

Perceived Self-Efficacy and Its Relationship with Psychological Resilience among Track and Field Athletes

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Abstract

This study examined **perceived self-efficacy** and its relationship with **psychological resilience** among **track and field athletes** participating in the Iraqi Athletics League (2023–2024). The study aimed to: (1) develop a perceived self-efficacy scale for track and field athletes, (2) construct a psychological resilience scale tailored to the same population, (3) identify the nature of the relationship between the two variables, and (4) determine the predictive contribution of psychological resilience to perceived self-efficacy.

A **descriptive survey–correlational approach** was adopted. The research population consisted of **215 athletes** distributed across **20 clubs**. Scale construction and preparation procedures were conducted on a large sample from league clubs, and the main analysis relied on a research sample of **176 athletes**. Psychometric analyses confirmed acceptable validity and reliability indicators for both scales. The statistical analyses were performed using **SPSS**.

Results showed that the athletes demonstrated **high levels of perceived self-efficacy** ($M = 136.312$, $SD = 11.090$) and **high psychological resilience** ($M = 173.517$, $SD = 11.233$), with both means significantly exceeding their hypothetical means ($p = 0.000$). The correlation analysis indicated a **positive statistically significant relationship** between perceived self-efficacy and psychological resilience ($r = 0.661$, $p = 0.000$). Regression analysis further revealed that psychological resilience significantly predicted perceived self-efficacy, and the regression equation was formulated as: **Perceived Self-Efficacy = 17.526 + (0.232 × Psychological Resilience)** ($p < 0.05$).

The study concludes that psychological resilience represents a key psychological determinant associated with and predictive of perceived self-efficacy among track and field athletes. Accordingly, it recommends integrating structured psychological preparation programs within training plans, focusing on strengthening resilience, self-confidence, emotional regulation, and adaptive coping strategies to support athletes' performance stability and competitive success.

Keywords: Perceived Self-Efficacy, Psychological Resilience, Track and Field, Iraqi Athletics League, Correlation, Regression.

1-1 Introduction to the research and its importance

Perceived self-efficacy is a central concept in contemporary sports psychology, representing the framework that defines an individual's confidence in their ability to regulate their behaviors and actions to achieve optimal performance in situations requiring high physical and psychological effort. **Bandura (1997) noted this.** Self-efficacy is not just a personal trait, but a cognitive system that affects an individual's way of thinking, their energy level, and their response to stressful situations, making it a key factor in predicting athletic success and adapting to the demands of training and competition.

In contrast, **psychological resilience** One of the modern concepts that has gained widespread attention in the field of sports psychology is the ability to cope with stress and difficult situations and return to psychological equilibrium after failure or defeat. A psychologically resilient athlete is seen as someone who possesses emotional flexibility, emotional stability, and the ability to control themselves in the face of repeated challenges within the competitive arena, which positively impacts their athletic performance.

Athletics They are subjected to significant physical and psychological pressures due to the nature of the intensive training and the individual competitions that demand high concentration and great self-confidence. This highlights the importance of linking perceived self-efficacy with psychological resilience, as these are two complementary psychological variables that largely determine a player's ability to maintain performance and achieve success despite potential obstacles and setbacks.

Numerous studies in this field have confirmed that players with high self-efficacy possess a greater ability to cope with failure, injury, and competitive pressures, and demonstrate higher levels of psychological resilience compared to others. This is because an individual's awareness of their own competence

provides them with the motivational energy to adopt effective coping strategies, thereby maintaining emotional balance and focus during performance.

Hence, the importance of this research stems from **analyzing the relationship between perceived self-efficacy and psychological resilience of athletics players**, seeking to reveal the nature of the correlation between the two variables, and to know the extent to which self-efficacy contributes to enhancing psychological resilience, which can contribute to developing psychological training programs, and formulating mental preparation strategies that contribute to raising the level of athletic performance and achieving success in athletics competitions.

1-2 Research Problem

Despite significant advancements in the physical and technical preparation of athletes in track and field, many coaches and researchers still overlook the psychological aspect of the preparation process, particularly the cognitive and emotional factors that contribute to optimal performance. Perceived self-efficacy and psychological resilience are among the most important of these factors. Field observations indicate a clear disparity among athletes in their confidence in their ability to cope with difficult situations during training or competition, and in their capacity to return to high-level performance after setbacks, injuries, or the pressures of competition.

The researcher also observed, through his academic and field work, that some track and field athletes possess high physical and technical skills, yet their performance declines when faced with stressful situations or intense competition, while others demonstrate consistent performance and remarkable psychological resilience, despite similar training conditions. This observation raises a fundamental question about the relationship between perceived self-

efficacy and psychological resilience in track and field athletes, and the extent to which one influences the other.

Hence, **the research problem is defined** by the following question:

Is there a statistically significant relationship between perceived self-efficacy and psychological resilience among track and field athletes

?What is the nature and direction of this relationship

1-3 Research Objectives

1. Developing a method for measuring perceived self-efficacy among track and field athletes.
2. Building a psychological resilience test among track and field athletes.
3. Identifying the nature of the correlational relationship between perceived self-efficacy and psychological resilience.
4. Predicting the level of psychological resilience Through the perceived .level of self-efficacy among track and field athletes

1-4 Research Hypotheses

1. **There is** a statistically significant positive correlation. Between perceived self-efficacy and psychological resilience among track and field athletes.
2. maybe Predicting the level of psychological resilience Through the level of perceived self-efficacy.

1-5 Research Areas

1-5-1 the-Human Sphere: Iraqi Athletics League Players for the 2023
2024.Season

1-5-2 Timeframe: From 8/2/2024 to 31/8/2024

1-5-3 Spatial Area: The stadium of the College of Physical Education and Sports Sciences, University of Baghdad

1-6 :Terms used in the research Definition of terms

1- Perceived self-efficacy: This refers to all the inherent capabilities an individual possesses that enable them to exercise standard control or norms over their abilities, thoughts, feelings, and actions. It represents the frame of

reference for their behaviors according to the constraints of their physical,
(¹) .social, and training environment

2- Psychological resilience: This is the ability to anticipate and cope with
and the capacity ², **external pressures and shocks** , whether physical, emotional, or economic
.for psychological recovery after exposure to stress

2- :Research methodology and field procedures

2-1 Research Methodology:

The researcher used the descriptive method with the survey method,
correlational relationships and comparative studies because it suited the nature
.of the problem and its objectives

2-2 The research community and its samples

The researcher identified the research population as all track and field
athletes participating in the Iraqi Athletics League for the 2023–2024 season.
These athletes were officially registered on the club rosters, and their names were
documented by the Iraqi Central Athletics Federation. Accordingly, the total
population consisted of **215 athletes**, distributed across **20 clubs** representing
the official clubs participating in the league. The research sample was distributed
as follows:

1. Pilot Study Sample

The pilot study sample, used in the preparation of the two scales (perceived
self-efficacy and psychological resilience), consisted of **10 athletes** who were
selected randomly. This sample represented **4.45%** of the total research
population.

2 Sample preparation and construction of the two scales perceived - self-efficacy, psychological resilience

Saeed Al-Khaikani and others; Contemporary Trends in Sports Psychology, 1st Amer (¹)
.ed.: (Cairo, Dar Al-Fikr Al-Arabi, 2019) p. 104

Safaa Al-A'sar;_Resilience from a positive psychology perspective, a scientific article, (²)
.Egyptian Journal of Psychological Studies , Volume 20, Issue 66, 2010, p. 25

The sample for preparing the two scales included league club players , numbering(205)players, which constituted (98.36%) of the research .population

3 Application Sample For my two scales (perceived self-efficacy, - psychological resilience

The application sample for the study included the players of the league clubs in athletics , numbering(50) players, which constituted (34.69%) of the research .population. Table No(1) shows the details of the distribution of the research .population over the three samples

Table (1)

Distribution of the Research Population Across the Study Samples

Statistical Parameters	Number of Athletes	Pilot Sample	Construction Sample	Application Sample
Track and Field Athletes	215	10	205	50

3-3 Methods, tools, and equipment used in research

In order for the researcher to obtain a genuine advantage and significance for the study, there must be tools that the researcher uses in his study, which in therefore, in order for the ; turn contribute to meeting the needs of the study researcher to be able to complete his study in the best possible way, he must use :which are ,tools and methods that help him complete his study

1- **:Methods of data collection:** These included

- .Arabic and foreign sources and references
- Expert questionnaire for the study 's two measures (perceived self- .(efficacy and psychological resilience

2- **:Tools and equipment used**

- One(1) Dell .brand computer, made in China

- Stationery and office supplies papers and pens

4-3 :Main research procedures

In order to achieve the study's objectives and to arrive at a scientific scale that meets all the correct scientific principles in its construction and preparation, the researcher resorted to following all the necessary scientific procedures and steps in the preparation process. The study's specific criteria are as follows

- track and field athletes Developing a scale for perceived self-efficacy for .season in the Iraqi Premier League for the 2023-2024
- Building a psychological resilience scale for athletics players in the Iraqi .season Premier League for the 2023-2024

❖ .Setting a scale Perceived self-efficacy of track and field athletes

In line with the research objectives After the researcher conducted a comprehensive survey of studies and research related to the study variable perceived self-efficacy, the researcher prepared a scale for perceived self-efficacy prepared by (Fawaz Ali Abdul Khalaf : (2019) ,⁽³⁾ as shown in .Appendix No(2). He relied on the social learning theory of Albert Bandura 1977 in determining its domains, as it is more realistic and comprehensive in the sports field. The scale in its final form consisted of (53) items distributed over five domains: (physical and skill 11 items), (emotional 11 items), (cognitive) 12 items), (determination and perseverance 11 items), and (social 8 items). The scale contained 37 positive items and 16 negative items

The answer alternatives on the five-point Likert scale were (always, often, sometimes, rarely, never). The answer weights were calculated for positive items

Fawaz Ali Abdul Khalaf; The effectiveness of a guidance program to develop perceived self-efficacy and psychological flow in artistic gymnastics classes among students of the College of Physical Education and Sports Sciences, Master's thesis, University of Wasit, College of Physical Education and Sports Sciences, 2019

(1-5) and negative items The negative items included items with the following sequence: (48, 46, 45, 44, 42, 41, 40, 35, 28, 26, 19, 18, 16, 12, 72)

❖ **Building a psychological resilience scale for track and field athletes**

One of the study's objectives is to identify the psychological resilience of Premier League track and field athletes. This can only be achieved through the development of a scale to measure it. Therefore, the researcher's first step was to construct a psychological resilience scale for Premier League track and field athletes. After surveying and searching for existing psychological resilience scales, it became clear that no local instrument was suitable for the research objectives and the nature of the sample. One of the reasons for developing this scale was the specificity of the study's subject matter and the selected sample. None of the previous studies had addressed this psychological characteristic in such samples, and the scale also met the required conditions for suitability to this research. Therefore, the researcher developed the scale to achieve this objective. To do so, the researcher followed the specified steps in the development process to obtain a scale with sound scientific foundations. This involved following a number of important steps, which are

2-4-1 Defining the theoretical framework of the scale

❖ **Perceived self-efficacy scale**

Bandura's theory was used in preparing the scale according to what was stated in the scale adopted by Fawaz Ali Abdul Khalaf: 2019 in order to cover all the areas and items that explain the phenomenon under study according to this theory

❖ **Psychological resilience scale**

The researcher relied on Richardson's theory(2002) in order to benefit from the interpretations of this theory and the components and factors that contribute to the formation of this trait, the fields and items of each scale were

developed and formulated realistically, and what it leads to in explaining the behavior of this trait

2-4-2 Defining the scale areas

Table (2)

It shows the calculated (Chi⁻²) values for the expert consensus on the areas of the psychological resilience scale

No.	Domain	Suitable	Not Suitable	χ^2 Value	Significance	Selection
1	Responsibility	17	0	17.00	Significant	✓
2	Personal Competence	17	0	17.00	Significant	✓
3	Regulation of Psychological Stress	17	0	17.00	Significant	✓
4	Mental Toughness	15	2	9.94	Significant	✓
5	Psychological Flexibility	14	3	7.11	Significant	✓
6	Optimism	11	6	0.47	Not Significant	✗
7	Social Support	14	3	7.11	Significant	✓
8	Problem Solving	12	5	2.88	Not Significant	✗

Thus, the areas of (optimism and problem-solving) were excluded, leaving (6) areas that received the approval of the esteemed experts and specialists for their suitability in identifying psychological resilience, which are

- .Take responsibility
- .Personal competence
- .Regulating psychological stress
- .Mental toughness
- .Psychological resilience
- social support

These are the areas in which the calculated (Chi²) values were greater than their tabulated value of (3.84) with a degree of freedom of(1) and a significance level of(0.05) in favor of the (valid) answer, as the researcher relied on the

agreement of (13) experts or more for the validity of the trait, and they constitute (76.47%) of the total number of experts, which is (17) .experts

2-4-3 Determining the relative importance of the fields

Table(3)

It shows the degree of importance and relative importance of the .areas of the psychological resilience scale

No.	Domain	Degree of Importance	Relative Importance (%)	Accepted
1	Responsibility	168	98.82	✓
2	Personal Competence	114	67.05	✓
3	Regulation of Psychological Stress	134	78.82	✓
4	Mental Toughness	152	89.41	✓
5	Psychological Flexibility	142	83.52	✓
6	Social Support	144	84.70	✓

2-4-4 Preparing the initial version of the scale

Preparing the scale in its initial form requires a series of procedures and steps that begin with preparing the scale items, determining their wording style, and establishing the basis for drafting the items, as well as preparing the scale instructions and ensuring the respondents understand the items. The following :is a description of those procedures

2-4-4-1 Collecting the scale items

After conducting a comprehensive survey of all studies addressing psychological resilience based onRichardson's (2002 as well as , theory (analyzing relevant scientific sources, the researcher and supervisor used various methods to collect scale items. This resulted in 70 items covering the six domains. Following this review and analysis, items similar to others were eliminated, and items with the same objective were combined. Ambiguous items were also removed, leaving 50 items. These were then distributed according to

the relative importance of each domain after being reviewed and approved by experts. Some of these studies include

- ⁽⁴⁾ .A study by Muhammad Salman Shabib
- ⁽⁵⁾ .A study by Sharifa Zahra
- ⁽⁶⁾ .A study by Afraa Ibrahim Khalil

The researcher explains below how to calculate the number of items in each field in light of their relative importance

2- Calculate the number of items in each field

.Table No(3) shows the percentage of relative importance of each field and the number of its items

Table(4)

It shows the percentage of relative importance of each domain and the number of items for the psychological resilience scale

No.	Domain	Relative Importance (%)	Number of Items
1	Responsibility	19.67%	10
2	Personal Competence	13.34%	7
3	Regulation of Psychological Stress	15.69%	8
4	Mental Toughness	17.79%	9
5	Psychological Flexibility	16.62%	8
6	Social Support	16.86%	8
Total	—	100%	50

2-4-4-3 Determining the style and wording of the scale items

There are several principles he followed in formulating the items of the psychological resilience scale, which are

⁴Mohammed Salman Shabeeb; Building and preparing a psychological resilience scale for referees of the Iraqi Premier League for the season (2017-2018), Master's thesis, University of Baghdad, College of Physical Education and Sports Sciences, 2018

⁵Sharifa Zahra; Psychological resilience and its relationship to life orientation among graduating students, Master's thesis, Mohamed Boudiaf University of M'sila, Faculty of Humanities and Social Sciences, 2019

⁶Afraa Ibrahim Khalil; Psychological resilience among university students in light of some variables, published research, **Al-Ustad Journal** , Fifth Scientific Conference, 2017

Salman Akab Sarhan; The Leadership Personality of Football Players, PhD Thesis, College (7) of Physical Education, University of Babylon, 2006, p. 94

- The paragraph should contain one idea and be written in simple and direct language
- Avoid using negation or negation of negation in the paragraph, as this will confuse the test-taker
- The researcher used the method of formulating paragraphs in the language of the listener, and this was supported by the opinion of the experts whom the researcher consulted

In order to reduce the occurrence of falsification in the laboratory's response, or the honesty in the response process, the researcher took care not to mention the laboratory's name, as well as the possibility of trusting that the response would be completely confidential. The alternatives for the items of the psychological resilience scale were relied upon, and after agreeing with the experts' opinion on them, there were five alternatives for each item

2-4-4-3 Determining the Method and Wording of Scale Items :

The researcher presented the scale items to a linguistic specialist in order to evaluate the items of each scale from a linguistic perspective, so that they would be correct and free from any linguistic errors, if any existed, and before determining the validity of the scale items. The researcher worked to take into account all the observations made by the linguistic evaluator about the scale items, and thus the items are correct from a linguistic perspective

❖ Perceived self-efficacy scale

In order to ensure the validity of the items of the perceived self-efficacy scale, the researcher modified all 53 original approved items of the scale, in accordance with the nature and objective of the sample, while ensuring that the researcher maintained the same meaning for each item see Appendix No7 and , presented them to a number of experts and specialists in the field of sports

psychology, numbering(17) experts and specialists (see Appendix No. 6). After that, the researcher collected all the responses of the experts and specialists, taking into account all the observations made by some of the experts and specialists. The researcher then prepared a questionnaire that included the modified items(53) of the perceived self-efficacy scale (see Appendix No. 7 and presented it to a number of experts and specialists in the field of educational and sports psychology, numbering(17) experts and specialists (see Appendix No. 6). After that, the researcher collected and transcribed the data. The researcher relied on the use of the (χ^2) test as a criterion to identify the valid items from the non-valid ones in extracting the results. The results showed that there were (15) items that were not valid and were excluded, and (38) items that were valid and were relied upon because they had the agreement and support of experts and specialists and their confirmation of their validity. Table(7) shows this. Thus, the scale was established in its final form and its items(38) as the following items were excluded (5, 9, 11, 13, 19, 21, 22, 25, 27, 33, 37, 39, 47, 50, 53)

❖ **Psychological resilience scale**

The researcher presented the 50 items, within a special questionnaire, to a group of experts and specialists in educational and psychological sciences and sports psychology, numbering(17) .experts, as shown in Appendix No (6) in , .order to determine their validity. See Appendix No(8) The aim was to reach . a judgment on their validity in terms of formulation and their suitability for the scale was ,measuring the areas of each of the two study scales. Accordingly established in its initial form in order to present it to the construction sample, as .shown in Appendix No(9) .

After collecting and analyzing the responses of experts and specialists who were presented with the questionnaire, the researcher used the chi-square(χ^2) at a critical value of 3.84, 1 degree of freedom, and a significance level of 0.05 of the 50 items that to compare those who agreed and disagreed. It was found

on the scale, 44 items complete agreement regarding their validity in measuring psychological resilience, as the calculated chi-square value for these items was greater than their corresponding critical value. Six items received expert agreement for modification in their wording. The researcher incorporated all the observations made by the experts and specialists

Pilot Test of the Scale

It is possible that the items of the scale are not as clear to the players as they are to the researcher, so the researcher conducted his exploratory experiment on a group of players from outside the building and preparation sample and from the research sample, as (24) players were randomly selected from (6) clubs distributed on (4) players for each club, as explained previously, as the purpose of conducting the experiment is to create an opportunity for the researcher and the assisting work team to get acquainted. See Appendix No.)12(

- 1- .Apply the scale and the time required to answer
- 2- The researcher will have a support team and a practical training lesson to identify the negatives and positives that he may encounter when conducting the main experiment for the scale
- 3- Ensuring that the instructions regarding the scale are clear and understandable to the players
- 4- Identifying the conditions for applying the scale, and the difficulties that accompany it
- 5- .Identifying the efficiency of the support team

Accordingly, the researcher conducted his exploratory experiment from Sunday, February 28, 2024, until Saturday, March 6, 2024, on a sample of (24) players. In this experiment, the researcher determined the time taken to answer each scale by recording the time of the first player who finished answering and the time of the last player who finished answering. The average time was calculated for the perceived self-efficacy scale, as the average answer was (19) minutes. As for the psychological resilience scale, it was (22) minutes. As for

the scale, the average answer was (9) minutes. Thus, the three study scales, the perceived self-efficacy scale with its(38) items and instructions, the psychological resilience scale with its (50) items, and the scale with its (14) .items, were ready to be applied to the sample of numbers

2-4-4-4 Applying the study's measures

the researcher applied , To verify the research objectives and hypotheses the three study measures (perceived self-efficacy, psychological resilience, etc.) to a sample of 196 players, selected intentionally by the researcher. These players represented clubs that had achieved odd-numbered positions in the league (5th, 3rd, 1st, ..., 19th) after the first round (first leg). This selection ensured homogeneity among all teams and their players in both the development and preparation samples, as some teams, particularly institutional clubs and those in Baghdad, contain high-caliber players. The preparation sample included players from the following clubs : Al-Quwa Al-Jawiya, Al-Zawraa, Al-Minaa, Al-Sinaat Al-Kahrabaiya, Naft Al-Basra, Zakho, Al-Naft, Amanat Baghdad, Al-Samawa, and Naft Maysan. The researcher emphasized to the support team the importance of the development sample members carefully reading the instructions and items and answering all items of the scale honestly and .truthfully. This process took place over a period of 24 days, starting on Friday (12/3/2024) to Sunday, corresponding to 4/4/2024).

Method of Correcting the Scale 5-4 -4-3

❖ Perceived self-efficacy

The purpose of scoring each item on the scale, using the scoring key adopted by the researcher, was to calculate the total score using a scoring key (1-5) for positive items and another (5-1) for negative items. The total score was calculated based on the sum of the weights of the responses to the 38 items. The scores for the positive items were as follows: (Always 5 points), (Often 4 points), (Sometimes 3 points), (Rarely 2 points), and (Never 1 point). For the negative items, the scores were as follows: (Always 1 point), (Often 2 points),

(Sometimes 3 points), (Rarely 4 points), and (Never 5 points). Therefore, the highest possible score was 190, and the lowest was 38. After reviewing all the forms, the researcher eliminated the remaining items(5) Forms due to the lack of correct conditions for answering, while(2) forms could not reach the researcher, so the total number of forms for the preparation sample became(189) collected these scores to find the total score for each after which the researcher , prepared field, and then the total score for each form using the correction key .for that purpose

❖ **psychological resilience**

Based on the total weights of the responses to the psychological resilience scale, which consists of(50) items, the scores were given to the answer alternatives as follows: (always 5 points), (often 4 points), (sometimes 3 points), (rarely 2 points), (never 1 point) for the positive items included in the scale, while the answer alternatives for the negative items are the opposite: (always 1 point), (often 2 points), (sometimes 3 points), (rarely 4 points), (never 5 points). Thus, the highest score that can be obtained is (250) and the lowest score that , These scores were collected to find the total score for .can be obtained is)50(each domain, and then the total score for each form using the correction key .prepared for that purpose

The psychological resilience scale contains(9) negative items, according to the following sequence of items(18, 20, 22, 23, 25, 35, 37, 38, 42).

After examining all the forms, the researcher excluded (5) forms because the correct conditions for answering were not met, while(2) forms could not reach the researcher, so the total number of forms for the preparation sample became(189) collected these scores to find the total score The researcher then . for each field, and then the total score for each form using the correction key .prepared for that purpose.

2-4-5 Statistical Description of the Perceived Self-Efficacy Scale

Table(5)

The descriptive statistical characterization of the responses of the .construction and preparation sample for the study scales is shown

Statistical Measures	Perceived Self-Efficacy	Psychological Resilience	—
Mean	148.735	187.830	33.629
Sample Size	189	189	189
Median	150	189	34
Mode	146	180	37
Standard Deviation	16.085	15.403	3.617
Standard Error of the Mean	1.176	1.120	0.231
Skewness	-0.294	-0.131	-0.789
Standard Error of Skewness	0.177	0.177	0.177
Kurtosis	-0.485	0.129	-0.513
Standard Error of Kurtosis	0.352	0.352	0.352
Highest Score	178	224	39
Lowest Score	109	142	22

From Table (5) above and the values for the sample of the three scales, it is evident that the sample responses exhibit a normal distribution, as demonstrated by the skewness values, which did not exceed the normal values (± 3) This allows the researcher to conduct statistical analysis of the preparation . sample in order to rely on the scale in its final form and apply it to the application .sample

2-4-5 Scientific basis of the scale

2-4-5-1 Statistical analysis of the scale items

2-4-5-2 Discriminatory ability (the two extreme sets) of the scale items

The steps involved the researcher arranging the total scores for each form in descending order, that is, he arranged them from the highest score to the .lowest score

The second step was for the researcher to rely on identifying what - constitutes the percentage of (27%) of the forms that obtained the highest scores, as well as identifying the same percentage of the forms that obtained the lowest scores, because this percentage has the ability to enable the two groups

to achieve the maximum possible size and differentiation, as the number of forms in each group reached (51) forms, and excluding the middle percentage of (46%) which is ,(87) forms

Perceived Self-Efficacy

Item discrimination for the perceived self-efficacy scale was examined using the independent samples t-test to determine the significance of differences between the upper and lower scoring groups. This procedure was applied to all (38) items of the scale. The analysis was conducted using the Statistical Package for the Social Sciences (SPSS), and items were considered statistically significant when the significance level (Sig.) was less than (0.05).

The statistical analysis revealed that the calculated t-values for the scale items ranged between (-0.120) and (8.180). Each item's significance value was compared against the criterion level of (0.05) with (100) degrees of freedom. The results indicated that two items, specifically items (2) and (36), did not demonstrate statistically significant differences between the upper and lower groups and therefore lacked adequate discriminative ability. Accordingly, these two items were excluded. Following this procedure, the final version of the perceived self-efficacy scale consisted of (36) items that showed acceptable statistical discrimination.

Psychological Resilience

The discrimination indices for the psychological resilience scale were also calculated using the independent samples t-test to examine differences between the highest and lowest scoring groups for each of the (50) items. The analysis was carried out using SPSS, and statistical significance was determined at a level of (0.05).

The results showed that the calculated t-values ranged from (0.196) to (6.705). Each item's significance level was evaluated in relation to the criterion value of (0.05) at (100) degrees of freedom. The findings demonstrated that six items—namely items (47, 43, 36, 26, 21, and 6)—did not achieve statistical

significance and therefore did not possess sufficient discriminative power. These items were consequently removed from the scale.

After excluding the non-discriminatory items, the final form of the psychological resilience scale included (44) items that demonstrated statistically significant ability to distinguish between high and low scoring respondents.

2-4-6 internal consistency coefficient

The use of internal consistency is the most common and widely used method among researchers in constructing and preparing psychological and educational tests

The researcher extracted the internal consistency index by relying on the simple correlation coefficient (Pearson's) between each item score and the total scale score, the item score with the total domain score, the total domain score with the total scale score, for all members of the sample of (189) players, while ensuring internal consistency through the following

First: The Correlation between Item Scores, Domain Scores, and the Total Scale Score

Perceived Self-Efficacy

To examine the internal consistency of the perceived self-efficacy scale, the correlation between each individual item score and both the total domain score and the overall scale score was calculated. Pearson's simple correlation coefficient was used to determine the strength and significance of these relationships. The analysis was conducted on the preparation sample, which consisted of (189) athletes.

The correlations were computed after excluding the non-discriminatory items identified through the extreme group analysis. The results indicated that all remaining items showed statistically significant correlations with the total scale score. Specifically, the calculated correlation coefficients for all items exceeded the tabulated critical value of (0.195) at a degree of freedom of (187).

Moreover, all significance levels were below (0.05), confirming the statistical significance of these correlations. This finding supports the internal consistency of the perceived self-efficacy scale and indicates that each item contributes meaningfully to measuring the construct.

Psychological Resilience

A similar procedure was followed to assess the internal consistency of the psychological resilience scale. Pearson's correlation coefficient was calculated between each item score and the total score of the domain and the overall scale, following the exclusion of the non-discriminatory items identified through the extreme group comparison.

The analysis revealed that all item–total correlations were statistically significant. The computed correlation values for all items were greater than the critical tabulated value of (0.195) at (187) degrees of freedom. In addition, all associated significance levels were less than (0.05). These results indicate a satisfactory level of internal consistency and confirm that the items of the psychological resilience scale are appropriately aligned with the construct being measured.

2-4-7 Psychometric properties of the scale

To find and calculate the standard psychometric properties, which in turn are important and essential tools for building psychological tests and scales, the more evidence there is of these calculated properties for the scales that indicate their accuracy and ability to measure what they were designed to measure, and thus the greater the possibility of relying on them in measuring the trait for which they were designed. Among the most important standard characteristics of a scale, agreed upon by experts, are validity and reliability, as these are .8 essential for the accuracy of the scores obtained from the scales.

Amer Saeed Al-Khaikani and Ayman Hani Al-Jabouri; **source previously mentioned**, p. ⁸⁾
.195

2-4-7-1 Validity of the Scale

To ensure the validity of the two scales adopted in the study, the researcher relied on two primary approaches to establish their psychometric soundness:

First: Content Validity (Expert Judgment)

Content validity was established by presenting the scale items to a panel of experts and specialists in sports psychology and educational psychology. The experts were asked to evaluate the appropriateness of the items, the clarity of wording, and the extent to which each item accurately represented the domain to which it belongs.

The purpose of this procedure was to verify that the items adequately covered the theoretical dimensions of the constructs being measured. Based on the experts' feedback, necessary modifications were made to some items to enhance clarity and relevance. Only the items that received approval regarding their suitability and representativeness were retained for further statistical analysis.

Second: Construct Validity (Construct-Related Evidence)

Construct validity was examined through statistical procedures applied to the scale items. This included analyzing the discriminatory power of each item using the extreme groups method, whereby items demonstrating acceptable and statistically significant discrimination were retained.

In addition, internal consistency indicators were calculated to support the construct validity of the scales. This involved determining:

- The correlation between each item score and the total score of its respective domain.
- The correlation between each item score and the overall scale score.
- The correlation between the total domain scores and the total scale score.

These procedures provided empirical evidence that the items were coherently related to their intended domains and to the overall construct, thereby supporting the structural integrity and validity of the scales.

2-4-7-2 Scale reliability

In order to verify the high degree of reliability of the perceived self-efficacy scale, the researcher adopted the following two reliability methods

First Split-Half Method:

This method is done by relying on two scores for each laboratory, as the purpose of the two scores is to divide the scale into two equivalent parts. The researcher divided the items of each scale into two parts (odd items and even items, each of which represents a group), and this method is represented in providing us with a scale that is consistent with regard to examining the content .⁽⁹⁾

: Second: Cronbach's alpha coefficient method Second: Cronbach's Alpha Coefficient

- The researcher also employed another method for estimating reliability, namely **Cronbach's alpha coefficient**, which is considered by many specialists in psychological measurement to be one of the most accurate and valid methods for estimating reliability compared with other commonly used methods. Cronbach's alpha reflects the degree of **internal consistency and homogeneity** among the items of a single scale or domain in measuring responses from the research sample. This method depends on the consistency of an individual's performance across items and indicates the strength of the intercorrelations among the scale items, thereby providing a robust estimate of the reliability coefficient.

Perceived self-efficacy

- Split-Half Reliability:

Hussein Hamza Jawad; The reality of school bullying and sports culture among secondary ⁹⁾ school students in the city of Hilla, Master's thesis, College of Physical Education and Sports .Sciences, University of Babylon, 2018, p. 85

- The researcher calculated split-half reliability by dividing the scale items into two equal halves: **odd items (18 items)** and **even items (18 items)**. Prior to computing the correlation, the variances of the odd and even items were calculated and tested using the **F-test** to ensure homogeneity between the two halves. The calculated F-value (**3.328**) was compared with the tabulated value (**4.197**) at a significance level of **0.05** and degrees of freedom (**187–187**). The result was not statistically significant, indicating homogeneity of variance between the odd and even items.

- Subsequently, the researcher computed **Pearson's correlation coefficient** for each of the five domains of the scale, as well as for the scale as a whole. The split-half reliability coefficient reached **0.770**. To obtain the full-test reliability, the **Spearman–Brown prophecy formula** was applied, yielding a reliability coefficient of **0.811**, which is considered a good and relatively high value, indicating acceptable reliability of the scale.

- **Cronbach's Alpha Coefficient:**

- The researcher also calculated **Cronbach's alpha** for the five domains of the perceived self-efficacy scale, as well as for the total scale. The alpha coefficient for the total scale was **0.877**, indicating that the scale possesses a high level of internal consistency and reliability.

❖ **:Psychological resilience**

Split-Half Reliability:

Split-half reliability for the psychological resilience scale was calculated by dividing the items into two equal halves: **odd items (22 items)** and **even items (22 items)**. Before calculating the correlation, the variances of the odd and even items were tested using the **F-test** to ensure homogeneity between the two halves. The calculated F-value (**1.326**) was compared with the tabulated value (**4.197**) at a significance level of **0.05** and degrees of freedom (**187–187**). The result was not statistically significant, indicating homogeneity of variance between the two halves.

The researcher then computed **Pearson’s correlation coefficient** for each of the five domains of the scale, as well as for the total scale. The split-half reliability coefficient was **0.669**. After applying the **Spearman–Brown formula** to estimate the full-test reliability, the coefficient increased to **0.741**, which represents a good and relatively high level of reliability.

Cronbach’s Alpha Coefficient:

Cronbach’s alpha was also calculated for the six domains of the psychological resilience scale, as well as for the total scale. The alpha coefficient for the total scale was **0.812**, indicating that the scale demonstrates good internal consistency and reliability

❖ 2-4-8 Final Form of the Study Scales

After the researcher completed all the procedures related to the scientific foundations and steps required to build and prepare the study scales (perceived self-efficacy, psychological resilience) by relying on the statistical methods related to the preparation process, the study scale became ready and in its final .form. See Appendix No(14) ,(15) and (16) for its use and application to the .sample of preparation

2-5 Statistical methods used in the research

SPSS .to process the data software was used

3- Presenting and discussing the results

**3-1 Presenting the results of the study measures (perceived self-
 . (efficacy, psychological resilience**

Table (6)

Means, standard deviations, hypothetical means, and calculated t-values for the research sample

No .	Variable	Sampl e Size	Mean	Standard Deviati on	Hypothetic al Mean	Calculat ed t- value	Significan ce Level	Significan ce
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1	Perceived Self-Efficacy	176	136.312	11.090	108	33.868	0.000	Significant
2	Psychological Resilience	176	173.517	11.233	132	41.032	0.000	Significant

The high statistical significance of both variables (perceived self-efficacy and psychological resilience) reflects the presence of a robust psychological structure among track and field athletes, as self-efficacy is one of the most important factors explaining psychological resilience. The higher the athlete's perception of their ability to achieve and control, the greater their ability to cope with psychological pressures and difficulties.

These results indicate that perceived self-efficacy acts as a psychological protective mechanism, enhancing psychological resilience and contributing to sustained high performance, especially in individual sports that rely on independence and personal responsibility.

The results also confirm the importance of integrating psychological programs into the training process, especially programs that aim to develop self-confidence, control emotions, and positive thinking, due to their active role in enhancing psychological resilience among athletics players.

3-2 Presenting the results of the relationship between perceived self-efficacy and psychological resilience among track and field athletes in Iraq

Table (7)

Correlation coefficients between perceived self-efficacy and psychological resilience

Variables	Type of Correlation	Correlation Coefficient	Significance Level	Significance
Psychological Resilience	Simple	0.661	0.000	Significant

Table (7) shows the results of the correlation coefficient between perceived self-efficacy and psychological resilience among athletics players in Iraq, where

the calculated correlation coefficient reached(0.661) which is a simple positive , correlation, at a significance level of(0.000) which indicates that the , relationship is statistically significant.

This result indicates a relatively strong positive correlation between perceived self-efficacy and psychological resilience; that is, the higher the perceived self-efficacy of track and field athletes, the higher their psychological resilience. This reflects the fact that an athlete's awareness of their abilities and competence in controlling performance and achieving results directly contributes to enhancing their capacity to cope with psychological pressures, deal positively with setbacks, and maintain emotional balance in competitive situations.

This relationship can be explained by the fact that perceived self-efficacy is one of the most important psychological determinants that forms the cognitive and emotional basis of psychological resilience. A player who is confident in their abilities is better able to interpret pressures as challenges that can be overcome, rather than threats that lead to withdrawal or psychological breakdown. Furthermore, high self-efficacy helps the player use effective coping strategies such as emotional regulation, problem-solving, and perseverance, all of which are essential components of psychological resilience .

Bandura s theoretical framework, which posits that self-efficacy ' influences how an individual thinks, feels, is motivated, and responds to stress, making it a pivotal element in building resilience. These results also corroborate Connor and Davidson's assertion that resilience is closely linked to self-confidence, self-control, and positive coping mechanisms.

From a sporting perspective, the nature of athletics – as individual sports that rely on self-achievement and personal responsibility – promotes the correlation between self-efficacy and psychological resilience; as the athlete is constantly exposed to the pressures of competition, achieving results, and

overcoming injuries or failures, which makes self-efficacy a crucial factor in maintaining high performance and standing firm against psychological challenges.

Therefore, this result confirms that developing perceived self-efficacy among athletics players is a key entry point for enhancing psychological resilience, which calls for the attention of coaches and specialists in sports psychology to include psychological preparation programs that focus on building self-confidence, promoting successful experiences, and developing psychological adaptation skills.

Extracting the values of the regression equation (model) for track 3-4 and field athletes

Table (8)
 Regression coefficients and significance of the model parameters

Model	Coefficients	T value	Statistical significance
	Type of coefficient	Coefficient value (Unstandardized)	Standard error
Constant	A	17.526	12.816
Psychological Resilience	B	0.232	0.095

.Table No(8) shows The values of the regression equation coefficients and the significance of the model coefficients, which explain the contribution of **psychological resilience** to predicting **perceived self-efficacy** among track and field athletes.

The results in the table showed that **the constant(A)** amounted to (17.526) with a standard error of ,(12.816) and the calculated value of ,(T) amounted to (4.686) at a significance level of(0.000) which indicates that the constant is **statistically significant** , and expresses the value of perceived self-efficacy when the value of psychological resilience is equal to zero.

The results also showed that the non-standard regression coefficient(**b1**) The coefficient for the psychological resilience variable was(0.232) with a , standard error of(0.095) while the calculated t- value was (2.447) at a significance level of(0.018) which is statistically significant. This indicates , that psychological resilience contributes positively to predicting perceived self-efficacy, as every one-unit increase in psychological resilience corresponds to a (0. 232) increase in perceived self-efficacy .

As for the non-standard regression coefficient(**B2**) It reached(2.315) , with a standard error of(0.043) and the calculated value of ,(T) reached (5.297) at a significance level of(0.000) which indicates its high statistical significance , and confirms the explanatory power of the statistical model used.

Beta values indicate that psychological resilience is an active and influential variable in explaining the change in perceived self-efficacy among track and field athletes.

Based on the values extracted from the table, **the regression equation can be formulated** as follows:

$$\text{Perceived self-efficacy} = 17.526 + (0.232 \times \text{psychological resilience})$$

This equation shows that psychological resilience contributes directly to raising the level of perceived self-efficacy, reflecting the predictive relationship between the two variables.

The significance of the regression coefficients confirms that psychological resilience is a crucial psychological variable capable of predicting perceived self-efficacy among track and field athletes. Athletes with high psychological resilience are more confident in their abilities, better able to control their emotions, and more adept at dealing with psychological and competitive pressures, which directly impacts their perception of self-efficacy.

These results are consistent with **Bandura 's theoretical framework**. He emphasized that self-efficacy is not built in isolation from emotional and cognitive experiences, but is directly influenced by an individual's ability to

cope with challenges and pressures. This aligns with what **Connor & Davidson indicated**. Psychological resilience is one of the most important psychological determinants that support self-confidence and continuity in performance.

From a practical standpoint, these results reflect the importance of including psychological preparation programs aimed at developing psychological resilience among athletics players, as this has a direct impact on enhancing perceived self-efficacy, improving athletic performance levels, and ensuring psychological stability during competitions.

4- Conclusions and recommendations

Conclusions

- 1- Iraqi track and field athletes have a high level of perceived self-efficacy, as the arithmetic mean outperformed the hypothetical mean by a statistically significant difference, indicating that the athletes have high confidence in their ability to perform and control the demands of training and competition
- 2- The study results showed that track and field athletes possess a high level of psychological resilience, reflecting their ability to adapt positively to psychological and competitive pressures, endure failures, and maintain emotional stability during competitions.
- 3- The results revealed a statistically significant positive correlation between perceived self-efficacy and psychological resilience, confirming that a player's high perception of self-efficacy is associated with a high level of psychological resilience.
- 4- The results of the regression analysis proved that psychological resilience is an effective predictive variable in explaining perceived self-efficacy among athletics players, as it contributed positively and statistically to predicting the level of self-efficacy.
- 5- The results of the regression equation confirm that enhancing psychological resilience in athletics players leads to a tangible increase in the level of

perceived self-efficacy, which highlights the practical importance of psychological resilience in the athlete's psychological development.

- 6- The results indicate that perceived self-efficacy and psychological resilience together form an integrated psychological structure that contributes to supporting athletic performance, continuity in training, and facing competitive challenges in athletics.

Recommendations

- 1- Adopting **systematic psychological preparation programs** within the training units for athletics players, focusing on developing **perceived self-efficacy** and enhancing **psychological resilience**, given their active role in improving athletic performance and psychological stability.
- 2- Coaches should be directed to use **modern psychological strategies**, such as promoting successful experiences, providing positive feedback, and setting realistic goals, as these have a direct impact on raising the perceived self-efficacy of players.
- 3- Attention should be given to developing **psychological resilience** by training players in skills to cope with stress, control emotions, and manage failure and competitive setbacks, especially at different age levels.
- 4- Involving **sports psychology specialists** within the training staff of clubs and national teams in athletics, with the aim of diagnosing psychological variables and building scientifically based psychological intervention programs.
- 5- Utilizing the results of the regression equation to **predict the perceived level of self-efficacy** among athletics players, by focusing on psychological resilience as an important predictive variable in psychological preparation.
- 6- The use of **standardized psychological measures** of perceived self-efficacy and psychological resilience on a regular basis to assess the psychological

state of the players, and to monitor their development during the training season.

- 7- Including the concepts of self-efficacy and psychological resilience within **the training programs** and courses approved by the Iraqi Athletics Federation, to raise the level of psychological awareness among coaches.

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