

The Impact of Self-Confidence and Social Interactions on Improving Motor Learning Processes in Gymnastics: A Study on Female Students at the Institute of Sciences and Techniques of Physical and Sports Activities

أثر مستوى الثقة بالنفس والتفاعل الاجتماعي في تحسين عمليات التعلم الحركي لدى طالبات معهد علوم وتقنيات النشاطات البدنية والرياضية في رياضة الجمباز

Abdelkarim Bakri¹, Omar Bouadjila², Tarek Benchebha³

¹ Institute of Sciences and Techniques of Physical and Sports Activities, University of M'sila/

abdelkarim.bakri@univ-msila.dz

² Institute of Sciences and Techniques of Physical and Sports Activities, University of Constantine 2/

bouadjila.omar@univ-constantine2.dz

³ Institute of Sciences and Techniques of Physical and Sports Activities, University of M'sila/

tarek.benchebha@univ-msila.dz

Received: 13/01/2026

Accepted: 27/02/2026

Published: 30/03/2026

Abstract: The current study aims to investigate the impact of self-confidence levels and social interactions on improving motor learning processes among first-year female students at the Institute of Sports Activities in the sport of gymnastics. We adopted a descriptive approach using a comprehensive survey method on a sample consisting of 23 female students. We applying a self-confidence scale, a social interactions scale, and a practical test for specific basic movements in gymnastics. The study concluded that both self-confidence and the level of social interaction contribute to predicting the level of motor learning.

Keywords: Self-confidence; Social interactions; Motor learning; Gymnastic; Female Students.

الملخص:

هدفت دراستنا الى معرفة أثر مستوى الثقة بالنفس والتفاعل الاجتماعي في تحسين عمليات التعلم الحركي لدى طالبات السنة اولى في رياضة الجمباز، وقد اعتمدنا على المنهج الوصفي بطريقة المسح الشامل على عينة قوامها 23 طالبة، بتطبيق مقياس الثقة بالنفس ومقياس التفاعل الاجتماعي بأبعاده الأربعة، وكذا اختبار لبعض الحركات الأساسية في رياضة الجمباز. خلصت الدراسة الى أن كل من الثقة بالنفس ومستوى التفاعل الاجتماعي يسهم في التنبؤ بمستوى التعلم

*** Introduction and problematic of the study:**

Sports psychology is considered a vital modern science that has gained prominence across educational, professional, and athletic fields. It focuses on studying, understanding, and regulating behavior to develop personality traits, thereby contributing to the construction of a holistic character capable of meeting life's demands. This is based on a modern philosophy, which advocates for attention to the individual as an integrated unit.

Considering that the student is the cornerstone of the educational process, it is important to study the pressures they face. The teaching process is built on three pillars, the most important of which is the learner. The burdens placed upon students require further research and a focus on variables that support their ability to cope effectively, as well as the psychological and environmental variables always linked to their psychological state in facing the circumstances they are exposed to.

One of the most important psychological factors that a student is required to develop and improve is the factor of self-confidence. It is one of the most critical psychological symptoms; if it is decreasing from its natural level, it may hinder the athletic learner and present them at a level lower than their true level.

In addition to the factor of social interactions, which is considered a state of harmony between the individual and their environment. It is also a system where its parts (Engagement, Cooperation, Communication, Concern for others) are

linked together, and the work of each part depends on the work of the rest. On this basis, individuals interacting change their behavior; the behavior of one party is modified if a change occurs in the behavior of the other (Alaa Zuhair, 2012, p39).

Since self-confidence is a personality trait where the individual feels competent and capable of facing difficulties and different circumstances using the maximum that their potential and abilities allow to achieve their desired goals, it is a mixture of thought and feeling in behavior that works to encourage normal psychological growth. It allows the individual to reach the required level of mental health and psychological and social adjustment.

Among the characteristics of self-confidence is that it arouses positive emotions, evokes a sense of enthusiasm and joy, helps focus attention, and increases perseverance and effort in order to achieve goals and success (Mahmoud Hosni Al-Atrash, n.d., p. 32).

Tokinan & Bilen (2011) see that self-confidence is one of the main factors influencing the determination of an individual's acquired experiences in different aspects, where self-confidence shows the permanent personal features of the individual and is not considered a temporary attitude that ends with the end of the task (Pervin & John, 2011). All of the above confirms to us that the various positive aspects of an individual's personality, such as self-esteem and self-realization, ambition and independence, as well as growth and achievement, do not grow except with the growth of the self-confidence factor.

Social interactions are considered one of the important and basic concepts connected to the individual's personality, mental health, and self-esteem with the environmental and physical medium. Individuals differ in their physical and actual abilities and personal potentials in various fields. The individual's self-perception is one of the basics of the success of the individual's social relationships, whether with the individual themselves or with their friends and family, and consequently harmony and interaction with the nature of the society in which they live. As a result of the tremendous development in the field of communication technology and information dissemination, the current era has imposed many challenges on humans. On an individual level, it requires a tremendous effort to prove themselves and prove their abilities in a world teeming with diversity, difference, and competition. It also requires the necessity of working to understand one's subjective emotions (Taiba, Ashwaq, 2019, p. 9).

Considering that sports psychology is a modern and important science in the sports field, which is concerned with studying psychological factors affecting sports behavior towards achieving a high level of performance and sports achievement, it aims to understand sports behavior and attempt to control it by modifying, directing, and improving it to develop and modify some of their personality traits and form attitudes, inclinations, and desires. There is no doubt that practicing sports is linked to many psychological states that affect the individual's performance, whether in education or training.

And with since the target group in our study has entered a new wide world for the individual, which is the University, wherein the individual begins to deal

with new colleagues of both sexes and with a new study nature. After their relationships were specific and connected to a few people from the family and place of residence, they now deal with new colleagues from different regions at the national level, with different cultures, environmental behaviors, inclinations, and attitudes. It is a new world that requires a certain level of psychological adjustment; otherwise, they will be exposed to psychological and social problems that cause a type of confusion and inability to harmonize with this new environment, which has a different nature and behavior than what the university student lived in their previous life (Jassim Ali, p224,225).

It's here where the role of training programs at the Institutes of Sciences and Techniques of Physical and Sports Activities shows itself, in refining the student's personality from all aspects. Their role is no longer limited to providing students with knowledge, information, and scientific talents or developing mental and intellectual abilities only, but its scope has expanded in modern philosophy to include aspects and purposes that contribute to forming and building a balanced and integrated personality.

The pressures that university students are exposed to, arising primarily from studying and thinking about the future, represent a major psychological threat to them that may lead to an imbalance in their abilities to face those pressures, leading to psychological problems including a disruption in their psychological adjustment. In this regard, Al-Khouli indicates that the continuous difficulties the individual is exposed to from their environment, which they try to overcome to

maintain a state of stability, often constitute stress that they cannot overcome to restore their psychological adjustment (Jassim Ali, 2014, p. 224-225).

Social Interaction Skills, a must-have basic skill to coexist with members of the society. A society that assigns multiple roles to the individuals that may or may not succeed in varying degrees in performing them depending on a number of variables and capabilities, such as their subjective abilities and social skills. Since applied sports activities in the field of Sciences and Techniques of Physical and Sports Activities are one of the important educational means in the process of psychological building through their major role in integrated and balanced education (which is at the forefront of the university's educational goals to prepare future educators and trainers), and since most positive aspects of an individual's personality such as independence, self-actualization, ambition, and achievement do not grow except with the growth of self-confidence, this research came as an attempt to identify the impact of the level of self-confidence and social interactions on improving motor learning processes among female students of the Institute of Sciences and Techniques of Physical and Sports Activities in the sport of Gymnastics.

Previous Studies: Consistent with this research objectives, we present a group of studies that approached this topic:

Study by Mohammed Ben Attallah, Rafeh Ahmed (2022): This study aimed to identify the relationship between self-confidence and self-esteem among students of the Institute of Sciences and Techniques of Physical and Sports

Activities. To achieve the study objectives, the researchers used the descriptive correlational approach and applied the self-esteem scale and self-confidence scale on a sample of 40 students chosen randomly. After statistical processing, the study concluded that there is a statistically significant positive (direct) correlation between self-confidence and self-esteem. Consequently, the researchers recommended the necessity of designing programs that help develop self-confidence among university students.

Study by Taiba Bahaa El-Din, Ashwaq Emad Hashem (2019): This study aimed to identify psychological self-esteem and social interaction among first-year female students in the Department of Physical Education, College of Education for Girls, Al-Qadisiyah University. The researchers used the descriptive approach with the survey method for its suitability to the research subject, and the sample included (23) female students chosen randomly. Data collection tools consisted of (Psychological Self-Esteem Scale, Social Interaction Scale). The results showed that there are significant differences in the reality of psychological self-esteem for the research sample, indicating their levels, abilities, and potentials.

All that was presented in the theoretical background and previous studies paved the way for proposing the problematic of our current study, which centered on studying the impact of the level of self-confidence and social interaction on improving motor learning processes among female students at the Institute of Sciences and Techniques of Physical and Sports Activities in the sport of gymnastics. This is to determine the extent of reciprocal influence occurring

during skill and motor learning processes during this class, and whether the factor of self-confidence and social interaction has a reflection on the aspect of learning and skill acquisition.

One of the most important requirements for social interaction and communication in the society surrounding the individual is the individual's positive psychological self-confidence. As previously explained, this stage and this specialization specifically require students to work on making changes that suit these new circumstances to create an atmosphere of harmony and adjustment. Social interaction is a process by which people influence each other through the exchange of common ideas, feelings, and reactions (**Chouchane, 2023, p. 328**). If the individual happens to be unable to establish this harmony and adjustment between themselves, their environment, and their self, they are classified as being maladjusted or having poor mental health, and this will appear clearly during field practical classes at the level of motor and skill learning among female students, especially in certain sports that have skill specificities such as gymnastics.

All that was presented in the theoretical background and previous studies paved the way for proposing the problematic of our current study, which centered on studying the impact of the level of self-confidence and social interaction in improving motor learning processes among female students... in gymnastics. Based on the above, we propose the following question: What is the impact of the level of self-confidence and social interactions on motor learning

processes among female students at the Institute of Sciences and Techniques of Physical and Sports Activities in the sport of gymnastics?

2. Objectives of the Study: We aim through this research to know:

-Identify the relationship between the level of self-confidence and social interaction with motor learning processes among first-year female students at the Institute of Sciences and Techniques of Physical and Sports Activities in gymnastics.

-Identify the extent to which self-confidence and social interactions factors contribute to predicting the level of motor learning among the students.

3. Hypotheses of the Study:

3.1. General Hypothesis: The level of self-confidence and social interaction has a statistically significant positive effect on motor learning processes among female students of the Institute of Sciences and Techniques of Physical and Sports Activities in the sport of gymnastics.

3.2. Sub-Hypotheses:

1. There is a statistically significant positive relationship between the level of self-confidence and motor learning processes among female students.
2. There is a statistically significant positive relationship between the level of social interaction and motor learning processes among female students.

3. Both self-confidence and social interaction factors contribute with high statistical significance to predicting the level of motor learning among female students.

4. Importance of the Study:

The importance of our current study lies in linking psychosocial factors to the motor learning process in gymnastics, It also attempts to fill a research gap by supporting and developing education and training programs that are psychologically backed, contributing to the improvement of academic and athletic performance, and providing recommendations for teachers at sports institutes to link psychosocial factors with motor learning processes.

The practical chapter:

1. Followed Methodologies:

1.1. Fields of Study:

-Spatial Field: Institute of Sciences and Techniques of Physical and Sports Activities, University of M'sila.

-Temporal Field: The first semester of the academic year 2025/2026.

-Human Field: First-year female students (Common Core).

1.2. Study Population and Sample: The population of our current study is represented by the first-year female students (Common Core) in the field of Sciences and Techniques of Physical and Sports Activities. The study sample consisted of 23 students.

1.3. Methodology Used: We relied on the Descriptive Approach in our study as it is the most suitable method for the study.

1.4. Data Collection Tools:

First: Self-Confidence Scale: Through our review of educational literature and previous studies such as the studies of (Al-Atrash, 2009), and (Skinner, 2013), we applied the study tool to measure self-confidence among first-year female students at the Institute of Sciences and Techniques of Physical and Sports Activities at the University of M'sila. The scale consists of (24) items formulated in both positive and negative directions.

Second: Social Interaction Scale: For the purpose of determining social interaction among first-year female students at the Institute, we collected scientific sources and references and adopted the Social Interaction Scale designed by (Nubi,2010) and (Zuhair,2012), which is standardized to identify social interaction in the sports field among the research sample.

Third: Gymnastics Test Application: To measure motor performance for certain movements specific to gymnastics (Forward Roll, Backward Roll, Headstand, Candle Movement).

1.5. Field Application Procedures:

We distributed the Self-Confidence Scale and the Social Interaction Scale to the students under study. Then, we applied the test for certain movements in

gymnastics (Forward and Backward Rolls, Headstand, Candle Movement). This took place in the first week of December of the current academic year.

Results:

2-1 Ensuring the normal distribution of data

Table (1) shows the results of the test of whether the variables of self - confidence, social interactions, and motor learning follow a normal distribution using the Kolmogorov-Smirnov test, where the value of the statistical significance level (Sig) for these variables reached (0.133), (0.190), and (0.083), respectively, and all of them are greater than the adopted significance level ($\alpha = 0.05$), which indicates that the data follow a normal distribution, and accordingly, the use of parametric statistical tests is appropriate for analyzing these data.

Table (1): Data distribution

Tests of Normality			
	Kolmogorov-Smirnov		
	Statistic	Df	Sig.
Self confidence	0,160	23	0,133
Social interactions	0,151	23	0,190
Motor learning	0,170	23	0,083

Designed and prepared by the researchers

2-2 Presentation and analysis of results regarding the First Hypothesis.

Table (2): Relationship between self-confidence and motor learning

Correlations		
		Motor learning
Self confidence	Pearson Correlation	0,800 **
	Sig.	0,000
	N	23

From Table (2) above, which shows the relationship between self-confidence and motor learning, we observe that the Pearson test value (R) between the two variables is (0.800) and the significance level value (Sig) of the test is (0.000), which is less than the approved significance level ($\alpha = 0.05$). This indicates the existence of a positive (direct) correlation relationship with statistical significance between self-confidence and motor learning. Therefore, the first hypothesis, that there is a direct relationship with statistical significance between the level of self-confidence and motor learning processes among female students of the Institute of Sciences and Technologies of Physical and Sports Activities in Gymnastics, is confirmed.

2-3 Presentation and analysis of results regarding the Second Hypothesis.

Table 3 below shows that the Pearson test value is 0.732, and the significance level value (Sig) is 0.000. This value is less than the approved significance level

$\alpha = 0.05$, which indicates the existence of a positive correlation with statistical significance between social interaction and motor learning. Therefore, the second hypothesis, "There is a direct relationship with statistical significance between the level of social interaction and motor learning processes among female students of the Institute of Sciences and Technologies of Physical and Sports Activities in Gymnastics," is confirmed.

Table (3): Relationship between social interactions and motor learning

Correlations		
		Motor learning
Social interactions	Pearson Correlation	0,732**
	Sig.	0,000
	N	23

Designed and prepared by the researchers

2-4 Presentation and analysis of results regarding the Third Hypothesis.

Table (4), which shows the analysis of variance (ANOVA) for the multiple linear regression model, shows that the F-value was 18.007 with a significance level (Sig) of 0.000, which is less than the required significance level ($\alpha = 0.05$). This indicates that:

- The multiple linear regression model is statistically significant.

- The independent variables, namely self-confidence and social interaction, collectively contribute to explaining the change in the dependent variable of motor learning.

Therefore, the third hypothesis (that both self-confidence and social interaction contribute significantly and statistically to predicting the level of motor learning among female students at the Institute of Physical and Sports Activities Sciences and Technologies in gymnastics) is confirmed.

Table (4): Effect of self-confidence and social interactions on motor learning

ANOVA ^a						
Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	83,527	2	41,763	18,007	0,000 ^b
	Residual	46,387	20	2,319		
	Total	129,913	22			
a. Dependent Variable: Motor learning						
b. Predictors: (Constant), Self-confidence; social interactions						

Designed and prepared by the researchers

2-4 Presentation and analysis of results regarding the General Hypothesis.

The statistical analyses revealed a positive correlation between self-confidence and motor learning and between social interaction and motor learning. They confirmed that both self-confidence and social interaction contribute to

predicting motor learning. This demonstrates that the level of self-confidence and social interaction has a statistically significant positive effect on motor learning processes. Therefore, the general hypothesis (that the level of self-confidence and social interaction has a statistically significant positive effect on motor learning processes among female students at the Institute of Physical and Sports Activities Sciences and Technologies in Gymnastics) is supported.

4. Discussion of Results:

The study found that among female gymnastics students at the Institute of Physical and Sports Sciences and Technologies, social interaction and self-confidence had a statistically significant favorable impact on motor learning processes. This emphasizes how important psychological elements are for improving motor learning processes, especially for students majoring in sports and physical sciences and technologies. This finding suggests that female students who have high levels of social connection and self-confidence are better able to overcome obstacles, particularly when it comes to the motor learning processes involved in different sports like gymnastics.

These results are consistent with what was previously mentioned in the theoretical aspect. This emphasizes the need to focus on the psychological aspects of students overall, particularly female students, in order to raise their level of motor learning processes in a variety of sports, particularly those that call for a challenging skill like gymnastics.

Findings:

- A positive relationship exists between self-confidence and social interaction on the one hand and motor learning processes on the other.
- Both self-confidence and the level of social interaction contribute to predicting the level of motor learning.
- The psychological aspect of female students in physical activity and sports science and technology is of great importance in influencing their motor learning process.

Propositions

- The need to pay attention to the psychological well-being of female students at the Institute of Physical and Sports Sciences and Technologies, given its significant importance and impact on their learning process.
- The use of effective teaching methods that consider individual differences among students, particularly in psychological aspects.
- Conducting further studies to complement the findings of this research, preferably experimental studies with specific case studies.

List of used sources and references in the study:

1. Jaber, Ramzi (2012). Self-confidence and its relationship to some variables among table tennis players in Palestine. *Misan Journal of Physical Education Sciences*, University of Misan, Vol 5, Iraq.
2. Mahmoud Hosni Al-Atrash (2017). The level of self-confidence among students of the Faculty of Physical Education at An-Najah National University and its relationship to some variables. *European Journal of Technology (Sports Science)*, Vol 12, pp 231-242, An-Najah National University.
3. Alaa Zuhair (2012). Social interaction and its dimensions (Engagement, Cooperation, Communication, Concern for others) and its relationship to leadership personality among handball coaches of the qualifying round for the Premier League. *Journal of Physical Education Sciences*, Issue 2, Vol 5.
4. Jassim Ali Mohammed (2014). Sports activity and its effect on psychological adjustment of Misan University students. *Journal of Physical Education Sciences*, Vol 7, No 4, Iraq.
5. Taiba Bahaa El-Din, Ashwaq Emad Hashem (2019). Psychological self-esteem and social interaction among female students of the College of Physical Education and Sports Sciences. Part of requirements for Bachelor's degree in Physical Education Sciences, College of Education for Girls, Al-Qadisiyah University.
6. Mohammed Ben Attallah, Rafeh Ahmed (2022). The relationship of self-confidence to self-esteem among students of the Institute of Sciences and Techniques of Physical and Sports Activities. *Journal of Sports Creativity*, Vol 13, No 2.

7. Chouchane Zahra (2023). The impact of physical education on the social interaction of students: A field study at Akhwa Radawi High School - Boumerdes Province. *Journal of Sports Creativity*, Vol 14, No 01.
8. Kouli, O., Bebetos, E., Kamperis, I., & Papaioannou, A. (2010). The relationship between emotions and confidence among Greek athletes from different competitive sports. *Kinesiology*, 42(2), 194-200.