since its emergence in the late 19th century through the works of founding figures such as Sigmund Freud and William James, psychology has evolved to encompass specialized fields, including social, clinical, and organizational psychology. In recent decades, sports psychology has emerged as an independent discipline, focusing on psychological factors influencing athletic performance, such as motivation, anxiety, and concentration, making it a crucial tool for enhancing sports outcomes. This discipline serves as a bridge between psychological theory and practical application, contributing to the design of training programs that enhance mental resilience and reduce competitive pressures. Furthermore, sports psychology equips athletes with psychological strategies to help them adapt to pressure, manage stress, and boost motivation to reach their full physical and mental potential. In competitive sports, psychology plays a critical role in improving athletic performance by developing strategies to cope with the pressures athletes face during competitions. In track and field, which is among the most physically and mentally demanding sports, psychological preparation becomes a key factor in achieving success. Athletes in sprint and long-distance races require high levels of emotional and psychological control, highlighting the importance of psychological interventions in improving performance and mental stability. In track and field competitions, where results are measured in seconds or centimeters, the psychological factor becomes decisive. Before a race, athletes experience performance anxiety, which may weaken their focus, or mental fatigue, which leads to declining performance despite high physical fitness

(Schinke et al., 2018, p. 4). Research shows that techniques such as mental imagery and goal-setting enhance reaction times in sprint races and increase runners' pain resistance in endurance events (Hatzigeorgiadis et al., 2011, p. 350). Some studies even suggest that 30% of an athlete's success is attributed to psychological skills, such as emotional control and stress management (Gould et al., 2002, p. 176).

In Algeria, despite the historic achievements in track and field—such as Nourredine Morceli's Olympic victory, along with Hassiba Boulmerka, Taoufik Makhloufi, Djamel Sedjati, and others—sports psychology remains marginalized in training programs. According to a 2021 report from the Algerian Sports Federation, less than 10% of clubs rely on sports psychologists, while most resources are allocated to physical and technical aspects. This situation contradicts the recommendations of the International Olympic Committee, which emphasizes that psychological support should be an integral part of athlete preparation (Henriksen et al., 2014, p. 54). A local study found that 65% of elite athletes do not recognize the role of sports psychologists, attributing their failures to “bad luck” or “physical exhaustion” alone (Mansouri et al., 2017, p. 81). This rejection or lack of awareness regarding sports psychology benefits is deeply linked to cultural and social factors. In Algeria's conservative society, seeking psychological assistance is often viewed as necessary only in cases of severe disorders, such as depression, reinforcing the stigma (Bencheikh & Bouchenak, 2020, p. 47). Additionally, the absence of mental health awareness in school curricula and media programs limits athletes' acceptance of these services. For example, interviews with Algerian runners revealed that some associate psychological intervention with “weakness” or “preparing for failure” (Kerdouci, 2019, p. 115). In this context, the current study aims to explore Algerian track and field athletes' attitudes toward sports psychology, using the

SPA-R scale while analyzing factors such as gender and activity type. The study seeks to fill a research gap, as quantitative assessments of these attitudes remain scarce in Algeria, particularly in a sport that heavily relies on mental strength. This step is crucial for developing training policies that address athletes' real needs and promote the integration of psychological sciences within the Algerian sports system.

2. General Research Question: Are there differences in Algerian track and field athletes' attitudes toward sports psychology using the SPA-R scale based on certain variables?

2.1 Sub-questions:

Are there differences in athletes' attitudes toward sports psychology using the SPA-R scale based on gender (male-female)?

Are there differences in athletes' attitudes toward sports psychology using the SPA-R scale based on competition type (running, throwing, jumping)?

3. General Hypothesis: There are differences in Algerian track and field athletes' attitudes toward sports psychology using the SPA-R scale, based on gender and competition type.

3.1. Sub-hypotheses:

There are differences in athletes' attitudes toward sports psychology using the SPA-R scale, based on gender (male-female).

There are differences in athletes' attitudes toward sports psychology using the SPA-R scale, based on competition type (running, throwing, jumping).

4. Definition of Terms:

4.1. Psychological Attitude: Defined as a "mental state of readiness and predisposition to respond in a particular way toward an object or idea, influencing an individual's cognitive, emotional, and behavioral responses" (Ajzen, 2001, p. 33).

According to Fishbein & Ajzen (2010), attitude consists of:

A cognitive dimension (beliefs and information about the subject).

An affective dimension (associated emotions and feelings).

A behavioral dimension (the tendency to act based on those beliefs and emotions).

4.2. Track and Field: Track and field is one of the oldest and most significant competitive sports, encompassing a wide range of physically demanding activities, such as running, jumping, and throwing.

Several academic definitions exist, including:

"A collection of sports that rely on natural human motor abilities, such as running, jumping, and throwing, practiced in individual or team competitions within structured environments" (Cohen et al., 2017, p. 90).

"A fundamental sport that represents the essence of athletic activity since ancient times, reflecting primary motor abilities developed over time into organized competitions" (Loland, 2002, p. 76).

4.3. Sports Psychology: Sports psychology is an academic field dedicated to studying psychological factors that influence athletic performance, as well as ways to enhance these factors to support performance and psychological adaptation in athletes. It is defined by various academic sources as follows:

"The study of psychological factors affecting athletic performance and participation in physical activity, and how psychological concepts can be applied to enhance performance and manage sports-related stress." (Weinberg & Gould, 2018, p. 76).

"A scientific field concerned with understanding sports behavior by analyzing the impact of psychological variables on athletic performance and the role of psychological interventions in improving athletes' mental readiness." (Silva & Stevens, 2004, p. 76).

"A discipline focused on the interaction between psychological processes and physical performance, employing strategies such as mental imagery, stress control, and mental training to enhance athletic performance." (Eklund & Tenenbaum, 2014, p. 87).

4.4. SPA-R Scale (Sport Psychology Attitudes-Revised) The SPA-R scale is a standardized tool used to measure athletes' attitudes toward sports psychology, assessing their beliefs and perceptions regarding the effectiveness of psychological interventions in sports performance.

Developed by Martin (2002), the SPA-R scale includes several key dimensions, such as: Acceptance of psychological counseling, beliefs about the effectiveness of psychological interventions, barriers preventing athletes from seeking sports psychology services. This scale helps to evaluate athletes' readiness to adopt psychological training strategies in their sports programs.

Study objectives:

- Assess Algerian track and field athletes' attitudes toward sports psychology based on gender (male-female).
- Analyze Algerian track and field athletes' attitudes toward sports psychology based on activity type (running, throwing, jumping).

5. Previous Studies:

5.1. Study by Dáire Rooney, Neil Heron, and Robin C. Jackson (2021) This study aimed to investigate how an athlete's participation in individual or team sports is related to their attitude toward consulting a sports psychologist and their willingness to seek psychological support.

The researchers used the revised Sports Psychology Attitudes (SPA-R) scale, applying it to 120 athletes across individual and team sports disciplines. A Multivariate Analysis of Variance (MANOVA) was conducted, examining the

relationship between sport type (individual vs. team) and gender with attitudes toward sports psychology as dependent variables.

To identify which attitudes differed based on sport type, univariate analyses were performed. Athletes in individual sports generally reported more positive attitudes toward consulting a sports psychologist compared to team sports athletes. Individual sport athletes showed a higher level of confidence in the effectiveness of sports psychology services. Gender may act as a moderating variable, as indicated by a semi-significant two-way interaction between gender and sport type (individual vs. team) concerning confidence in sports psychology. This marginal effect was stronger for female athletes than for male athletes. The study suggests that individual sport athletes are more likely to embrace sports psychology compared to team sport athletes. This finding provides valuable insights for sports psychologists, helping them better understand athletes' concerns and improve their acceptance of psychological support services.

5.2. Study by Tawfiq Idris Ahid Al-Bakri (2018) entitled "Saudi Athletes' Attitudes Towards Contributions to Sports Psychology Using the SPA-R Scale The aim of this research was to identify the views and attitudes of athletes in the Kingdom of Saudi Arabia towards sports psychology. The research was conducted on athletes from several clubs in the Kingdom of Saudi Arabia and included different categories and various activities, ranging from team to individual sports. A total of 192 athletes participated in this study, including 126 professionals and seniors, and 6 juniors and youth. The research tool used was the Scale of Athletes' Perceptions of Sport Psychology (SPA-R), which includes four sub-scales. The results of the study showed that the factors of trust in sports psychology consultants, with a mean score of 28.92, and personal openness, with a mean score of 22.35, were among the most important considerations for

athletes when dealing with sports psychology consultants. In general, Saudi athletes had a positive view of sports psychology.

5.3. Study by Scott B. Martin, Michael Kellmann, David Lavallee, and Stephen J. Page (2002) entitled "Development and Psychometric Evaluation of the Attitudes Toward Sports Psychology Questionnaire (ATSSPQ) – A Revised Model: A Multicultural Study" Global analyses were conducted to develop a revised model for the Attitudes Toward Seeking Sport Psychology Consultation Questionnaire (ATSSPCQ) by Martin, Resberg, Beitel, and Lonsbury (1997). The 50-item ATSSPCQ questionnaire was administered to 533 athletes (mean = 18.03 ± 2.71). Exploratory factor analysis with Varimax rotation revealed four factors: (a) stigma tolerance, (b) confidence in sports psychology consultation, (c) personal openness, and (d) cultural preference. The new Sports Psychology Attitudes Questionnaire – Revised (SPA-R) was then administered to 379 athletes from the United States, 234 athletes from the United Kingdom, and 443 athletes from Germany. Factor analysis confirmed the general validity of the four-factor model of the SPA questionnaire for male and female athletes in late adolescence.

The practical chapter:

6. Study methodology: Methodology refers to a set of rules established with the aim of obtaining scientific truth, i.e., the method followed by the researcher in studying the problem in order to discover the truth (Kerlinger, F. N, 1986, p47). Furthermore, determining the nature and dimensions of the problem under study and testing it can only be achieved through a sound scientific methodology, which is a systematic approach followed by the researcher in order to arrive at scientific truth. The subject of our current study is a

“comparative study to measure the attitudes of track and field athletes in Algeria towards sports psychology.” The most appropriate approach for this study is the descriptive analytical approach, as it provides accurate descriptions of the phenomenon under study by collecting and describing data, as well as helping to organize, define, and interpret it in clear and specific terms.

7. Research sample and its characteristics

7.1 Study population (statistical population) This is the population from which the researcher draws his research sample, and which is the subject of interest and study. “The research population is a group of individuals who share certain characteristics and traits” (212 Creswell, J. W, 2014, p). The population of our study is Algerian athletes who practice athletics and belong to the Algerian Athletics Federation.

7.2 Primary study sample: The study of any psychological or social phenomenon depends primarily on the sample taken from that phenomenon, since without it we cannot study any problem. The sample is defined as part of the research community, and the size of the sample is the number of its elements. It can also be defined as “a group of observations taken from a specific community, and it is assumed that the statistics characterizing these observations are representative of the community's observations.” representative of the characteristics of the observations in the community." The study was defined from the original community, and a study sample consisting of 154 athletes was extracted.

The study sample was distributed as shown in the table below:

Table No. (03) shows: Distribution of the basic sample by gender and nature of the competition:

CLUB	Nature			Gender		Total
	Running	Throwing	Jumping	Male	Female	

CRPESM-ALGER	08	//	//	08	00	08
RSB-Bejaia	05	04	03	06	06	12
MBB-Bejaia	13	07	05	15	10	25
CSAF-Sétif	08	06	04	17	01	18
CSAO-Bejaia	05	//	//	02	03	05
AMCB-Bejaia	04	06	05	09	06	15
GSD-Djelfa	13	//	03	12	04	16
EATASK-Bejaia	11	07	06	13	11	24
AS RT-Bejaia	08	05	05	12	06	18
CAD-Jijel	13	//	//	09	04	13
Total	88	35	31	103	51	154

Table 3 shows the size of the basic sample for the study according to gender (male and female) and type of competition (running, throwing, and jumping).

7.3. Characteristics of the study sample: The basic study sample has the same characteristics, as it includes both males and females from the following competition levels: running, throwing, and jumping. The athletes are Algerian athletes affiliated with the Algerian Athletics Federation. They are from the same sports season (2024/2025).

7.4. How the study sample was selected: A purposive sample was selected from athletics athletes from different states of the country, with the help of colleagues and coaches in the field to facilitate the distribution of the scale.

8. Study limits:

8.1. Time limits: The study was conducted from early November 2024 to the end of April 2025, during which time the field application was carried out and the results obtained were analyzed using statistical methods.

8.2. Spatial limitations: The research was conducted on sports clubs in the provinces of Bejaia, Jijel, Algiers, Setif, and Djelfa.

8.3. Human limitations: In terms of people, the study focused on athletes who practice athletics.

9. Study tools:

The Athletes' Attitudes Toward Sport Psychology Scale, which was developed and revised by Martin et al. (2002), was used. This scale includes four sub-axes that can be used to explain differences in acceptance of sport psychology.

The sub-axes of the scale are as follows: (1) Confidence in sports psychology counseling (2) Tolerance and acceptance of criticism from others (3) Personal openness (4) Cultural preference.

A 5-point Likert scale was also used, ranging from: (1) Strongly agree to (5) Strongly disagree. The axes included the following: - The axis of "trust in sports psychology counseling" to understand the role of trust in the possibility of dealing with a sports psychology specialist (07 statements).

- The axis of "tolerance and acceptance of criticism from others" aims to assess the extent to which others influence or are influenced by others when it comes to dealing with a sports psychology consultant, and also included (07 statements).

- The "personal openness" axis, which is the opposite of introversion, aims to measure the level of openness and sharing of private feelings and personal opinions with others without reservation, and included (06 statements).

- The “cultural preference” axis measures the extent of the influence of group affiliation and the extent of preference for one group or ethnicity over another when dealing with a sports psychology specialist, and included (04 statements).

The researcher translated the scale into Arabic by presenting it to two professors whose native language was Arabic and who were fluent in English. The translation was then reviewed for linguistic errors or conceptual confusion, and the revised and edited version was approved. The researcher then verified the validity and reliability of the scale before applying it to the main study sample by applying it to a preliminary sample of 30 athletes.

9.1. Description of the scale: The scale consisted of 24 statements distributed across four attempts, as shown in the following table:

Table No.: Shows the distribution of the scale items across its axes

No.	Axis	Number of phrases	Figures of phrases
01	Trust in sports psychology consultants	7	1-3-8-12-15-17-20
02	Cultural preferences	4	2-6-11-24
03	Tolerance of criticism from others	7	4-9-13-18-19-21-22
04	Personal openness	6	5-7-10-14-16-23
Total		24	

2.9. Scale correction:

Table No.: Shows the scale correction and the criterion for judging the responses of the research sample.

Categories					Verification
Phrase	Axis 1+3	Axis 2	Axis 4	Scale	level
1.79-1	12.5-7	7.1-4	10.7-6	43.1-24	Very weak
2.59-1.80	18.1-12.6	10.3-7.2	15.5-10.8	62.3-43.2	Weak
3.39-2.60	23.7-18.2	13.5-10.4	20.3-15.6	81.5-62.4	Average
4.19-3.40	29.3-23.8	16.7-13.6	25.1-20.4	100.7-81.6	High
5-4.20	35-29.4	20-16.8	30-25.2	120-100.8	Very high

10- Psychometric properties of the instruments in the current study:

To ensure the validity of the instruments used to collect data, we calculated their reliability and validity using the following methods:

10.1. Validity: The validity of a scale or test means that it truly measures what it is intended to measure, and that it does not measure anything else instead of or in addition to it. The validity of the tools was assessed using the following methods:

10.1.1. Discrimination validity (SPA-R):

The scale's reliability coefficient was estimated using the extreme comparison method, or what is known as discriminant validity, by following the following steps:

- The differences between the means of the two groups for the scale were calculated by applying the “t” test, and we obtained the following results:

Table No. (09) shows: The value of “t” for the significance of the differences between the upper and lower ends of the guidance needs scale.

Comparison groups	Sample	Standard deviation	Arithmetic mean	Degrees of freedom	Calculated t-value	P-value	Significance level
Top third 27%	11	39.18	6.40	20	9.79	0.000	0.05
Bottom third 27%	11	81.36	12.47				

It is clear from the table above that the value ($0.000=p$) for the t-test (9.79) at a degree of freedom (20) is less than the statistical significance level (0.05), it is statistically significant and therefore there are differences between the two groups. The scale has the ability to distinguish between its ends, so it is valid and suitable for use in the study.

10.1.2. Internal consistency (internal homogeneity) of the SPA-R scale

- Consistency for each dimension: The researcher calculated the correlation coefficient between the total score for each dimension and the total score for the scale as a whole, and the results revealed the following:

Table No. 10 shows the correlation coefficient for each dimension of the SPA-R scale with the total score.

No.	Dimensions	Statistical significance	Correlation coefficient
1	Trust in sports psychology consultants	0.866	Significant at 0.01
	Cultural preferences	0.779	Significant at 0.01
2	Tolerance of criticism from others	0.876	Significant at 0.01
3	Personal openness	0.845	Significant at 0.01

The table above shows that the correlation coefficient value of each dimension of the SPA-R scale with the total score of the scale is statistically significant at (0.01). It has a high degree of validity, which confirms the strength of the internal correlation and indicates the homogeneity of the dimensions with the scale as a whole. Therefore, the scale can be trusted to measure what it was designed to measure.

2.10. Stability: This means that if we repeat the test several times on an individual or person, the results will show some stability, in that the test will give the same results if used more than once under the same conditions and with the same individuals.

10.1.2 Calculating stability using the internal consistency method “Factor Cronbach,” which is used when the test is administered once to calculate the test's coefficient of homogeneity.

Table 13 shows the stability coefficient of the SPA-R scale using Cronbach's alpha equation

Sample	Number of items	Factor value Cronbach's alpha
40	24	0.795

It appears that the test has a high stability coefficient and can be trusted.

10.2.2 Calculating stability using the retest method: In this method, stability is calculated by retesting, in which we apply the test with a time difference of 15 days between the first and second applications, then calculate the Pearson correlation coefficient between the scale scores in the first application and the test scores in the second application.

Table No. 14 shows the stability coefficient of the SPA-R scale by retesting.

	Sample	Correlation	p-value	Significance
First application	40	0.899	0.000	Significant at 0.01
Second application	40			

The table shows that the correlation coefficient between the first and second application scores is estimated at (0.899), which is a statistically significant value. Therefore, it can be said that the SPA-R scale has a very high stability.

11. Steps for conducting the field study:

After confirming the validity of the measurement tools and determining the study sample, the researcher applied the basic study and sensitized the athletes to the importance of the study and the need to cooperate by providing honest answers and not leaving any item unanswered. After collecting the answer sheets, which numbered 154 copies and constituted the basic study sample, the data and information taken from the scale applied in the Excel system were downloaded. After fulfilling the required conditions to facilitate their organization and counting, they were entered into the statistical processing system for social sciences (SPSS) and processed statistically in order to achieve the required accuracy in the results.

12. Statistical methods used in the study:

Statistics is the science that can provide researchers with the appropriate statistical methods to analyze data related to the research and studies they conduct. This study relied on the statistical system known as the Statistical Package for the Social Sciences (SPSS) V22

13. Presentation, analysis, and discussion of results:

13.1. Presentation, analysis, and discussion of the results of the first hypothesis:

Hypothesis: There are differences in the attitudes of track and field athletes in Algeria towards sports psychology using the SPA-R scale according to gender (male-female). The arithmetic means, standard deviations, and t-test values were

calculated to determine the significance of the differences between males and females, as shown in the table:

Table No. 18 shows the t-test value to determine the significance of differences between males and females on the SPA-R scale.

Variable Scale	Gender	Sample	Arithmetic mean	Standard deviation	Degrees of freedom	T-value	Probability value	Significance level
SPA-R	Male	103	88.70	18.30	152	7.76	.000	0.05
	Female	51	67.35	10.05				

Reading and analyzing the results:

Table (00) shows that there are statistically significant differences at the significance level (0.05) between the arithmetic means of the overall scores of athletes' attitudes toward sports psychology, resulting from differences in gender, where the t-test value was value was 7.76, which is significant because the significance value (0.000) is smaller than the significance level (0.05). The differences were in favor of males at the expense of females, as the arithmetic mean for males was (88.70), which is greater than the arithmetic mean for females (67.35). This means that there are statistically significant differences in the level of Algerian athletes' attitudes toward sports psychology between males and females.

13.1.1. Discussion of the results of the first hypothesis:

The statistical results for the first hypothesis, shown in Table (08), indicated statistically significant differences at the significance level (0.05) between males and females in the overall arithmetic mean of the athletes' attitudes toward sports psychology scale (SPA-R). This difference is an important indicator of the psychological and cognitive differences between the sexes towards sports psychology, as explained by the social constructivist theory outlined by (831, p2005 (Connell, Psychological attitudes are formed within social and cultural contexts that reinforce stereotypical roles for males and females. It is likely that males, especially in male-dominated cultures such as Algeria, are more likely to engage in formal sports contexts that require interaction with sports psychology, which reinforces their positive attitudes toward it compared to females, who may face cultural or structural barriers that prevent their active participation in the relevant sports and professional arena. On the other hand, Holland's Theory of Career Choice explains this disparity in light of career preference, where males show a greater inclination toward professions related to physical and competitive performance, and therefore interact more with sports psychology applications (Holland, 1997, p. 132). In the same context, Weinberg & Gould (2019, p. 234) that males tend to evaluate sports psychology more positively because it is seen as a tool for improving performance and achieving excellence, values associated with masculine perceptions of athletic success. Females, on the other hand, may view it from a different perspective, one in which the therapeutic or psychological perception associated with support, rather than competitive performance, may overlap.

In another study (365 Martin et al., 2005, p) on athletes' attitudes toward consulting a sports psychologist, it was found that males show a greater

tendency to benefit from the services of this specialty, while females showed some hesitation due to cultural concepts or preconceptions about weakness or “stigma” associated with seeking psychological help, which is reflected in the results of the current study.

The study's findings may also reflect the nature of sports training in Algeria, where males have greater opportunities for organized training and participation in competitive sports than females, and where academic training in sports science may not be given the same importance or structure for females, which affects their perception of the importance and effectiveness of sports psychology.

13.2. Presentation and discussion of the results of the second hypothesis:

Hypothesis: There are differences in the attitudes of track and field athletes in Algeria towards sports psychology using the SPA-R scale according to the nature of the activity (running, throwing, jumping).

In order to test this hypothesis, the researcher calculated the arithmetic means and standard deviations for the total score on the SPA-R scale according to the nature of the competition, as shown in the table:

Table No. 19 shows the arithmetic means and standard deviations for the total score on the SPA-R scale according to the nature of the competition.

Nature of competition	Sample individuals	Arithmetic means	Standard deviations
Running	88	91.0795	17.94770
Throwing	35	73.8286	12.34191
Jumping	31	63.6452	7.25511
Total	154	81.6364	18.92497

Reading and analyzing the results: Table (00) shows apparent differences between the arithmetic means of the overall scores for athletes' attitudes toward mathematics, resulting from differences in the nature of the competition. The average score in running competitions for the SPA-R scale was (91.07), with a standard deviation of (17.94), while the average scores of athletes in throwing competitions were (73.82), with a standard deviation of (35). Meanwhile, the average scores of athletes in jumping competitions reached (63.64), with a standard deviation of (7.25).

To reveal the essence of the aforementioned apparent differences, a one-way analysis of variance (ANOVA) was performed to determine the significance of the differences in the total score of the SPA-R scale among Algerian track and field athletes, according to the nature of the competition, as shown in the following table:

Table No. 20 shows the results of the analysis of variance (ANOVA) for the SPA-R scale according to the variable of competition nature:

Dimensio ns	Source of variatio n	Sum of squares	Df	Mean squares	F value	Significanc e level	Sig
Scale SPA- R	Between groups	20015.12 5	2	10007.5 6	43.44 5	0.05	.00 0
	Within groups	34782.51 1	15 1	230.34			
	Total	54797.63 6	15 3	//			

Through Table No. (00), and when applying the ANOVA test to analyze the variance, it was found that the value of “F” reached (1007.56) and its significance value reached (0.000), which is smaller than the set limit (0.05), This indicates that there are statistically significant differences at the significance level (0.05) in the estimates of the study sample individuals' attitudes toward sports psychology according to the variable of the nature of the competition to which the athlete belongs. In order to determine the source of these differences and identify the type of competition in which the difference was in favor, the Tukey test for post hoc comparisons was used, as shown in the following table:

Table No. 21 shows the post hoc comparisons (Tukey test) to analyze the source of variance on the SPA-R scale for the study sample according to the nature of the competition variable.

Nature of the competition	Difference between averages			
	Running	Throwing	Jumping	
Running	////////////////	-17.25097	27.43438*	
		0.000	0.000	
Throwing	*-17.25097-	////////////////	10.18341*	
	0.0000		0.000	
Jumping	*-27.43438-	*-10.18341-	////////////////	
	0.000	0.000		
Significance level			Sample	Nature of the competition
3	2	1		
91.0795	73.8286	63.6452	31	Jumping
			55	Running
			88	Throwing

Table 21 shows the following:

- There are statistically significant differences at the 0.05 level in athletes' attitudes toward sports psychology (SPA-R) between athletes in jumping competitions and athletes in running competitions.
- There are statistically significant differences at the 0.05 level in athletes' attitudes toward sports psychology (SPA-R) between athletes in jumping competitions and athletes in throwing competitions.
- There were statistically significant differences at the 0.05 level in athletes' attitudes toward sports psychology (SPA-R) between athletes in running competitions and athletes in throwing competitions.

The difference was in favor of athletes participating in jumping competitions, i.e., athletes' estimates of sports psychology were higher than those of athletes participating in running and throwing competitions.

13.2.1 Discussion of the results of the second hypothesis:

The results of the one-way analysis of variance (ANOVA) shown in Tables 9, 10, and 11 reflect statistically significant differences at a significance level of 0.05 between the mean scores of athletes' attitudes toward sports psychology in athletics, according to the type of competition (running, throwing, jumping). Although the three disciplines belong to the same parent sport (athletics), each discipline has distinct psychological, behavioral, and physical requirements. This can be inferred from the theory of contextual analysis of performance (74-73, p2005 (Davids et al, The difference in competitive environments and the form of interaction between the athlete and the environment leads to differences in psychological preparedness. For example, jumping sports (pole vault, high jump,

triple jump) are characterized by requiring intense concentration, high motor skills, and control over momentary tension. These characteristics make athletes in this category more aware of the importance of psychological factors and the role of mental training, which explains their highly positive attitudes toward sports psychology. On the other hand, throwing sports (shot put, discus, javelin) are often associated with a specific physical build and tactics that rely on motor sequences and momentary bursts of energy, requiring mental focus at a specific moment, but with relatively less competitive pressure than running, which explains their average attitude toward sports psychology. Running, especially long distances, may involve greater reliance on physical ability and endurance, with relatively little emphasis on psychological aspects, especially at lower levels, which may explain the lower level of positive attitudes in this category.

In a study conducted by Beauchamp, he found that the length of competitive performance and its direct impact on results may affect athletes' psychological awareness. Sports such as jumping require successful performance during a limited number of attempts, which increases the importance of controlling anxiety, confidence, and attention—key themes in sports psychology. In contrast, middle- and long-distance runners appear to rely more on physical preparation and may tend to downplay the importance of psychological skills, especially if they have not received systematic psychological training." (Beauchamp et al, 2012, p 09)

From the perspective of "social systems theory in sport," athletes' attitudes may be shaped in part by the prevailing training culture and the role of the coach in psychological awareness. It is likely that some athletics disciplines—such as jumping—have seen greater integration of sports psychologists into the technical team than other disciplines, which influences athletes' perceptions of the importance of this science. (Carron & Eys, 2012, p. 165)

General conclusion: The current study revealed statistically significant differences in the attitudes of Algerian athletes from different athletics disciplines towards sports psychology, both in terms of gender and the nature of competition. The results showed that males adopt more positive attitudes than females, which can be explained by socio-cultural and professional determinants that encourage male involvement in formal competitive contexts that require the use of sports psychology services. On the other hand, the study demonstrated significant differences according to the type of athletic discipline (running, throwing, jumping), with jumping athletes expressing stronger positive attitudes toward this science, followed by throwing athletes, then running athletes. This can be attributed to the different psychological and technical requirements of each discipline, as well as the role played by the training culture associated with these sports.

Conclusion: The results of this study confirm the importance of systematically integrating the psychological dimension into the training of athletes in Algeria, particularly in athletics, where different disciplines vary in terms of the nature of performance and the emotions associated with it. It also shows that athletes' attitudes towards sports psychology are inseparable from the social and cultural reality that determines the role of men and women in the field of sports, as well as from the nature of the discipline and the extent to which athletes are exposed to momentary competitive pressures that require psychological intervention. Thus, promoting positive representations of sports psychology requires an integrated approach that includes academic training, field practice, and cultural awareness.

References:

1. Ajzen, I. (2001). Nature and operation of attitudes. *Annual Review of Psychology*, 52(1).
2. Beauchamp, M. R., Harvey, J. T., & Crocker, P. R. E. (2012). Self-presentation in sport and exercise: Theory and practice. *Journal of Applied Sport Psychology*, 24(1).
3. Bencheikh, A., & Bouchenak, S. (2020). Psychological readiness of Algerian athletes: A qualitative study. *Algerian Journal of Sports Sciences*, 12(3), 45-60.
4. Carron, A. V., & Eys, M. A. (2012). *Group Dynamics in Sport* (4th ed.). Fitness Information Technology.
5. Cohen, J., Taylor, J., & Short, S. (2017). *Foundations of sport and exercise psychology*. Human Kinetics.
6. Connell, R. W. (2005). Masculinities: Second edition. *Gender & Society*, 19(6), 829-859.
7. Davids, K., Button, C., & Bennett, S. (2005). *Dynamics of Skill Acquisition: A Constraints-led Approach*. Human Kinetics.
8. Eklund, R. C., & Tenenbaum, G. (2014). *Encyclopedia of sport and exercise psychology*. SAGE Publications.
9. Fishbein, M., & Ajzen, I. (2010). *Predicting and changing behavior: The reasoned action approach*. Psychology Press.
10. Gardner, F. L., & Moore, Z. E. (2006). *Clinical sport psychology*. Human Kinetics.

11. Gould, D., et al. (2002). Psychological foundations of coaching: Evidence from Olympic medalists. *Journal of Applied Sport Psychology*, 14(3), 172-204.
12. Hatzigeorgiadis, A., et al. (2011). Self-talk and sports performance: A meta-analysis. *Perspectives on Psychological Science*, 6(4), 348-356.
13. Henriksen, K., et al. (2014). Sport psychology interventions: The Olympic handbook. International Olympic Committee.
14. Holland, J. L. (1997). Making vocational choices: A theory of vocational personalities and work environments. Psychological Assessment Resources.
15. Kerdouci, F. (2019). Sports psychology in Algeria: Challenges and opportunities. *International Journal of Sport Studies*, 9(2), 112-125.
16. Loland, S. (2002). Fair play in sport: A moral norm system. Routledge.
17. Mansouri, B., et al. (2017). Attitudes of Algerian elite athletes toward mental training. *Journal of Applied Sport Psychology*, 29(1), 78-92.
18. Martin, S. B., Akers, A., Jackson, A. W., Wrisberg, C. A., Nelson, L., Leslie, P. J. (2005). Male and Female Athletes' and Nonathletes' Expectations about Sport Psychology Consulting. *Journal of Applied Sport Psychology*, 17(1), 33-47.
19. Martin, S. B., Kellmann, M., Lavalley, D., & Page, S. J. (2002). Development and psychometric evaluation of the Sport Psychology Attitudes-Revised form: *International Journal of Sport Psychology*, 33(1), 65-81.
20. Schinke, R. J., et al. (2018), Cultural sport psychology and intersecting identities: An introduction. *Psychology of Sport and Exercise*, 38, 1-5.
21. Silva, J. M., & Stevens, D. (2002). Psychological foundations of sport. Allyn & Bacon.

22. Weinberg, R. S., & Gould, D. (2018). Foundations of sport and exercise psychology (7th ed.). Human Kinetics.
23. Weinberg, R. S., & Gould, D. (2019). Foundations of Sport and Exercise Psychology (7th ed.). Human Kinetics.
24. Kerlinger, F. N (1986). Foundations of Behavioral Research (3rd ed.). Holt, Rinehart and Winston.
25. Creswell, J. W. (2014). Research Design: Qualitative, Quantitative, and Mixed Methods Approaches (4th ed.). SAGE Publications.