

## A COMPARATIVE STUDY IN (RESILIENCE AND IMMUNITY) PSYCHOLOGICAL AND THE LEVEL OF SKILLFUL PERFORMANCE IN SOME BALL SKILLS IN RHYTHMIC GYMNASTICS BETWEEN STUDENTS OF THE SECOND AND THIRD STAGES

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### Abstract

The purpose of this paper is to identifying the degree of psychological resilience among students of the second and third stages of the College of Physical Education and Sports Sciences / University of Baghdad , and identifying the degree of psychological immunity among female students in the second and third stages of the College of Physical Education and Sports Sciences / University of Baghdad. The researcher used the descriptive survey method because it suits the nature of the research problem. The research sample was selected from female students in the second and third stages in the College of Physical Education and Sports Sciences / University of Baghdad for the academic year 2021-2022 AD. The sample consisted of (135) female students, with (60) female students from the second grade, (70) female students from the third grade, and (5) female students, the sample of the exploratory experiment. The research sample was deliberately chosen after the injured, absent and failing students were excluded. One of the most important results reached by the researcher is that: There were no differences between the students of the second and third stages in psychological resilience, it was not found that there are any differences between the students of the second and third stages in psychological immunity, and that the students of the fourth stage were better than the students of the second stage, their practices and the level of their skillful performance of ball skills in rhythmic gymnastics. One of the most important recommendations recommended by the researchers is that: Directing female teachers of rhythmic gymnastics at the College of Physical Education and Sports Sciences at the University of Baghdad to design and develop training programs that improve the level of skillful performance of female students in all rhythmic gymnastics skills , and preparing programs for students of the second and third stages of the College of Physical Education and Sports Sciences at the University of Baghdad to develop, improve and develop their psychological resilience.

**Keywords:** Sports psychology. Sports exercise. Ball skills. Gymnastics. Students

### Introduction

Scientific progress in all areas of life has had a clear impact on the development of these areas, and physical education, being an integral part of general education, has also been affected by this progress. Therefore, most of the processes and activities in the educational process are employed in an effective and direct contribution to achieving educational, educational, psychological and social growth processes in order to achieve an acceptable positive level of good academic achievement and effective educational performance that contributes to building a generation with efficient academic achievement, and sports psychology is one of the sciences The task in the

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field of sports in order to study and analyze all the psychological problems that students are exposed to and that affect performance in order to reach the best levels if they are controlled, and the psychological aspect appears, on top of which is psychological resilience, which is one of the characteristics of normal behavior, since the normal person is the one who has the ability to find alternatives and modify his behavior by hardening and stereotyping, "Psychological resilience is the individual's ability to adapt successfully and bring about the necessary changes to meet challenges, and facing challenges and difficulties are important indicators of the individual's enjoyment of psychological resilience." (Dowrick, C., et., al. 2002) , it also shows psychological immunity that has a major role if it is controlled in the skillful performance of female students in rhythmic gymnastics, as it is one of the psychological aspects that must be taken care of and taken care of along with the skill requirements represented by some ball skills in rhythmic gymnastics, as the failure to control it It will lead to weak control over emotions, actions and behavior, hence the role of psychological resilience and psychological immunity in determining the student's ability to adapt to the difficulties and stressful situations that she faces while performing the ball skills in rhythmic gymnastics during the lesson.

The sport of rhythmic gymnastics still needs many studies that deal with various methods and the most recent ones, which contribute to developing the level of technical performance and retaining skills as it is one of the individual games with multiple skills related at the same time and works to develop physical compatibility and prepare it for the correct preparation as well as its work in improving strength and developing Physical and motor abilities. Therefore, the rhythmic gymnastics lesson needs special requirements of psychological, physical, and motor abilities commensurate with the rhythmic gymnastics ball skills, which include rotations, swings, and various jumps, as well as the positions of balance required by these skills in their performance, which is commensurate with the age of the student in college so that she can perform various skills the ball is smooth.

The importance of the research lies in its attempt to identify the individual differences between the students of the second and third stages of the College of Physical Education and the Sports Sciences / University of Baghdad in both psychological resilience and psychological immunity and in some ball skills in rhythmic gymnastics.

### Research Problem

Students of the College of Physical Education and Sports Sciences / University of Baghdad face many situations, events and problems while practicing and performing ball skills in rhythmic gymnastics, which depends on the students' ability to deal with it and on what they possess of a protective system such as psychological resilience and psychological immunity that helps them contain negative experiences and attitudes, challenges and problems Which helps them to adapt their studies and improve their level of skillful performance with some movements of ball skills in rhythmic gymnastics, and despite the existence of many studies that dealt with mental abilities, the researchers, to the best of their knowledge, did not find a study that dealt with two psychological aspects, namely resilience and psychological immunity and knowing their impact on some skills The ball is in rhythmic gymnastics, so in the absence of a study that has dealt with resilience, psychological immunity, and some ball skills in rhythmic gymnastics, and an attempt to find out the differences between the students, so the problem of the study is limited to knowing the differences between students of the second and third stages in psychological resilience, psychological immunity, and some ball skills in rhythmic gymnastics at the Faculty of Physical Education and Sports Science/University Baghdad .

### Research Objective

- Identifying the degree of psychological resilience among students of the second and third stages of the College of Physical Education and Sports Sciences / University of Baghdad.
- Identifying the degree of psychological immunity among female students in the second and third stages of the College of Physical Education and Sports Sciences / University of Baghdad.
- Identifying the degree of some ball skills in rhythmic gymnastics among the students of the second and third stages of the College of Physical Education and Sports Sciences / University of Baghdad.
- Identifying the significance of the differences in psychological resilience, psychological immunity, and some ball skills in rhythmic gymnastics among students of the second and third stages of the College of Physical Education and Sports Sciences / University of Baghdad.

### Research Hypotheses

- There are no statistically significant differences in psychological resilience between students of the second and third stages of the College of Physical Education and Sports Sciences / University of Baghdad.
- There are no statistically significant differences in the psychological immunity between the students of the second and third stages in the College of Physical Education and Sports Sciences / University of Baghdad.
- There are statistically significant differences in some ball skills in rhythmic gymnastics between students of the second and third stages of the College of Physical Education and Sports Sciences / University of Baghdad.

### Research Fields

- Human field: Students of the second and third stages at the College of Physical Education and Sports Sciences / University of Baghdad for the academic year 2021-2022 AD.
- Time field: (14/1/2022) to (22/2/2022)
- Spatial field: Gymnastics Hall, College of Physical Education and Sports Sciences / University of Baghdad

### Research Methodology and Field Procedures

#### Research Methodology

The researcher used the descriptive survey method because it suits the nature of the research problem.

#### Community and sample research:

The research sample was selected from female students in the second and third stages in the College of Physical Education and Sports Sciences / University of Baghdad for the academic year 2021-2022 AD. The sample consisted of (135) female students, with (60) female students from the second grade, (70) female students from the third grade, and (5) female students, the sample of the exploratory experiment. The research sample was deliberately chosen after the injured, absent and failing students were excluded.

#### Data collection methods:

The researcher used the following tools: (Arabic and foreign references, the international information network (Internet), tests and measurements, personal interviews, a measure of psychological resilience, a measure of psychological immunity, ball skills tests in rhythmic gymnastics, a rubber ball number (4) with a diameter of (20.18) and its weight (400 gm) and according to legal specifications, a Sone camera, a form for evaluating ball skills in rhythmic gymnastics).

#### Steps to carry out the research:

In order to achieve the objectives of the research, the researcher used two tools, the first to measure psychological resilience (Abdel-Aziz and Nasr Ismail <sup>a</sup>, 2017), and the second to measure psychological immunity (Al-Shami and Zayed, 2022), in addition to some tests to measure ball skills in rhythmic gymnastics. The following is an explanation of the two scales and skill tests:

#### First, the measure of psychological resilience:

The measure of psychological resilience prepared by (Muhammad Abdel Aziz and Sakina Muhammad 2017 AD) quoting (Yahya Omar Shaaban 2012 AD) consists of (40) statements distributed over three dimensions, and each statement has a three-dimensional gradation for the answer (always, sometimes, never) and the dimensions are:

- Emotional dimension / it consists of (16) statements, which are (positive statements 1, 2, 3, 4, 5, 25, 33, 34, 38) and (negative statements 6, 7, 8, 19, 21, 35, 36).
- Mental dimension: It consists of (9) statements, which are (positive statements 10, 11, 23, 24, 39, 40, 41) and (negative statements 9, 12).
- Social dimension / and it consists of (15) statements, which are (positive statements 13, 14, 15, 16, 25, 26, 27, 29, 30, 31, 42, 43, 44, 45, 46) and there are no negative statements.

The response scores were distributed to the scale statements as follows:

- (1) Degrees never (for positive statements)
- (2) Degrees sometimes,
- (3) Degrees always.

- (4) Degrees never (for Negative statements)
- (5) Degrees sometimes,
- (6) Degrees always.

#### Second: Psychological Immunity Scale:

The psychological immunity scale prepared by (Hamdan Mamdouh and Muhammad Abdel Hamid 2022 AD) consists of three main systems, and each system has a set of dimensions, and each dimension has (5) a (single) paragraph, as follows:

1. The Observation and Advancement System: It includes (7) dimensions: (positive thinking, a sense of cohesion, a sense of control, a sense of growth and self-development, an orientation towards change and challenge, social control, and an orientation towards the goal).

2. The Implementation and Creativity System: It includes (5) dimensions: (creative self-concept, problem-solving, self-efficacy, social mobilization, and social creativity).

3. The self-execution system: It includes (4) dimensions: (synchronization, impulse control, impulse control, anger control).

According to these dimensions, the scale consists of (80) items (individual), and the grades have been assessed according to a graduated scale from (1) to (5), so that if the student chooses level (5), then the item is more compatible with it, and it is less compatible if it falls Select it at level (1).

#### Third: Ball skills in rhythmic gymnastics:

The curriculum for the subject of rhythmic gymnastics was approved and applied by the students of the third stage. As for the students of the second stage, tests were applied to them for the purpose of scientific research. Some ball skills were dealt with, which are (4) main skills with the ball tool (Hassoun, 2022), which are:

- Dribbling the ball from under the leg.
- The skill of throwing and receiving with the cat's jump.
- The skill of rotating the ball around the body with tingling.
- Skill in the form of 8 in front of the body above the head with the rotation of the body.

Note that the process of evaluating the ball skills in rhythmic gymnastics was done by photographing the skills used in the research and then presenting them to (5) arbitrators, which are (4) arbitrators and the chairperson of the arbitrators committee. Then use the following law to get the final score:

The final score = (the score of the chief arbitrator + the average of the remaining two scores) / 2.

#### Exploratory experience:

To verify the validity of the two scales that are nominated for application, the researcher conducted a pilot experiment on 4/1/2022 on a sample consisting of (5) female students in the College of Physical Education and Sports Sciences / University of Baghdad, representing (3) of them from the third stage students and two students from the second stage, and they were excluded from the sample. The main work in order to ensure the clarity of the paragraphs of the two scales and their suitability for the Iraqi environment and the work sample before starting the basic experiment, so the scientific bases of the two scales were extracted as follows:

#### First: validity of the two scales:

Validity is one of the most important psychometric characteristics that must be available in the psychological scale, "because validity refers to the ability of the scale to measure what is actually intended to be measured" (Eble, RL.. 1972), so the researcher presented the two scales to the experts to estimate the suitability of the two scales for the research sample. They all agreed 100% on the validity of the two scales, and thus the two scales are apparently valid.

#### Second, the stability of the two scales:

Stability is one of the important psychometric characteristics of psychological measures, so the researcher calculated the stability (the measure of psychological resilience) in three ways: the test and retest method, the split-half method, and the Cronbach alpha coefficient method. In the test and retest method, Pearson's simple correlation coefficient was used between the scores of the two applications. The calculated value was (0.836), and the value of its calculated significance level (Sig) of (0.000) is smaller than the value of the approved significance level of 0.05, which indicates that the scale is stable, as it is consistent with what was indicated. That the stability coefficient is

considered good if it is greater than (0.70)" (Grondland, N.E. 1981), As for the half segmentation method, the paragraphs were divided into two groups, the group of paragraphs that carry odd numbers and the group of paragraphs that carry even numbers, and by using Pearson's simple correlation coefficient between the degrees of odd paragraphs and the degrees of even paragraphs, the correlation coefficient was (0.842), and because this value represents the stability of half of the scale, so it was corrected using the (Spearman-Brown) equation, and the scale stability coefficient became (0.956), which indicates that the scale enjoys stability while using Cronbach's alpha coefficient, the calculated value reached (0.881), so the scale is considered to have a high stability coefficient.

As for the (Psychological Immunity Scale), it is stable in three ways as well, which are the test and retest method, the half-partition method, and the Cronbach alpha coefficient method. In the test and retest method, Pearson's simple correlation coefficient was used between the scores of the two applications, and the calculated value was (0.817), which is the value of the level of its calculated significance (Sig) amounting to (0.001) is smaller than the value of the approved significance level of 0.05, which indicates that the scale enjoys stability. As for the semi-partition method, the paragraphs were divided into two groups, the group of paragraphs that carry odd numbers and the group of paragraphs that carry even numbers, using the coefficient Pearson's simple correlation between the scores of the individual paragraphs and the scores of the even paragraphs was the correlation coefficient (0.804) and it was corrected using the (Spearman-Brown) equation. (0.8611) Therefore, the scale is considered to have a high stability coefficient, and due to the fact that the rhythmic gymnastic ball skills are among the vocabulary of the academic curriculum followed for the students, so the total It has good scientific foundations.

**Main experience:**

The researcher conducted the main experiment on 9/2/2022 on the main work sample of (135) students, with (60) students from the second grade and (70) students from the third grade, by first distributing the psychological resilience scale forms, then the forms were distributed they were tested for psychological immunity, and finally the rhythmic gymnastics ball skills were applied to them.

**Statistical methods:** The search data was processed through the Statistical Package for the Social Sciences (SPSS).

**Results and Discussion**

**Presentation and analysis of the results of psychological resilience, psychological immunity and ball skills in rhythmic gymnastics:**

The results will be presented and discussed in the light of the statistical data obtained from the research sample according to the variables adopted in the research in order to achieve the objectives and hypotheses of the research. Psychological level and the level of skillful performance of the ball skills in rhythmic gymnastics, through the use of (Kolmogorov-Smirnov) test (Salman. 2020), as shown in Table 1 (Table 1).

It is noted from Table 1 that all values of the (Kolmogrove - Smirnov) test for all variables of the study and for students in the second and third stages had a calculated significance level (Sig) greater than the value of the approved significance level of 0.05, which indicates that it is not statistically significant, meaning that the data follows the distribution Which makes it necessary for the researcher to use the (T) test to measure the significance of the differences.

**Presentation and analysis of the results of psychological resilience and psychological immunity:**

The researcher extracted the values of the arithmetic mean, standard deviations, the median, and the skewness coefficient value for the measures of psychological resilience and psychological immunity, as shown in Table 2 (Table 2).

From Table 2, it is clear that all the values of the skewness coefficients for the total score of the psychological resilience and psychological immunity scales were less than (+3), which indicates the homogeneity of the sample.

**Presenting and discussing the results of the (T.Test) test for the two scales (resilience and immunity) among the students:**

For the purpose of finding out the significant differences between the students of the second and third stages in the measures of psychological resilience and psychological immunity, the researcher used the (T. test) test for independent and unequal samples in number, as shown in Table 3, and it is noted that the value of (T) calculated for the two scales was of a level of significance calculated (Sig) respectively (0.472, 0.596), which is greater than the value of the approved significance level of 0.05, which indicates that there are no significant differences between the students of the second and third stages in the measures of psychological resilience and psychological immunity.

The researcher believes that the absence of significant differences between the students of the second and third stages in psychological resilience is due to the fact that the students of the two stages enjoy good psychological health and are able to achieve psychological and mental balance, through which they can control and control their emotions with high resilience, since the teachings include teaching them to adapt to difficulties And the stressful psychological situations that occur during the exercises during the lesson, that the result reached by the researcher is consistent with what was indicated by (Muhammad Abdel Aziz and Sakina Muhammad 2017) quoting (Sawsan Shaker 2008) that "psychological resilience is closely related to mental health, as There are some indicators of sound psychological health, such as compatibility and social responsibility, and also that the individual is characterized by resilience, as he is balanced in his life matters and moves away from extremism in judging matters and making decisions" (Abdel-Aziz and Nasr Ismail p. 2017).

The researchers believe that there are no significant differences between the students of the second and third stages in psychological immunity due to the fact that training the students during the lessons to develop their abilities, control their thoughts and modify their behavior leads to reaching the best level of skillful performance, as the skill of relaxation leads to the arrival of the students To the optimal level of arousal and reduce anxiety and physical and mental tension for them, which had a major role in improving the level of students for the second and third stages in psychological immunity, so there is no significant difference between the students of the two stages, that the result reached by the researcher is consistent with what was indicated by (Hamdan Mamdouh and Muhammad Abdul Hamid 2022) quoting (Essam Mohamed Zaidan 2013) "The individual's ability to protect himself from the potential causal effects of pressures, threats, risks, frustrations and psychological crises, and to get rid of them through psychological fortification by using self-resources and potentials inherent in personality such as positive thinking and creativity in problem-solving Self-control, equanimity, steadfastness, toughness, challenge, perseverance, effectiveness, optimism, resilience and adaptation to the environment" (5: 2022: 151) (Table 3).

**Table 1:** Shows the evaluating the Kolmogorov-Smirnov test for students of the second and third stages on the scales of resilience and immunity and the level of skillful performance of the ball skills in rhythmic gymnastics.

No.	Stage	Variables	Kolmogorov-Smirnov		
			Statistic	Df	Sig
	Second				
1		Psychological resilience	0.233	60	0.152
2		Psychological immunity	0.300	60	0.165
3		Dribbling the ball from the bottom of the leg	0.206	60	0.207
4		Throwing and receiving with the cat jumping	0.256	60	0.112
5		Spinning the ball around the body with tingling	0.199	60	0.114
6		On the Figure 8 in front of the body over the head with the body rotated	0.265	60	0.102
1	Third	Psychological resilience	0.194	70	0.221
2		Psychological immunity	0.253	70	0.233
3		Dribbling the ball from the bottom of the leg	0.181	70	0.131
4		Throwing and receiving with the cat jumping	0.238	70	0.116
5		Spinning the ball around the body with tingling	0.136	70	0.100
6		On the Figure 8 in front of the body over the head with the body rotated	0.186	70	0.106

**Table 2:** Shows the values of the arithmetic mean, standard deviations, the median, and the value of the skewness coefficient for the measures of psychological resilience and psychological immunity.

No.	Stage	Variables	Arithmetic mean	Standard deviation	Median	Skewness
1	Second	Psychological resilience	96.250	9.984	95.00	0.375
2		Psychological immunity	337.166	26.939	350.00	-1.429
1	Third	Psychological resilience	97.500	9.733	95.00	0.770
2		Psychological immunity	334.714	25.635	350.00	-1.788

**Table 3:** Arithmetic means, standard deviations, and (T) value calculated among female students in the psychological (resilience and immunity) scales.

No.	Variables	Stage	Arithmetic mean	Standard deviation	T value	Level sig	Type sig
1	Psychological resilience	Second	96.250	9.984	0.721	0.472	Non sig
		Third	97.500	9.733			
2	Psychological immunity	Second	337.166	26.939	0.531	0.596	Non sig
		Third	334.714	25.635			

**Table 4:** Shows the values of the arithmetic mean, standard deviations, the median, and the value of the skewness coefficient for the level of skillful performance of the rhythmic gymnastics ball skills.

No.	Stage	Variables	Arithmetic mean	Standard deviation	Median	Skewness
1	Second	Dribbling the ball from the bottom of the leg	2.450	1.015	2.500	-0.147
2		Throwing and receiving with the cat jumping	3.166	0.784	3.00	0.635
3		Spinning the ball around the body with tingling	2.616	1.165	3.00	-0.988
4		On the Figure 8 in front of the body over the head with the body rotated	3.750	0.727	4.00	-1.031
1	Third	Dribbling the ball from the bottom of the leg	5.400	1.134	5.00	1.058
2		Throwing and receiving with the cat jumping	6.542	1.058	7.00	-1.298
3		Spinning the ball around the body with tingling	5.414	1.536	5.00	0.808
4		On the Figure 8 in front of the body over the head with the body rotated	5.842	1.098	6.00	-0.431

**Table 5:** Arithmetic means, standard deviations, and (T) value calculated among female students in the skill performance level of rhythmic gymnastics ball skills.

No.	Stage	Variables	Arithmetic mean	Standard deviation	T value	Level sig	Type sig
1	Dribbling the ball from the bottom of the leg	Second	2.450	1.015	15.507	0.000	sig
		Third	5.400	1.134			
2	Throwing and receiving with the cat jumping	Second	3.166	0.784	20.361	0.000	sig
		Third	6.542	1.058			
3	Spinning the ball around the body with tingling	Second	2.616	1.165	11.537	0.000	sig
		Third	5.414	1.536			
4	On the Figure 8 in front of the body over the head with the body rotated	Second	3.750	0.727	12.576	0.000	sig
		Third	5.842	1.098			

**Presenting and analyze the results of the ball skills in rhythmic gymnastics:**

The researcher extracted the values of the arithmetic mean, standard deviations, the median, and the value of the skewness coefficient for the level of skillful performance of the ball skills in rhythmic gymnastics as in Table 4 sample homogeneity (Table 4).

**Presenting and discussing the results of the (T.Test) test for the level of skillful performance of the ball skills in rhythmic gymnastics among the students:**

For the purpose of finding out the significant differences between the students of the second and third stages in the level of skill performance with the ball skills in rhythmic gymnastics, the researcher used the (T. test) test for independent and unequal samples in number and as shown in Table (5), and it is noted that the value of (T) calculated for ball skills in rhythmic gymnastics It had a level of significance calculated (Sig) respectively (0.000, 0.000, 0.000, 0.000), which is smaller than the value of the approved significance level of 0.05, which indicates the existence of significant differences in favor of third-stage students, and the researcher believes that the result is logical and natural. The fact that students of the third stage have been trained in ball skills in rhythmic gymnastics during the lessons, while the students of the second stage have not been trained in it because it is not within the vocabulary of the subject. Also, the students of the third stage and during the tests it was noticed that they have the desire and motivation to perform the skills because they have learned to perform them during the lessons and this is consistent with What was mentioned by (Osama Kamel and Ibrahim Abd 2005) that "motives

are one of the most important factors that contribute to education in general and learning in particular. Successful learning is the Learning based on the student's motives and needs" (Ratib and Rabbo. 2005) (Table 5).

The researcher attributes the superiority of the third-stage students to the fact that they are trained in skills and focus during the lesson on repeating the correct performance of the skills, which led to an improvement in the level of their skill performance of the rhythmic gymnastics ball skills. On the authority of "The method of communicating information between the teacher and the learner in all its forms is one of the important means in the learner's learning process" (Al-Samawi. 2022).

It also agrees with what was mentioned that "learning is a permanent change in motor behavior as a result of repetition and correction" (Khayoun. 2011), and thus the objectives and hypotheses of the research were achieved.

**Conclusions and Recommendations**

**Conclusions**

- There were no differences between the students of the second and third stages in psychological resilience.
- It was not found that there are any differences between the students of the second and third stages in psychological immunity.
- That the students of the fourth stage were better than the students of the second stage, their practices and the level of their skillful performance of ball skills in rhythmic gymnastics.

### Recommendations

- Directing female teachers of rhythmic gymnastics at the College of Physical Education and Sports Sciences at the University of Baghdad to design and develop training programs that improve the level of skillful performance of female students in all rhythmic gymnastics skills.
- Preparing programs for students of the second and third stages of the College of Physical Education and Sports Sciences at the University of Baghdad to develop, improve and develop their psychological resilience.
- Preparing programs for female students in the second and third stages at the College of Physical Education and Sports Sciences at the University of Baghdad to develop improve and develop their psychological immunity.
- Conducting similar studies by applying the two scales to other rhythmic gymnastics skills that were not dealt with in the current study.

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