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THE EFFECTIVENESS OF PSYCHOLOGICAL COPING STRATEGIES IN ENHANCING PSYCHOLOGICAL INTEGRATION AND LEARNING THE FORWARD ROLL AND HANDSTAND SKILLS IN ARTISTIC GYMNASTICS FOR STUDENTS

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Abstract

This research is aimed at assessing the role of psychological coping strategies in the development of psychological integration as well as in mastering the two artistic gymnastics skills—forward roll and handstand. The psychological aspect is very important in order to promote motor learning and to eliminate the anxiety and fear that usually appear during the execution of complex motor skills. The proper experimental research design was used with the help of which the group of artistic gymnastics students was exposed to various psychological coping strategies including anxiety regulation, attentional control, self-confidence increase and mental imagery and compared to pre- and post-intervention measurements. The measurements included both the degree of psychological integration and the level of mastery of the forward roll and handstand skills.

According to the findings, the significant difference between pre- and post-intervention assessments revealed the efficiency of the discussed coping strategies in the development of psychological integration as well as in the promotion of skills learning. Moreover, these strategies played an important role

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in the reduction of anxiety and improvement of self-confidence that were followed by better motor execution.
The researcher concluded that the inclusion of the psychological coping strategies in the process of artistic gymnastics learning was the key to development of both psychological and skill-based aspects of students' progress. It is recommended to give priority to psychological preparation in addition to physical and technical one and to apply these strategies in all types of sports.

Keywords: Psychological coping strategies, psychological integration.

Introduction

Research Overview

Introduction and Research Significance:

Recent years have witnessed scientific advancements extending across various spheres of life, including physical education. This progress has clearly enhanced performance levels in diverse sports activities, driven by scientific studies and research focused on developing methods, equipment, and assistive tools to achieve peak performance .

The educational process is founded on the primary goal of transferring knowledge and information from the instructor to the student in a manner that meets the student's specific needs. An effective instructor is one who successfully employs a variety of teaching methods and styles while keeping pace with modern, innovative developments in their field. This approach helps mitigate the boredom and monotony students may experience when learning new skills—particularly at this age, where relying on a single teaching method for all students can be counterproductive given their varying responses to different instructional techniques .

Psychological integration is a fundamental concept linked to a student's personality and mental health, as well as their adaptive relationship with their surrounding social environment. Students differ in their physical and mental capabilities and personal potential across various domains. Furthermore,

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psychological integration reflects a student's ability to adjust their behavior and habits when facing new situations or challenges; this serves as an indicator of positive psychological development, reflecting maturity and facilitating the overcoming of negative habits. Psychological integration is considered a key criterion for mental health, playing a pivotal role in shaping the student's personality and their ability to directly address problems and challenges, thereby contributing to improved skill performance during the learning process. As far as gymnastics is concerned, it includes an extensive range of skills. Therefore, to master all of them, great amounts of work and time are required to complete special courses. Students get involved in working with material according to their abilities and try to acquire certain skills and fix their mistakes when they occur during the learning process.

The importance of the given research is defined by its contribution to understanding the place of psychological coping techniques in the process of psychological integration and acquisition of complex motor skills in artistic gymnastics – forward roll and handstand. Moreover, the study explains how psychological preparation helps to cope with fears and anxiety and boosts the self-confidence of students. Thus, it positively affects the performance of skills. Besides, this research provides information about the implementation of educational programs that should include psychological elements in addition to physical and technical ones.

Research Problem:

For example, many artistic gymnasts struggle in the acquisition of basic skills like forward roll and handstand because of fears, anxieties, and lack of self-confidence, all of which have negative effects on the process of psychological integration and performance. Even though the training process emphasizes the physical and technical aspects of education, the psychological aspect, especially the application of coping strategies in the training programs, is not given enough attention. It is for this reason that the research problem emerges out of the question of how coping strategies could help in psychological integration and acquisition of skills.

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Research Objectives:

1. To develop an instructional program based on psychological coping strategies to enhance psychological integration and facilitate the learning of the forward roll and handstand skills in artistic gymnastics for students.
2. To develop a psychological integration scale for students.
3. To determine the impact of psychological coping strategies on enhancing psychological integration and the learning of the forward roll and handstand skills in artistic gymnastics for students.

Research Hypothesis:

- Psychological coping strategies have a positive effect on enhancing psychological integration and the learning of the forward roll and handstand skills in artistic gymnastics for students.

Research Scope:

- **Human Scope:** Second-year students, College of Physical Education, University of Kufa.
- **Temporal Scope:** From October 1, 2025, to November 6, 2025.
- **Spatial Scope:** College of Physical Education, University of Kufa.

Research Methodology and Field Procedures

Research Methodology:

The nature of the phenomenon being studied determines the choice of methodology, as a methodology is "a path by which one arrives at the truth" (Ali Jawad, 1996, p. 19). The researcher employed the experimental method, as it was the most suitable and effective approach for addressing the research problem and achieving its objectives. Furthermore, the researcher selected a two-group design (experimental and control) utilizing pre- and post-tests, given its suitability for the nature of the problem.

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Population and Sample

The research population consists of 38 second-year students. A sample of 20 students was selected randomly (via a draw) and divided into two groups:

- Control Group: 10 students trained using the traditional method.
- Experimental Group: 10 students subjected to psychological coping strategies.

Homogeneity

Sample homogeneity regarding height, weight, and age was verified using the skewness coefficient prior to conducting the experiment.

Table (1) Shows sample homogeneity regarding the variables of age, height, arm length, and body mass.

Statistical Measures Anthropometric Measurements	Unit of Measurement	Arithmetic Mean	Standard Deviation	Median	Skewness Coefficient
Height	cm	165.78	166	1.873	0.391
Mass	kg	67.13	66.5	1.453	0.301
Age	Years	0.243	0.312	20	20.8

Methods and Tools

Data Collection Methods:

- Arabic and foreign sources and references.
- Personal interviews.
- Tests and measurements.
- Test result recording forms.

Tools and Equipment:

- Laptop.
- Virtual game display device.
- Gymnastics hall.

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- Floor exercise mat.
- Markers to delineate areas.
- Whistle.
- Result recording forms.

Field Research Procedures

Test Descriptions

First: Forward Roll Test (Raysan, 1999, p. 189)

- Purpose of the test: To measure the forward roll skill.
- Test execution method: The subject assumes a position on all fours at the start of a line drawn by the instructor, then performs the movement.
- Scoring method: The learner is allowed (3) attempts; each successful attempt is awarded (10) points.

Second: Handstand Skill Performance Evaluation Test (Hamdan Salem, 2012, p. 72)

Objective: To evaluate the technical performance of the handstand skill.

Test execution: Standing on the mat; upon hearing the word "Ready," the subject assumes the ready position, and upon hearing the word "Start," the subject performs the skill.

Third: Psychological Integration Scale

The study used the Psychological Integration Scale devised by Zahraa Mohammed Hadi (2019). Experts in the field of psychology and gymnastics assessed the scale and found it to be appropriate for the current study using second year students. The scale consists of a 44-questionnaire scale on psychological integration **(see Appendix 1),** with answer choices as “Always”, “Often”, “Sometimes” and “Rarely”. These answers are coded as 1, 2, 3, and 4 respectively.

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Pilot Study:

A pilot test was performed by the researcher in which a limited number of students were included to determine whether the educational aids were clear and valid in terms of the psychological integration assessment and artistic gymnastics skills (forward rolls and handstands). The pilot test aimed at checking the appropriateness of the activities, the clarity of the instructions, and the reaction of the participants to the educational aids before implementing the program.

Pre-tests:

Pre-tests were done to both groups on Sunday, October 5, 2025. The tests involved all the measures which the research is supposed to investigate, including the psychological integration scale, forward roll, and handstand competencies. It was ensured that identical test conditions were maintained since these would be replicated during post-tests.

Main Experiment:

In the present research, a sample of students from the Department of Physical Education and Sports Science was used, divided into two categories as follows:
Experimental Group: Underwent education based on psychological coping skills that involved relaxation, positive thinking, emotion regulation, and problem solving.
Control Group: Underwent conventional training as per the curriculum without inclusion of the coping skills.
The process took four weeks where two sessions per week were conducted. The main purpose of this was to teach forward roll and handstand skill with instructional situations meant to induce psychological processes.
Upon completion of the program, post-tests were conducted to measure:

- The level of psychological integration, using a validated psychological scale.
- The level of skill performance in the forward roll and handstand.

The results demonstrated that the experimental group significantly outperformed the control group in both psychological integration and skill performance,

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indicating the effectiveness of psychological coping strategies in supporting the students' psychological and skill-related development.

Post-Measurements:
After the administration of the lessons using the psychological coping method, post-test was administered to both the control group and experimental group on Sunday, 9 November 2025, at 09:00. This test was carried out under the same conditions and at the same location used in the pre-test.

Statistical Methods:
The researcher utilized the SPSS statistical software to process and extract the data.
Presentation and Discussion of Results
Presentation of pre-test and post-test results for the control group regarding the variables under study:

Table (2) Shows the test results for the control group.

Statistical Indicators /Variables Studied	Pre-test		Post-test		Calculated t-value	Test Significance Level (Sig.)	Type of Significance
	S	±A	S	±A			
Forward roll	4.5	1.224	6.2	1.056	3.341	0.009	**moral**
Handstand	3.84	1.406	6.11	1.213	3.045	0.011	**moral**
Psychological integration	116.2	8.811	121.2	6.942	13.678	0.000	**moral**

Presentation of pre- and post-test results for the experimental group regarding the variables under study:

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Table (3) Shows the test results for the experimental research group.

Statistical Indicators /Variables Studied	Pre-test		Post-test		Calculated t-value	Test Significance Level (Sig.)	Type of Significance
	S	±A	S	±A			
Forward roll	4.2	1.443	7.3	1.119	6.112	0.000	moral
Handstand	4.1	1.446	7.5	1.033	5.722	0.000	moral
Psychological integration	119.8	9.055	124.6	1.112	9.442	0.000	moral

Displaying the results of the post-tests for the control and experimental groups for the variables studied:

Table (4)

Statistical Indicators /Variables Studied	Pre-test		Post-test		Calculated t-value	Test Significance Level (Sig.)	Type of Significance
	S	±A	S	±A			
Forward roll	6.2	1.056	7.3	1.119	10.115	0.000	moral
Handstand	6.11	1.213	7.5	1.033	5.135	0.000	moral
Psychological integration	121.2	6.942	124.6	1.112	2.443	0.000	moral

It presents the test results for the control and experimental groups.

Discussion of Results

Upon analysis of Table (2), showing significant t-test statistics concerning self-confidence and the specific volleyball skills of the control group, it is evident that there are significant differences between pre-test and post-test outcomes, which show considerable improvement in the arithmetic means, especially in the post-test outcomes.

The control group's results showed slight improvement in the level of psychological integration and in the performance of the forward roll and handstand skills following the implementation of the traditional teaching curriculum. This improvement is attributed to continued practical training and

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regular skill repetition throughout the experiment, as well as the experience gained through continuous exposure to learning situations.

However, this improvement remained limited compared to the experimental group, as the traditional program lacked the use of psychological coping strategies. Such strategies contribute to reducing anxiety and enhancing focus, motivation, and emotional control during motor performance—factors essential for learning gymnastics skills, which require a high level of psychological balance and self-confidence.

Furthermore, these results indicate that relying on conventional teaching methods—without addressing the psychological aspects accompanying performance—leads to a mechanical form of learning that fails to achieve the desired psychological integration. This, in turn, results in slower skill acquisition and difficulty in consolidating these skills among students .

The research findings demonstrated a clear superiority of the experimental group that participated in the educational program based on psychological coping strategies; members of this group exhibited a notable rise in psychological integration levels and tangible improvement in the performance of handstand and forward roll skills compared to the control group. These results can be explained by the fact that psychological coping strategies helped students manage their emotions and reduce performance-related anxiety. It provided an ideal and inspiring psychological atmosphere for the concentration of attention and effective learning. It has been found that trainees with high levels of self-confidence have better concentration and more precise skill performance; besides, the use of such methods as relaxation and positive thinking brings psychological balance and decreases stress while performing skills.

The achievement of the noted improvement has been caused by the efficiency of the psychological coping strategies incorporated in the program of education. It decreased the anxiety and fear related to the skill performance, increased self-confidence, and allowed developing skills of maintaining concentration and managing emotions while learning.

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Besides, it helped students deal with mistakes and failures in performance in the proper way, which motivated them to keep on training. As a result, it led to the faster acquisition of skills, their precise performance, and stability of motor actions.

These findings underscore that integrating psychological and physical aspects into the educational process is crucial for learning artistic gymnastics skills. Such skills are inherently challenging and require a high level of emotional stability and a sense of physical security.

These results align with the findings of Weinberg and Gould in the field of sports psychology, which indicate that the use of strategies such as relaxation, positive self-talk, and mental imagery contributes to improved skill performance and psychological balance among learners. This also aligns with the findings of the Magill & Anderson study on motor learning, which confirmed that instructional programs incorporating psychological methods enhance learning effectiveness and facilitate the better consolidation of complex motor skills compared to traditional methods.

Conclusions and Recommendations

Conclusions:

1. The use of psychological coping strategies effectively enhanced the level of psychological integration among students in the experimental group; this positively impacted the speed of learning and the execution accuracy of the forward roll and handstand skills compared to the traditional curriculum.
2. Conclusions suggest that depending solely on traditional teaching techniques will provide marginal development in both psychological and psychomotor areas, underscoring the need for combining psychological preparation and physical training in the teaching of artistic gymnastics skills.

Recommendations:

1. Adopt psychological coping strategies within artistic gymnastics curricula in physical education colleges and departments, given their clear impact on enhancing psychological integration and improving skill acquisition.

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2. Organize training courses for instructors in sports psychology and modern psychological coping techniques to improve their competence in addressing the psychological aspects associated with learning motor skills.

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Appendix (1) Psychological Integration Scale (Final Version) Administered to the Main Sample

No.	Statements	Always	Often	Sometimes	Rarely
1.	I have many social connections and still aspire to achieve much more.				
2.	I put great effort into helping my peers perform gymnastics skills.				
3.	I am able to interact with people of all ages.				
4.	I am happy when my peers are around me.				
5.	I participate in activities organized by various social institutions.				
6.	I join my peers in performing various physical skills.				
7.	I possess life skills that bring me happiness.				
8.	I am satisfied with my level of education.				
9.	I always look toward the future with great confidence.				
10.	I appear energetic and full of vitality.				
11.	I do not feel flustered when in the company of important people.				
12.	I am diligent about attending my classes on time.				
13.	I feel at ease when engaging in physical activity.				
14.	My studies are not affected by my personal problems.				
15.	I take things in stride, without overcomplicating them.				
16.	I sense affection and love within my family.				
17.	I share my point of view with my family.				
18.	I feel proud to belong to my family.				
19.	I live safely and happily with my family.				
20.	I feel that my family genuinely cares about me.				
21.	I help my family solve their problems.				
22.	I am an important person in my family.				
23.	I receive love and care from my family.				
24.	I respect what my family says.				
25.	I benefit from material that is explained in various ways.				
No.	**Statements**	**Always**	**Often**	**Sometimes**	**Rarely**
26.	I participate in organizing scientific, artistic, and sports exhibitions.				

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27.	I enjoy visiting scientific exhibitions and sports festivals.				
28.	I am quick to identify potential problems.				
29.	I take an interest in sports investment.				
30.	I work on improving economic reform programs within the sports sector.				
31.	I do not fear the future because I have faith in God Almighty.				
32.	I am committed to performing daily religious obligations.				
33.	I listen to and read the Holy Quran.				
34.	I am interested in learning about other Abrahamic religions.				
35.	I participate in observing various religious occasions.				
36.	I enjoy visiting places of worship.				
37.	I dislike backbiting and encourage others to avoid it.				
38.	I consistently enjoy good health.				
39.	I consume foods that provide full nutritional benefits to the body.				
40.	I have immunity against many diseases.				
41.	I recognize the importance of health awareness in my life.				
42.	I ensure food is stored in a clean environment.				
43.	I enjoy practicing healthy habits.				
44.	I brush my teeth before going to sleep and after waking up.				