

The Role of Physical Activity in Reducing Psychological Stress Among University Students

-A Field Study on First-Year Students Enrolled in the Common Core of Social Sciences at Mohamed Boudiaf University of M'sila-

Naima berrabah

naima.berrabah@univ-msila.dz

Received: 28/06/2025

Accepted: 31/07/2025

Published:30/09/2025

Abstract:The present study aims to identify the level of physical activity and its role in reducing psychological stress among first-year students enrolled in the Common Core of Social Sciences at the University of M'sila. The study sample consisted of 83 male and female students, selected using a purposive sampling method. To achieve the objectives of the study, the researcher developed a specific questionnaire. Using the descriptive-analytical method and conducting statistical analysis through the Statistical Package for the Social Sciences (SPSS), the following results were obtained:

- The level of physical activity among first-year students in the Faculty of Humanities and Social Sciences was found to be low.
- Physical activity plays a positive role in reducing psychological stress among these students.

Keywords: Physical activity – Psychological stress.

ملخص الدراسة: تهدف الدراسة الحالية إلى التعرف على مستوى ممارسة النشاط الرياضي، ودوره في التخفيف من الضغوط النفسية لدى طلبة السنة الأولى جذع مشترك علوم اجتماعية بجامعة المسيلة، تكونت عينة الدراسة من (83) طالبا وطالبة تم اختيارهم بالطريقة القصدية، ولتحقيق أهداف الدراسة أعدت الباحثة استبياناً خاصاً، وباستخدام المنهج الوصفي التحليلي، وبعد المعالجة الإحصائية عن طريق برنامج الحزمة الإحصائية للعلوم الاجتماعية (spss) تم التوصل إلى النتائج التالية

- أن مستوى ممارسة النشاط الرياضي لدى طلبة السنة الأولى جذع مشترك بكلية العلوم الإنسانية والاجتماعية منخفض.
- أن لممارسة النشاط الرياضي دوراً إيجابياً في التخفيف من الضغوط النفسية لدى طلبة السنة الأولى جذع مشترك بكلية العلوم الإنسانية والاجتماعية.

الكلمات المفتاحية: النشاط الرياضي - الضغط النفسي.

1. Introduction and Research Problem

The university stage is considered one of the most significant phases in a student's life, as it plays a vital role in shaping the student's personality in all its dimensions. It also provides a large set of scientific and practical skills that contribute to making the student a productive member in the development of society. Accordingly, university students require the fulfillment of various needs, primarily physical and psychological ones. Psychologists have devoted great attention to the subject of physical and psychological needs, as reflected in developmental psychology studies that emphasize the psychological demands of growth and their essential role in achieving stable mental health—free from psychological stress—allowing individuals to experience security, reassurance, and internal balance between personal and social interests.

There is no doubt that modern life, with its comforts and physical luxuries brought by civilization, has led to a sedentary lifestyle where physical movement has become minimal, and physical activity is limited. Alongside this, individuals are increasingly exposed to psychological and life pressures. Since ancient times, humans have practiced physical activity such as running, swimming, throwing, wrestling, and jumping. In modern times, physical activities have evolved into a science with rules and regulations, specialized institutes for physical education have been established, and it has become a field of psychological and social research.

Educational and psychological experts agree that engaging in physical activity in a structured and scientific manner has a positive effect on both physical and

psychological health. It contributes to improving one's health status, enhancing psychological well-being, fostering social interaction, increasing motivation, and productivity.

Furthermore, physical activity serves as a natural and healthy outlet for vital and psychological energy, and it provides a method for muscular relaxation. It contributes to the refinement of young individuals, teaching them discipline and adherence to rules both on and off the field. This is supported by the doctoral research of Kandouz (2009) titled: *"The Effectiveness of Muscular Relaxation Techniques in Managing Psychological Stress Among Elite Algerian Karate-Do Athletes,"* which demonstrated that such relaxation techniques were effective in stress management. The study employed an experimental method on a sample of 38 athletes divided into experimental and control groups, including athletes in both kumite and kata categories. The results confirmed the effectiveness of muscular relaxation techniques in managing psychological stress among elite Algerian Karate-Do athletes (Ziani Mohamed & Tahir Yasmin, 2018, p. 4).

Engaging in physical activity, whether individually or in groups, impacts individuals on multiple levels—health, physical, psychological, and social. It helps release emotions, correct bad habits such as selfishness, introversion, shyness, and anxiety, and distances individuals from social problems like deviance and isolation. Moreover, it is an essential factor in reducing various psychological stressors resulting from the fast-paced developments of modern life, which directly affect the individual's self-adjustment and adaptation to their environment.

This was confirmed by the study of *Boufarida Abdelmalek (2015)*, which aimed to explore the role of recreational physical activity in reducing psychological stress among secondary school students. The results indicated that recreational physical activity is an effective means to reduce anxiety, frustration, and psychological tension in students, helping adolescents better control their emotions.

In support of this, the study by *Ziani Mohamed & Tahir Yasmin (2018)* also emphasized the role of physical education in reducing stress among students preparing for the Middle School Certificate (BEM), especially among adolescents in middle school. The research concluded that stress levels were generally high among final-year students, and that physical education classes had a notable impact on reducing these levels. The physical education teacher was also found to play a significant role in helping students manage stress during this critical academic stage.

Based on this background, this research paper aims to answer the following two questions:

- What is the level of physical activity practiced by first-year students in the Common Core of the Faculty of Humanities and Social Sciences?
- Does physical activity play a positive role in reducing psychological stress among first-year students in the Common Core?

2. Research Hypotheses

- The level of physical activity practiced by first-year students in the Common Core of the Faculty of Humanities and Social Sciences is low.

- Physical activity has a positive role in reducing psychological stress among first-year students in

3. Significance of the Study

- The importance of this study lies in the significance of the university stage, which is a crucial phase in building the learner's personality, developing their capabilities, and shaping their professional future.
- The increasing prevalence and complexity of psychological stress as life continues to evolve and become more demanding—leading to the depletion of societal resources and affecting various aspects of human life.
- Physical activity helps foster social and psychological development by enhancing self-confidence, cooperation, courage, and adaptation—both self-directed and social. It also enables integration into society, alleviates psychological pressures, strengthens a sense of belonging, encourages constructive use of free time, improves physical and motor fitness, and refines practical skills. Additionally, it reduces physical fatigue and provides opportunities for acquiring knowledge, decision-making within group settings, understanding the rules of play, and gaining joyful and entertaining experiences.

4. Objectives of the Study

- To identify the level of physical activity practiced by first-year students in the Common Core of the Faculty of Humanities and Social Sciences.

- To examine whether physical activity plays a positive role in reducing psychological stress among first-year students in the Common Core.

5. Previous Studies

- **Abdelhaq's Study (2002):** This study aimed to identify the causes of psychological stress among students at An-Najah University. The descriptive method was used on a sample of 33 students. The results indicated that individuals who practiced physical activity had lower levels of stress, and no significant gender differences were found in stress levels.
- **Berry's Study (2006):** The study aimed to examine the relationship between physical activity and psychological stress on a sample of 61 students divided into two groups: one participated in a fitness course, while the other did not. Post-test results showed statistically significant differences, with physical activity reducing psychological stress.
- **Boufarida Abdelmalek's Study (2015):** This study aimed to identify the role of recreational physical activity in reducing psychological stress among secondary school students. The sample included 240 students from high schools in Guelma Province, Algeria. Results showed that recreational physical activity was effective in overcoming anxiety and reducing frustration and psychological tension. Continued participation also helped adolescents better regulate their emotions.
- **Ziani Mohamed & Tahir Yasmin's Study (2018):** This study aimed to examine the role of physical education in reducing stress among

students preparing for the Middle School Certificate. The descriptive method was applied to a random sample of 170 students and another sample of 15 teachers. The study found that stress levels were generally high, especially among final-year students, and that physical education classes significantly impacted stress reduction. Physical education teachers played an active role in this process.

- **Abdelbasset & Lakhdar's Study (2023):** This study explored secondary school students' attitudes toward sports and their relationship to psychological stress. Using descriptive correlational and comparative methods, a sample of 381 students was selected using stratified cluster sampling. The study found an inverse relationship between attitudes toward sports and psychological stress, as well as between educational level and attitudes toward sports. However, no correlation was found between educational level and stress. There were also gender differences in attitudes toward sports favoring males, but no significant gender differences in stress levels.

6. Theoretical Framework of the Study Variables

6.1 Physical Activity

- **Definition of Activity:** Ameen Al-Khouli defined it as "an educational tool involving guided practices that help meet individual needs and motivations by providing educational situations similar to those encountered in real life."

- **Definition of Physical Activity:** T. Bucher defined it as "a type of activity that develops human physical capacity through various bodily systems, leading to recovery and resistance to fatigue" (Boumaraf Nassima, 2014, p. 131).

Physical activity is a form of behavior aimed at achieving tangible outcomes based on set educational goals. It equips individuals with skills that help them adapt to society and cope with its development. Hassan Qassem emphasized that "education in general, and physical education in particular, plays a key role in individual development by providing motor skills that positively influence physical, psychological, social, and moral growth" (Ziane Nassira, 2013, p. 59).

- **Objectives of Physical Activity:** Pioneers in physical education have outlined several objectives: a. Developing physical fitness to ensure endurance. b. Enhancing neuromuscular coordination for smooth, low-effort movements. c. Developing skills and using leisure time effectively. d. Promoting mental and cognitive abilities to aid decision-making. e. Encouraging social development through cooperative work and a sense of belonging. f. Emotional development by reducing tension and building self-confidence. g. Providing opportunities for self-expression. h. Enabling personality development. i. Instilling health and safety habits (Rabh Saleh, 2013, pp. 72–73).
- **Types of Physical Activity:** a. **Quiet Activities:** Low-effort activities performed alone or with others in calm settings, often as relaxation after a long day. b. **Simple Activities:** Characterized by few rules and basic

movements. c. **Competitive Physical Activities:** Require skill, neuromuscular coordination, and physical effort; can be individual or group-based (Nael Kassal Aziz, 2018, p. 63).

6.2 Psychological Stress

- **Definition of Stress:** Stress refers to external factors that cause intense tension in an individual. When stress becomes overwhelming, it disrupts balance and behavior. Generally, stress is a byproduct of technological progress and societal changes that place demands on individuals. It affects mental, physical, and emotional well-being (Mudar Abdul-Baqi Salem et al., 2012, p. 361).

Monta and Lazarus defined stress as "a condition resulting from an imbalance between environmental and internal demands and an individual's adaptive resources" (Haroun Tawfiq Al-Rashidi, 1999, p. 15).

Ali Ismail Ali described it as "an internal response to perceived internal or external stimuli that disrupt an individual's balance." He distinguished two types of stress:

- **Positive Stress:** Enhances performance and motivation, supporting life satisfaction and success.
- **Negative Stress:** Reduces functioning and leads to unhappiness and imbalance (Ali Ismail Ali, 1999, p. 75).
- **Types of Psychological Stress:** Stress types vary and are linked to individual situations and coping abilities:

-**Temporary Stress:** Short-term pressures such as exams or sudden events.

-**Chronic Stress:** Long-lasting stress due to persistent unfavorable conditions, often resulting in health deterioration.

-**Positive Stress:** Brings satisfaction and psychological balance.

-**Negative Stress:** Leads to frustration and unhappiness.

Other classifications include:

- **Family Stress:** E.g., conflict, separation, death, poverty.
 - **Deprivation Stress:** E.g., lack of possessions or friendships.
 - **Aggression Stress:** E.g., mistreatment from family or peers.
 - **Control Stress:** E.g., harsh punishment.
 - **Sexual Stress:** E.g., temptation or inappropriate exposure.
 - **Physical Stress:** E.g., physical, mental, or social impairments
- (Mohammed Hassan Mohammed Hamadat, 2008, p. 168).

7. Applied Framework

7.1. Methodology: The study employed the descriptive analytical method.

7.2. Study Population and Sample: The target population included all first-year Social Sciences Common Core students at the Faculty of Humanities and Social Sciences, Mohamed Boudiaf University in M'sila, totaling 619 students (64 males and 555 females). A questionnaire was distributed containing personal information and one question about the students' participation in physical activity: "Do you practice physical activity"?

(The response options were: I do not practice physical activity. I practice occasionally. I practice depending on circumstances. I practice once a week regularly. I practice more than once a week regularly.)

Table 1. Distribution of the Study Population According to Physical Activity Practice

Response Option	Males	Females	Total
Do not practice physical activity	25	320	345
Practice occasionally	15	106	121
Practice depending on circumstances	10	60	70
Practice once a week regularly	6	39	45
Practice more than once a week regularly	8	30	38
Total	64	555	619

The table shows the distribution of the population according to their engagement in physical activity:

- Students who do not practice: 345
- Students who practice occasionally: 121
- Students who practice depending on circumstances: 70
- Students who practice once a week regularly: 45
- Students who practice more than once a week regularly: 38

Students who did not practice physical activity, practiced occasionally, or depending on circumstances were excluded. The final purposive sample consisted of 83 students (45 who practice once a week, and 38 who practice more than once a week).

7.3. Research Instrument: The researcher developed a questionnaire to collect data on students' perceptions of the role of physical activity in reducing

psychological stress. The questionnaire was constructed based on various studies and included the following dimensions :

- 1.The role of physical activity in reducing academic stress (5 items).
- 2.The role of physical activity in reducing financial stress (5 items).
- 3.The role of physical activity in reducing residential stress related to university accommodation (5 items).

The items were measured using a five-point Likert scale: -Strongly agree (5)- Agree (4)- Neutral (3)- Disagree (2)- Strongly disagree (1).

Scoring was based on the Likert scale.

Table 2. Correction Method for the Five-Point Likert Scale

No	Item Mean Ranges	Dimension Mean Ranges	Questionnaire Mean Ranges	Availability Level
1	1 to less than 1.80	9 – 5	15 – 28.8	Very Low
2	1.80 to less than 2.60	13 – 9	28.8 – 39	Low
3	2.60 to less than 3.40	17 – 13	39 – 51	Moderate
4	3.40 to less than 4.20	21 – 17	51 – 63	High
5	4.20 to 5.00	25 – 21	63 – 75	Very High

7.4.Psychometric Properties of the Questionnaire

1. Internal Consistency Validity between Item Scores and Total Questionnaire Score :

The correlation coefficients between the item scores and the total questionnaire score were mostly statistically significant at the 0.01 level, ranging from (0.375) as the lowest to (0.632) as the highest. Items (1, 2, 7, 10) were statistically

significant at the 0.05 level, with coefficients ranging between (0.275–0.331). Since all items were statistically significant, this indicates that the questionnaire items are consistent and the questionnaire has internal consistency validity (construct validity).

2. Internal Consistency Validity between Dimension Scores and the Total Questionnaire Score :

The correlation values between the dimensions and the total questionnaire score were statistically significant at the 0.01 level, ranging from (0.615) to (0.662), indicating internal consistency and the validity of the questionnaire structure.

3. Self-Validity:

Self-validity is obtained by calculating the square root of the reliability coefficient.

- Test reliability = 0.710
- $\sqrt{\text{Reliability}} = \text{Self-validity} = 0.84$

A value of 0.84 indicates a high level of self-validity, confirming the questionnaire's validity.

4. Questionnaire Reliability :

The reliability coefficients were calculated using Cronbach's Alpha via the Statistical Package for the Social Sciences (SPSS-22). The results were as follows: The reliability coefficients of the dimensions ranged between (0.661–0.695), and the overall reliability coefficient of the questionnaire reached (0.710), which confirms that the questionnaire has good reliability standards.

Based on the quantitative indicators for the psychometric properties (validity and reliability), it can be concluded that the questionnaire possesses the characteristics of a good measurement tool.

7.5. Statistical Methods Used:

Frequencies, arithmetic means, standard deviations, and percentages were used to describe the participants' responses to the questionnaire items.

7.6. Presentation and Discussion of Research Results

Hypothesis 1: The level of physical activity among first-year common-core students in the Faculty of Humanities and Social Sciences is low.

To test this hypothesis, the number of students who regularly practice sports and those who do not was counted. The results are presented in the following table:

Table 6. Distribution of the Study Population Based on Physical Activity Practice

Response Option	Males	%	Females	%	Total	%
I do not practice physical activity	25	39%	320	58%	345	56%
I practice occasionally	15	23%	106	19%	121	20%
I practice depending on circumstances	10	16%	60	11%	70	11%
I practice once a week regularly	6	9%	39	7%	45	7%
I practice more than once a week regularly	8	13%	30	5%	38	6%
Total	64	100%	555	100%	619	100%

Table (06) shows that the highest proportion (56%) of participants do **not** engage in physical activity (39% of males and 58% of females). The second most common response was occasional practice (20%), followed by those who practice based **on** circumstances (11%). Only 7% reported practicing once per week regularly, and just 6% practiced more than once per week regularly.

All individuals **not** practicing regularly were excluded from the main sample analysis. Thus, only 13% of the population (83 individuals) who engage in regular physical activity remained. These were divided between those who practice once **a** week (9% of males and 7% of females) and those who practice more than once **a** week (13% of males and 5% of females). This percentage is very low compared to the 87% (536 individuals) who are inactive.

Discussion of the First Hypothesis Results:

The low engagement in physical activity among students may be attributed to several factors, such as:

- Lack of interest among some students, especially as they are newly admitted and may be focusing more on lectures and assignments.
- A lack of motivation or preference for sports activities.
- Limited or unavailable sports facilities, especially for female-oriented sports, as pointed out by some participants.
- Long commutes and academic commitments that hinder regular participation.

Therefore, the level of physical activity among first-year university students is generally low, although a minority engage in regular or circumstantial physical activity.

-Presentation of the Second Hypothesis Results:

Hypothesis 2: Engagement in physical activity has a positive role in reducing psychological stress among first-year common-core students.

To verify this hypothesis, frequencies, means, and standard deviations were calculated using SPSS-22. The results are presented below:

Table 7. The Role of Physical Activity in Reducing Psychological Stress – All Dimensions

No.	Item	Dimension	Frequency	Mean	Standard Deviation	Agreement Level
1	Physical activity reduces academic workload stress and research overload.	Dimension 1	332.0	4.0	0.98	High
2	Practicing sports clears my mind and helps me focus during lectures.	Dimension 1	332.0	4.0	0.92	High
3	Physical activity helps me absorb information and improves memory.	Dimension 1	290.5	3.5	0.89	High
4	Physical activity reduces exam anxiety and related stress.	Dimension 1	311.25	3.75	0.98	High
5	Physical activity helps me better manage priorities and time.	Dimension 1	249.0	3.0	0.95	Moderate
6	My engagement in physical activity helps me relieve the anxiety caused by university expenses.	Dimension 2	298.8	3.6	0.99	High
7	My engagement in physical activity improves my	Dimension 2	373.5	4.5	1.07	Very High

	psychological mood despite financial pressure.					
8	My engagement in physical activity reduces my feelings of frustration due to delayed scholarships.	Dimension 2	307.1	3.7	1.05	High
9	My engagement in physical activity limits my thinking about financial problems.	Dimension 2	278.0	3.35	1.78	Moderate
10	Practicing sports on campus offers cost-free alternatives compared to off-campus sports.	Dimension 2	315.4	3.8	1.4	High
11	I find practicing sports a useful way to avoid stress inside university housing.	Dimension 3	344.45	4.15	1.07	High
12	I find sports a way to avoid the emotional distress caused by being away from my family.	Dimension 3	315.4	3.8	1.11	High
13	Regular physical activity enhances my adaptation to university housing.	Dimension 3	356.9	4.3	1.23	Very High
14	I consider physical activity a good alternative that gives me comfort	Dimension 3	311.25	3.75	0.97	High

	while living away from home.					
15	Practicing sports helps me forget the stress caused by roommates I don't get along with.	Dimension 3	273.9	3.3	1.04	Moderate
Dimension 1 Averages		Dimension 1	302.95	3.65	0.105	High
Dimension 2 Averages		Dimension 2	314.56	3.8	2.56	High
Dimension 3 Averages		Dimension 3	321.0	3.87	2.48	High
Overall Questionnaire Averages		All Dimensions	313.2	3.77	3.23	High

The results indicate that the overall mean score (3.77) lies within the fourth level of the five-point Likert scale (refer to Table 02), which corresponds to a "High" level of agreement. Each of the three dimensions also recorded high average scores (3.65, 3.80, 3.87), confirming students' strong awareness of the positive role of physical activity in reducing stress. These findings are consistent with previous studies.

-Discussion of the Second Hypothesis Results:

The observed results confirm what the researcher noted throughout the study—namely, the positive impact of physical activity on students' adaptation and their ability to manage psychological stress. This finding is consistent with several previous studies. For instance, Ziani and Tahir (2018) demonstrated that physical education plays a significant role in reducing psychological pressure among students preparing for exams. Similarly, Berry (2006) found a statistically significant reduction in stress levels among students who engaged in regular physical activity. Bouferida (2015) also concluded that recreational sports are effective in alleviating anxiety, frustration, and psychological tension, contributing to improved emotional regulation among students.

Moreover, Abdelhaq (2002) showed that students who participate in sports tend to experience lower levels of stress. Abdelbasset and Lakhder (2023) further supported this by reporting a negative correlation between students' attitudes toward sports and their psychological stress levels. In line with these findings, the present study emphasizes that regular sports practice enhances students' perceptions and coping mechanisms regarding academic, financial, and residential stressors.

General Conclusion :

The present study reached the following conclusions :

- The level of physical activity among first-year common-core students is low.
- Engaging in sports plays a positive role in reducing psychological stress related to :
 - Academic workload
 - Financial pressures
 - University housing

The statistical results reflect a strong awareness among students of the importance of sports as a means for emotional discharge, time management, and improving social and emotional adaptation.

Recommendations:

- Construct and expand sports facilities on university campuses, offering diverse and **free** activities accessible to all students.
- Integrate sports programs into university curricula as part of holistic student development.
- Organize sports events across specializations and encourage both individual and team sports (bodybuilding for males, women's sports activities).

- Conduct experimental research to assess the impact of physical activity not only on stress reduction but also on academic achievement.
- Encourage administrative bodies to support university sports
- participation, including national and international competitions

Sources and References

The work

-Ali Ismail Ali, *Strategies of School Social Work: Intervention in Stress and Crisis Situations*, Dar Al-Maarifa Al-Jami'ya, 1999.

-Haroun Tawfiq Al-Rashidi, *Psychological Stress*, Anglo-Egyptian Library, 1999.

-Mansour Viola & Al-Bilawi Talaat, *Psychological Stress Scale for Teachers*, Anglo-Egyptian Library, 1989.

-Mohammad Hassan Mohammad Hamadat, *Organizational Behavior and Future Challenges in Educational Institutions*, Dar Al-Hamed for Publishing and Distribution, 2008.

The articles :

-Mudhar Abdul-Baqi Salem et al., *Psychological Stress Among First Division Football Club Players: An Experimental Study on a Sample from Middle Euphrates Provinces*, Journal of the College of Basic Education, Vol. —, No. 07, 2012, pp. —.

-Bouma'raf Nassima, *Effects of Physical Sports Activity in Achieving Psycho-Social Adjustment in Adolescents*, Journal of Social Studies and Research, No. 08, 2014, pp. —.

-Ziani Mohamed & Tahir Yasmine, *The Role of Physical Education and Sports in Reducing Psychological Pressure Among Students Preparing for the Brevet Exam*, Journal of the Institute of Physical Education and Sports, No. 26, 2018, pp. —.

Forum work:

-Rabah Salah, *Psychological Attitudes Toward Physical Sports Activity and Its Relationship with Psycho-Social Adjustment Among Secondary School Students*, Doctoral dissertation, Institute of Physical Education and Sports, University of Algiers 3, Algeria, 2013.

-Ziane Nacira, *The Relationship of Educational Physical Activity in Preventing Drug Addiction in the School Environment*, Doctoral dissertation, Institute of Physical Education and Sports, University of Algiers 3, Algeria, 2013.

-Nayel Kessal Aziz, *The Effect of Educational Physical Activity on Levels of Psychological Alienation Among Secondary School Students*, Doctoral dissertation, Institute of Sciences and Techniques of Physical and Sports Activities, Ziane Achour University of Djelfa, Algeria, 2018.

-Bouferida Abdelmalek. *The Role of Recreational Physical Activity in Reducing Psychological Stress Among Secondary School Students*, Master's thesis, Institute of Physical Education and Sports, University of Algiers 3, Algeria, 2015.