



The Relationship Between Psychological Skills and Achievement Levels Among Students in the Faculty of Physical Education and Sports Sciences in Handball

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General Background: Athletic performance depends on physical, technical, tactical, and psychological preparation, particularly in sports requiring rapid responses under competitive pressure. **Specific Background:** Handball students encounter changing situations that require concentration, emotional control, confidence, anxiety management, mental imagery, and achievement motivation. **Knowledge Gap:** Previous research had not specifically examined the relationship between psychological preparation and performance outcomes among students from different academic levels within the selected college context. **Aims:** This study evaluates psychological skill levels, examines their relationship with handball performance, and compares students from the first, second, and fourth academic years. **Results:** A descriptive correlational design involved 75 students, including 15 participants in the pilot study and 60 in the main study. The adopted instrument contained 24 items distributed across visualization, relaxation, concentration, anxiety management, self-confidence, and athletic achievement motivation. Test–retest reliability reached 0.88, while dimension coefficients ranged from 0.85 to 0.87. First-year students recorded the highest reported psychological stress level at 73%, compared with 42% among second-year students and 21% among fourth-year students. The comparison between the first and second years was statistically significant ($t = 3.2$), whereas comparisons involving the fourth year were reported as nonsignificant. The study concluded that selected psychological capacities improved more than others and were strongly associated with performance outcomes. **Novelty:** The research presents a stage-based comparison linking six psychological dimensions with practical handball performance. **Implications:** Academic programs should integrate structured mental preparation to strengthen confidence, concentration, emotional regulation, and competitive readiness.

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INTRODUCTION

Modern sports are a competitive field that relies not only on physical, technical, and tactical aspects, but also on the psychological aspect, which has become a pivotal and decisive factor in achieving success and reaching advanced levels of performance. Scientific studies in sports psychology have proven that possessing psychological skills such as emotional control, attentional focus, self-confidence, stress management, goal setting, and mental visualization can make a significant difference between individuals with equal physical and technical abilities.

Handball, as a fast-paced and multi-variable game, is of particular importance in this context (Rateb, 2000). During a match, players are exposed to constantly changing and stressful situations that require quick decisions and a high degree of psychological adaptation. Therefore, it is essential to study the relationship between these psychological skills and the level of technical achievement among players, especially students, who represent a significant segment of practicing players. "The College of Physical Education and Sports Sciences", as an academic and training environment, focuses on preparing athletic personnel. Therefore, studying this relationship among its three-year students (first, second, and third year) in handball helps in understanding the development of psychological skills with academic and training progress, and how this is reflected in their performance levels.

Research Problem

Through field observations of students at the College of Physical Education and Sports Sciences during their handball practice, and through the results of their practical exams, the researcher observed a clear disparity in performance levels among students, even those with similar physical and basic skill levels. This disparity, according to preliminary indicators, may be due to differences in their psychological capabilities. Some students demonstrate high self-confidence and the ability to concentrate under pressure, while others suffer from anxiety and weak emotional control, which negatively affects their performance in crucial situations such as exams or training matches.

Practical observations indicate that students in the second and third years may exhibit greater psychological maturity compared to first-year students. However, to the best of the researcher's knowledge, no previous study has specifically measured the relationship between psychological skill levels and achievement levels among students in these three years in handball.

Therefore, the research problem is defined by the following questions:

1. What is the level of psychological skills (such as self-confidence, anxiety management, focus, and mental imagery) among students in "the three years of the College of Physical Education and Sports Sciences in handball"?
2. What is the level of achievement (skill-based and tactical) among students in the three years in handball?

3. Is there a statistically significant correlation between psychological skills and achievement levels among students in each year?
4. Do the levels of psychological skills and achievement levels differ according to the year of study (first, second, and third)?

Study Aims

To reveal the nature of this relationship and provide practical indicators that can help faculty members and trainers develop psychological training programs within the academic and training curriculum to raise student achievement levels.

Research Areas

- a. Human Scope: Students at all academic levels in the College of Physical Education and Sports Sciences, University of Maysan.
- b. Spatial Scope: Sports halls in the College of Physical Education and Sports Sciences, University of Maysan.
- c. Temporal Scope: Academic year 2025-2026.

METHOD

A. Research Methodology

This research employs a descriptive approach using correlational studies for the following reasons:

1. The descriptive approach aims to describe the phenomenon as it exists in reality and analyze the relationships between its variables. It is the most suitable method for studying the relationship between psychological skills (independent variable) and achievement level (dependent variable).
2. Correlational studies allow for the detection of the presence or absence of a correlation between the two variables, as well as determining their direction (positive or negative) and strength, without the need for experimental intervention or manipulation of the variables.
3. This approach also allows for comparison between three independent groups (first, second, and third-year students) using appropriate statistical tests such as one-way analysis of variance (ANOVA).

B. Research Sample

"The research sample consisted of (75) students from the College of Physical Education and Sports Sciences / University of Maysan, comprising (3) academic years, distributed as follows: (35) students from the first year, (20) students from the second year, and (20) students from the fourth year". Their percentage represented (19.18%) of the research population, which totaled (367) students across all academic years, as shown in the following table:

[Table 1. About here.]

C. Procedure

1. Pre-Field Phase (Preparation and Setup)
2. Selecting data collection tools (scales and tests) and

verifying their psychometric properties (validity, reliability, and objectivity).

Step One: Administering the Psychological Skills Scale

1. Coordinating with the college administration and the professors supervising the educational units to schedule a suitable time (during lectures).
2. Distributing the psychological skills questionnaire to the sample group (students from each of the three academic years separately) after explaining the objective and instructions.
3. Clarifying the answer instructions: (reminding students to answer truthfully, emphasizing that there is no right or wrong answer, and that the data will be used for scientific purposes only).
4. Ensuring that all items have been answered, then collecting the questionnaires immediately after completion (expected time: 15-20 minutes).
5. Scoring the questionnaire and recording the scores in preliminary tables for each academic year.
6. Recording the results in tabulation tables for each academic year.

D. Data Collection Tools

The tools used in this research are divided into three main sections:

1. Psychological Skills Measurement Tools

a. Psychological Skills Questionnaire for Athletes

Tool Description: A standardized and validated questionnaire (scale) that measures the level of psychological skills in athletes, and is administered to students at all three educational levels.

2. Psychological Skills Scale in Sports

Mental skills assessments to measure some important mental (psychological) aspects of athletic performance (Alawi, 1998).

It was designed by Bell, John Albinson, and Christopher Shambrook, and was adapted and modified by Mohammed Hassan Alawi to measure some important psychological aspects of athletic performance, namely: visualization ability, relaxation ability, concentration ability, anxiety management ability, self-confidence, and athletic achievement motivation. The scale originally comprised 24 items. After being reviewed by experts to determine its suitability and validity for the research sample, the experts agreed on its suitability. The scale includes 24 items and six dimensions, each represented by four statements, as follows: Visualization ability, which includes the following statements (19, 13, 7, 1), all positive except for statement (13), which is negative.

- a. The ability to relax, which includes statements (20, 14, 8, 2), all positive except for statement (8), which is negative.
- b. The ability to focus attention, which includes

statements (21, 15, 9, 3), all negative.

- c. The ability to cope with anxiety, which includes statements (22, 16, 10, 4), all negative.
- d. Self-confidence, which includes statements (23, 17, 11, 5). Statements (17, 5) are positive, while (23, 11) are negative.
- e. Achievement motivation in sports, including statements (24, 18, 12, 6), all point in the direction of the dimension.

The athlete answers statements on a six-point scale (1 indicates that the statement does not apply to you completely, 2 indicates that the statement applies to you very little, 3 to a little, 4 to a moderate degree, 5 to a large degree, and 6 to a very large degree). These scores are in the direction of the dimension, while statements in the opposite direction are (1=6, 2=5, 3=4, 4=3, 5=2, 6=1).

The scores for each dimension are added together, with a minimum score of 4 and a maximum score of 24. The total minimum score for the scale is 24, and the maximum score is 144.

E. Suggested Scale Axes

Suggested Scale Axes: Axis | Number of Items |
Example of Scale Items | Self-Confidence | 8 Items | "I am confident in my ability to perform basic handball skills under Stress

1. Anxiety Management (8 items): "I feel extremely nervous before the handball practical test" (reverse)
2. Attentional Focus (7 items): "I forget past mistakes and focus on the current skill while playing"
3. Mental Visualization (7 items): "I imagine myself executing the shot correctly before actually doing it"
4. Goal Setting (6 items): "I set daily and weekly goals to improve my handball skills"

Total: 36 items

Answer Scale: Five-point Likert Scale

- 5 points = Always.
- 4 points = Often.
- 3 points = Sometimes.
- 2 points = Rarely.
- 1 point = Never.

Scale Sources

- The revised Mahoney Psychological Skills Scale (Mahoney, 1987).

F. Scientific Specifications of the Scale

1. Scale Validity

To ensure the scale's validity, it was presented to a group of specialists in the fields of measurement and evaluation, special education, and sports psychology. The experts unanimously agreed that the scale items were completely suitable for the research sample, with a 100% agreement on all items. Based on this, the test's validity was confirmed, and this scale

was adopted for the research. - See Appendix No. (1). After collecting the forms, the researcher concluded that the scale had face validity. Eble (1972) states, "In this field, the best way to ensure the validity of the instrument is for a number of specialists to determine the extent to which the items cover and encompass the aspects of the trait to be measured."

2. Reliability

A reliable scale gives the same results if the object is measured repeatedly. To obtain the scale's reliability, the researcher distributed it to a sample of (15) first-year students as a preliminary test. The same test was then repeated two weeks later with the same sample. "The period between the first and second administrations of the instrument should not exceed two to three weeks" (Al-Gharib, 1970). After collecting the data, it was statistically analyzed using Pearson's simple correlation coefficient. The calculated (r) value was (0.88), indicating a high correlation and a reliability coefficient for the scale.

[Table 2. About here.]

3. Objectivity

This means removing the examiner's opinion or personal judgment from the marking process, ensuring that the examinee's mark does not depend on who marks their paper, and that their mark does not vary depending on the examiner. It also means that the answer is predetermined so that no two people would disagree on it, as is the case with objective questions. Objectivity is a fundamental characteristic of a good test; its reliability and validity depend on it. It is essential for all exams, both essay and modern, but its necessity is even greater for essay exams. This is because essay exams are subjective, meaning their design and marking are influenced by the opinions and biases of the examiner.

4. Pilot Experiment

To determine the suitability of the tools and equipment used and to uncover the most important work processes in order to arrive at the optimal method, attempting to enhance the positives and address the negatives during the implementation of the research procedures, it was necessary to conduct a pilot experiment, which is a "small-scale experiment similar to the real experiment" (Mahjoub, 2002).

A pilot study was conducted on October 14, 2025, with 15 first-year students taking a handball exam. These students represented 4.28% of the research population. The test was then repeated by administering the scale to the same sample under the same conditions, with the teacher

re-administering the exams.

The pilot study was conducted to achieve several objectives, including: determining the suitability of the scale for the research sample; assessing the sample's understanding of the scale's terminology; and identifying any obstacles encountered by the researcher in order to address them and assist other researchers. After implementing the research procedures and confirming the scale's suitability for the research sample, it became necessary to extract the scientific basis of the scale.

5. Main Experiment

After reviewing the data obtained from the pilot study, the researcher conducted the main experiment from October 21, 2025, to November 6, 2025, at the sports fields of the College of Physical Education and Sports Sciences, Al-Qadisiyah University. This followed the finalization of the research instrument and the selection of the main sample, consisting of (60) students.

RESULTS AND DISCUSSION

A. Presentation, Analysis, and Discussion of Results

Regarding the first objective of the research, the total score for each student on the scale was calculated. If the calculated score was higher than the theoretical average of (84), this indicated that the student had high psychological stress. If the score was equal to or lower than the theoretical average, it indicated that the student had low psychological stress.

[Table 3. About here.]

The table above shows the total values for stages (one, two, and four) and their means for stress. The total values for stage one were (95) with a mean stress level of (73%). The total values for stage two were (67) with a mean stress level of (42%). As for stage four, the total values were (38) with a mean stress level of (21%).

[Table 4. About here.]

The table above shows the statistical significance among students of the College of Physical Education at Maysan University in the first, second, and fourth years (grades 1-4) in handball. It indicates a statistically significant level of stress only among first-year students, while the statistical significance is random for second and fourth-year students. This suggests that first-year students experience high levels of psychological stress, which is attributed to their limited practice of the sport, low self-confidence, hesitation in completing tasks, inability to control their bodies, scattered thoughts, and poor attention span. In contrast, second and fourth-year students exhibited lower levels of psychological stress due to their participation in the sport and their high level of skill in practical exams.

CONCLUSION

1. Some psychological skills, namely (achievement motivation, attention, anxiety, and self-confidence), showed improvement over other psychological skills.
2. Psychological skills are strongly correlated with achievement.

Recommendations

Further research should be conducted to study the relationship between psychological skills and achievement in individuals with disabilities through other sports and athletic activities.

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Conflict of Interest Statement: The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

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LIST OF TABLE

1. Research Sample and Population Distribution	2
2. Reliability Coefficient Values for the Psychological Skills Scale	4
3. Total Sample and Means of Psychological Stress	4
4. t-Values and Their Significance	4

Table 1 / Research Sample and Population Distribution

No	Stages	Sample number	Purpose used	Total number	Percentage
1	The first	15 students	Exploratory Experiment	367	4.28
2	The first	20 students	Main Experiment	367	4.28
3	Second	20 students	Main Experiment	367	4.28
4	Fourth	20 students	Main Experiment	367	4.28
Total		75 students		367	17.13

Table 2 / Reliability Coefficient Values for the Psychological Skills Scale

No	Psychological skills	Steadfastness
1	Visualization skills	0.87
2	Relaxation skills	0.86
3	Concentration skills	0.85
4	Anxiety management skills	0.87
5	Self-confidence	0.86
6	Athletic achievement motivation	0.87

Table 3 / Total Sample and Means of Psychological Stress

Academic stages	Total values	Means of psychological stress
First	95	0.73
Second	67	0.42
Fourth	38	0.21

Table 4 / t-Values and Their Significance

Stages	Calculated value(t)	Tabulated value(t)	Semantic significance
First and second	3.2	2	Sig.
First and fourth	1.9	2	Non-sig.
Second and fourth	1.4	2	Non-sig.

Appendix 1 / Psychological Skills Form Presented to Experts

No	Phrase	1	2	3	4	5	6
1	I can visualize any motor skill clearly in my mind.	1	2	3	4	5	6
2	I know very well how to relax during crucial moments in a match.	1	2	3	4	5	6
3	Many thoughts run through my mind while I'm participating in the match.	1	2	3	4	5	6
4	I often feel the possibility of losing in the competition I participate in.	1	2	3	4	5	6
5	I participate in all competitions, and my ideas for them include self-confidence.	1	2	3	4	5	6
6	Before participating in the competition, I prepare myself mentally to exert my utmost effort.	1	2	3	4	5	6
7	In my imagination, I can visualize myself performing the movements without actually performing them.	1	2	3	4	5	6
8	My muscles are tense before I enter the competition.	1	2	3	4	5	6
9	I am bothered by my inability to concentrate during crucial moments in the match.	1	2	3	4	5	6
10	I fear I won't play well during the match.	1	2	3	4	5	
11	When the result of the match is not in my favor, my self-confidence decreases as the match nears its end.	1	2	3	4	5	6
12	It's always best to participate in sensitive and important matches.	1	2	3	4	5	6
13	It is difficult for me to imagine in my mind what I will do in terms of physical performance.	1	2	3	4	5	6
14	It's easy for me to relax my muscles before participating in a competition.	1	2	3	4	5	6
15	My problem is that I lose the ability to concentrate at certain times during the match.	1	2	3	4	5	6
16	When I participate in a competition, I feel more anxious.	1	2	3	4	5	6
17	Throughout the competition period, I was able to maintain a high degree of self-confidence.	1	2	3	4	5	6
18	I can always motivate myself during the match.	1	2	3	4	5	6
19	I always visualize my performance in the competition I will participate in.	1	2	3	4	5	6
20	One of my most obvious qualities is my ability to quickly calm and relax myself before participating in a sporting competition.	1	2	3	4	5	6
21	Events or noises occurring outside the stadium help to distract me from the game.	1	2	3	4	5	6
22	I feel annoyed when I make some mistakes during competition.	1	2	3	4	5	6
23	I suffer from a lack of confidence in performing some motor skills during competitions.	1	2	3	4	5	6
24	I always feel that I am giving my absolute best throughout the competition period.	1	2	3	4	5	6