

The Impact of a Proposed Recreational Sports Program on Reducing Psychological Stress among University Students

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Abstract

This study aimed to investigate the effect of the proposed recreational sports program on reducing psychological stress among university students. An experimental method was applied to a sample of 20 participants aged between 18 and 25 years, who were selected intentionally. The study employed a psychological stress scale as well as a proposed recreational sports program.

The results, after being presented, analyzed, and interpreted, indicated the effectiveness of the proposed recreational sports program in reducing psychological stress in its social, emotional, and academic dimensions among university students.

Keywords: Recreational sports program, psychological stress, university students.

1. Introduction

Higher education and scientific research—particularly universities—receive considerable attention in most countries, as they occupy a high position within the educational system and represent an effective means for societal and youth development. This is due to the important role they play in various social, economic, and other fields. University education constitutes a crucial stage in an individual's life because of the human and leadership capacities it provides to society. This requires universities to give special

attention to the human element from academic, psychological, and social perspectives in order to enable students to respond to the demands of the modern era and society.

University students are among the social groups most susceptible to being influenced by surrounding changes and variables. They bear much of the responsibility for development and change in political, social, economic, and industrial fields, as they contribute significantly to these domains.

Therefore, the university student lives within a small community filled with responsibilities and new experiences and includes individuals from diverse social and cultural backgrounds. This increases the difficulty of adaptation to events and changes, raises demands, and complicates life circumstances, resulting in increased psychological stress and tension. Shelley (1991) identified several sources of stress among university students, including fear of academic failure, adjustment to university life, anxiety, separation, feelings of loneliness, lack of control, academic problems, concerns about future employment, family problems, and examination pressure (Yousefi, 2016, p. 34).

Many psychological references emphasize the importance of recreational physical activity as a positive means of promoting physical, psychological, social, and general health. Contemporary scientific research indicates that participation in sports activities contributes to

improving physical health and is positively associated with mental health. Regular engagement in recreational sports activities enhances individuals' capacity to endure and resist life stresses (Darwish & Wafaa, 2007). Recreational sports, as a form of leisure activity, have become part of the educational system and are considered an effective means of reducing tension, anxiety, and emotional stress. Through physical activity, "happiness hormones" such as endorphins and serotonin are released, improving mood and enhancing feelings of calmness and inner satisfaction. Consequently, recreational sports can have a positive effect on academic performance and productivity in work or study. Organized physical activity also helps calm the body and mind and relax the muscles, thereby contributing to improved sleep (Magdy & Al-Sayid, 2020, p. 18).

Hence, the importance of this research lies in studying and understanding the impact of recreational sports activities and their role in reducing psychological stress. Recreational sports are considered an effective means of alleviating stress and tension. Accordingly, the research problem emerged from the need to address this issue and bridge this gap by designing a recreational sports program for this group in order to improve their psychological state and achieve better academic adjustment. Thus, the main research question can be formulated as follows:

To what extent is the proposed recreational sports program effective in reducing psychological stress among university students?

Sub-questions:

- Are there statistically significant differences between the mean scores of the experimental group in the pre-test and post-test on the level of social stress attributable to the proposed recreational sports program?
- Are there statistically significant differences between the mean scores of the experimental group in the pre-test and post-test on the level of emotional stress attributable to the proposed recreational sports program?

- Are there statistically significant differences between the mean scores of the experimental group in the pre-test and post-test on the level of academic stress attributable to the proposed recreational sports program?

2. Research Hypotheses

- There are statistically significant differences between the mean scores of the experimental group in the pre-test and post-test on the level of social stress attributable to the proposed recreational sports program.
- There are statistically significant differences between the mean scores of the experimental group in the pre-test and post-test on the level of emotional stress attributable to the proposed recreational sports program.
- There are statistically significant differences between the mean scores of the experimental group in the pre-test and post-test on the level of academic stress attributable to the proposed recreational sports program.

3. Study Objectives

This study aims to:

- Identify the level of psychological stress among university students.
- Examine the effect of the recreational sports program on social stress among university students.
- Examine the effect of the recreational sports program on emotional stress among university students.
- Examine the effect of the recreational sports program on academic stress among university students.
- Explore the role of recreational sports participation as a means of reducing psychological stress among university students by:
 - Analyzing the relationship between participation in recreational sports activities and the reduction of psychological stress.

4. Definition of Key Concepts

- **Recreational Sports Activity**

Activity: It refers to the actual performance of an action and is particularly used to describe any mental or motor process characterized more by spontaneity than by mere response, or any mental or biological process that depends on the use of the organism's energy (Saliba, 1994, p. 469).

Recreation: The term "recreation" is derived from the Latin word *Recreation*, where the prefix *Re* means rebuilding or renewal, and *creation* means creation. Recreation therefore implies renewal, creativity, and innovation (Tehani, 2001, p. 104).

Recreational Sports: According to Amani Metwally Al-Batraoui and Mohamed Abdelaziz Salama (2013), citing Al-Hamahmi and Aida Abdelaziz, recreational sports refer to a type of recreation that includes various physical and sports activities and is considered the most influential in terms of its impact on the physical and physiological aspects of individuals who practice activities involving games and sports (Al-Batraoui & Salama, 2013, p. 22).

• Psychological Stress

Gordon (1993) defines psychological stress as the psychological, emotional, and physiological responses of the body to any demand perceived as a threat to an individual's well-being and happiness. These changes prepare the individual to adapt to stressors, which are environmental conditions that the individual may attempt either to confront or to avoid (Aris, 2017, p. 65).

• University Students

Abdullah Mohamed Abdel Rahman (1991) defines university students as both the inputs and outputs of the university educational process (p. 26).

In this study, university students refer to a sample of male and female students enrolled in the Faculty of Human and Social Sciences at Amar Telidji University of Laghouat, aged between 19 and 25 years.

5. Theoretical Background and Previous Studies

First: Theoretical Background Concept, Types, and Classification of Recreational Sports

Recreational sports fall within the framework of the major social development witnessed at the end of this century, particularly through the increase in leisure time. Recreational sports respond to individuals' needs for physical activity and adapt to each individual's desires and aspirations. Sports activities are practiced in clubs, communities, institutions, and within residential or organized sports gatherings, and participants are not constrained by strict regulations or time limitations (Corinne et al., 1996, p. 20).

Gouli and Ibrahim classify recreational sports activities into the following main categories:

1. Simple Organized Games and Competitions

These activities depend on simple rules for organization and do not require a high level of skill or performance. Individuals of different ages can participate according to their physical and mental abilities, interests, and inclinations. Examples include ball games, relays, water games, agility games, and similar activities.

2. Individual Sports and Activities

Many individuals prefer to practice activities alone, either due to enjoyment of individual performance or difficulty in coordinating with friends or colleagues regarding the type or timing of activities. Examples include skating, walking, running, horse riding, golf, swimming, and cycling.

3. Dual Sports

These sports require at least two participants and include activities such as tennis, badminton, table tennis, fencing, and squash.

4. Team Sports

Team sports are highly significant for youth as they match their interests and involve a high level of organization compared to other activities. Examples include football (soccer), volleyball, basketball, and hockey (Ibrahim, Ismail Al-Qarah Gouli, & Marwan Abdelmajid, 2001).

Types and Sources of Psychological Stress

Selye classified psychological stress into four types:

- **Negative stress (distress):** which places excessive demands on the individual.

- **Normal stress:** which involves demands that require readjustment, such as childbirth, travel, or sports competition.
- **Excessive stress:** resulting from the accumulation of stressful events that exceed the individual's coping resources.
- **Low stress:** which leads to boredom and lack of challenge and stimulation (Naif Ali Ayoub, 2019, p. 77).

Sources of Psychological Stress

1. External Sources

- **Family stress:** family conflicts, divorce, separation, frequent arguments, and issues related to children.
- **Occupational stress:** conflicts with colleagues, excessive regulations, job dissatisfaction, low income, and organizational conflict.
- **Economic stress:** low income, unemployment, and high crime rates.
- **Social stress:** such as social isolation, excessive social demands, experiences of physical or sexual abuse, neglect, and behavioral deviations.
- **Health or physiological stress:** physiological and chemical changes in the body, illness, and dietary changes.
- **Natural stressors:** such as natural disasters (earthquakes, volcanoes, hurricanes).
- **Political stress:** dissatisfaction with political systems and political conflicts within society.
- **Ideological and intellectual stress:** conflicts between personal beliefs and imposed institutional changes.
- **Cultural stress:** exposure to imported cultures and inappropriate media content that conflict with local cultural and social frameworks.
- **Academic stress:** transitions between educational stages and academic workload.
- **Emotional and psychological stress:** anxiety, depression, and phobias.

- **Chemical stress:** misuse of drugs, alcohol, caffeine, nicotine (Shehata & Al-Najjar, 2003, p. 30).

2. Internal Sources

- **Emotional stress:** disruptions in emotional life, such as delayed marriage or lack of emotional stability, which weaken individuals' resistance to life stressors.
- **Internal psychological events and problems:** while moderate emotional arousal motivates individuals and prepares them to face challenges, excessive emotional reactions may become a source of psychological and social disturbance (Daly, 2013, p. 41).

Symptoms of Psychological Stress

Al-Khalidi (2008) indicated that psychological stress symptoms can be classified as follows:

- **Physical symptoms:** headaches, muscle pain, appetite disorders.
- **Cognitive symptoms:** forgetfulness, confusion, negative thinking, lethargy.
- **Emotional symptoms:** mood swings, depression, anger, lack of patience.
- **Social symptoms:** withdrawal, isolation, intolerance, tendency toward solitude, and reduced social activities (Daghnoosh, 2022, p. 134).

Second: Previous Studies

First Study

Student researcher: *Bouzaydi Mounir* Title: *The Effect of Practicing Recreational Activities on Reducing Anxiety among University Students.*

Methodology: The researcher used the descriptive-analytical method. The study involved students from the National Preparatory School for Engineering Studies in Rouiba. The sample consisted of 346 students aged between 17 and 21 years, selected randomly, representing 45% of the research population. The statistical analysis of the Spielberger Anxiety Test (Self-Evaluation List) showed that students who regularly practiced recreational sports activities experienced lower anxiety levels than those who did not. Personal interviews with the head of the school's sports office supported these findings, indicating supervisors' awareness of

the importance of encouraging students to engage in recreational sports due to their multiple physical and psychological benefits.

Second Study

Berger (1988): *The Effect of a Sports Activity Program on Psychological Tension*.

This study aimed to examine the effect of a diversified sports activity program on reducing psychological tension among a group of university students. The program included swimming, yoga, and fencing. The Profile of Mood States (POMS) was applied before and after the program. The results revealed statistically significant differences in mood states and state anxiety, indicating the effectiveness of the sports program in reducing psychological tension (Berger, 1988, pp. 148–159).

Third Study

Aida Abdel Aziz & Suhair Labib (1985): *The Effect of Practicing Recreational Activities on Self-Concept among Practicing and Non-Practicing University Students*.

The study was conducted on 300 students from the Faculty of Commerce at Ain Shams University, divided into two groups of 150 each: practitioners and non-practitioners of recreational sports. Results showed statistically significant differences in self-concept dimensions in favor of practitioners, according to the Tennessee Self-Concept Scale (Arabic version by Allawi & Shamoun, 1978). A positive correlation was also found between physical self-concept and certain dimensions of self-concept among practitioners.

6. Methodological Procedures

6.1 Research Design

The experimental method was adopted due to its suitability for the study topic, as it allows for systematic control and measurement of variables.

6.2 Pilot Study

A pilot study was conducted prior to the main fieldwork to test the validity and reliability of the research instruments and to ensure clarity of items and instructions, as well as to anticipate and avoid potential implementation difficulties. It aimed to:

- Identify the size and characteristics of the population.

- Verify the appropriateness and psychometric properties (validity and reliability) of the psychological stress scale.
- Ensure clarity of items and instructions.
- Anticipate fieldwork conditions and obstacles.

6.3 Population and Sample

The study population consisted of students from the Faculty of Human and Social Sciences at Amar Telidji University of Laghouat. The sample consisted of 20 male students aged between 19 and 25 years, selected intentionally from the academic year 2024/2025.

6.4 Study Variables

- Independent variable: Recreational sports program.
- Dependent variable: Psychological stress.

6.5 Study Scope

- **Human scope:** 20 male university students aged 19–25.
- **Spatial scope:** Institute of Sciences and Techniques of Physical and Sports Activities, Amar Telidji University of Laghouat.
- **Temporal scope:** December 2024 to February 2025.

6.6 Research Instruments

To collect data, the study used the Psychological Stress Scale by Abdelhak Labouazda (2017), originally developed to examine the relationship between psychological stress and psychological well-being among university students. The scale includes dimensions of academic, economic, family, personal, social, and emotional stress, rated on a three-point Likert scale (Always = high stress, Sometimes = moderate stress, Never = no stress).

For the purposes of this study, the economic and family dimensions were excluded, and only three dimensions were retained: social stress, emotional stress, and academic stress.

Validity and Reliability of the Scale

The scale was administered to the pilot sample to determine its psychometric properties.

- **Internal consistency validity:** This method estimates construct validity by calculating the correlation between each item and the total score, as well as

between each dimension and the total scale score.

Table (1): Correlation Coefficients Between the Dimensions of the Psychological Stress Scale and the Total Score

No.	Dimension	Social Stress	Emotional Stress	Academic Stress	Total Scale
1	Social stress	1	0.248	0.381	0.787
2	Emotional stress	0.248	1	0.125	0.658
3	Academic stress	0.381	0.125	1	0.676
	Total scale	0.787	0.658	0.676	1

Table (1) shows that all correlation coefficients are statistically significant at the 0.01 level, ranging between 0.658 and 0.787, which indicates a high degree of internal consistency and supports the construct validity of the scale.

Validity (Expert Judgment Validity)

Face validity was established by submitting the instrument to a panel of six university professors. Most experts agreed that the majority of the items were appropriate, with minor modifications made to some terms to ensure clarity for the study sample.

Reliability of the Instrument

Reliability refers to the consistency and accuracy of the measurement results. The test–retest method was applied twice to a pilot sample of 20 participants, and Cronbach’s alpha coefficient was used to estimate reliability.

The reliability coefficient of the psychological stress scale was:

Cronbach’s Alpha = 0.624

Table (2): Reliability and Self-Validity of the Psychological Stress Scale

Scale	Cronbach’s Alpha	Self-validity
Psychological stress	0.624	0.789

(Self-validity = square root of the reliability coefficient)

Table (2) shows that Cronbach’s alpha reached 0.624, which is an acceptable and statistically significant value at the 0.05 level. The self-validity coefficient was 0.789, indicating that the scale has satisfactory validity and can be reliably used in the study.

6.7 Statistical Methods Used

After data collection, the data were coded and analyzed using the Statistical Package for the Social Sciences (SPSS). The following statistical methods were used:

- Cronbach’s alpha coefficient to estimate reliability.
- Means and standard deviations to describe the sample characteristics.
- Independent sample t-tests to examine differences between measurements.

The Proposed Recreational Sports Program

Based on the general objective of the program, a set of recreational sports activities was designed to reduce psychological stress among university students. The program lasted **12 weeks**, with **two sessions per week**, each session lasting **60 minutes**.

Materials Used

Various balls of different sizes and colors, plastic hoops, baskets, a stopwatch and whistle, chairs and benches, small football and basketball goals, long plastic poles, small hurdles, and colored bibs.

Principles of the Recreational Training Program

- The program aims to reduce psychological stress among students.
- Activities progress from simple to complex.

- Activities are suited to the participants' abilities.
- Continuity, sequencing, and integration are maintained.
- Students' interests and preferences are considered.
- Activities progress from simple to more complex small games.
- The program includes both individual and group recreational activities.

7. Presentation and Discussion of Results According to the Hypotheses

7.1 First Hypothesis

Hypothesis:

There are statistically significant differences in social stress between the pre-test and post-test mean scores of the experimental group attributable to the proposed recreational sports program.

Table (3): Means, Standard Deviations, and t-test for Social Stress.

Dimension	N	Measurement	Mean	SD	df	t (calculated)	t (critical)	p
Social stress	20	Pre-test	11.20	2.52	19	2.64	2.093	0.016
	20	Post-test	13.05	2.32	19			

The table shows that the mean social stress score increased from 11.20 (SD = 2.52) in the pre-test to 13.05 (SD = 2.32) in the post-test. The calculated t-value (2.64) exceeds the critical value (2.093) at $df = 19$ and $\alpha = 0.05$, indicating a statistically significant difference attributable to the recreational sports program.

7.2 Second Hypothesis

Hypothesis:

There are statistically significant differences in emotional stress between the pre-test and post-test mean scores of the experimental group attributable to the proposed recreational sports program.

Table (4): Means, Standard Deviations, and t-test for Emotional Stress.

Dimension	N	Measurement	Mean	SD	df	t (calculated)	t (critical)	p
Emotional stress	20	Pre-test	11.15	2.39	19	3.45	2.093	0.003
	20	Post-test	13.70	1.75	19			

The mean emotional stress score increased from 11.15 (SD = 2.39) in the pre-test to 13.70 (SD = 1.75) in the post-test. The calculated t-value (3.45) is greater than the critical value

(2.093), indicating statistically significant improvement attributable to the program.

3.7 Presentation and Discussion of the Third Hypothesis

The third hypothesis stated that: “*There are statistically significant differences in academic stress between the mean scores of the experimental group in the pre-test and the post-test, attributable to the proposed recreational sports program.*”

To test this hypothesis, a **t-test** was used to determine the differences between the two measurements.

Table (5) presents the mean, standard deviation, and t-test results for the pre- and post-measurements of the experimental group

Dimension	N	Measurement	Mean	Std. Dev.	df	t (calculated)	t (tabulated)	Sig.
Academic stress	20	Pre-test	11.35	2.10	19	4.30	2.093	0.000
	20	Post-test	14.20	1.47	19			

The results show that the mean score of the experimental group on academic stress decreased to (14.20) with a standard deviation of (1.47), compared to the pre-test mean of (11.35) with a standard deviation of (2.10).

It is also observed that the calculated t-value (4.30) is greater than the tabulated t-value (2.093) at 19 degrees of freedom and a significance level of 0.05. This indicates statistically significant differences in academic stress between the pre- and post-test scores of the experimental group attributable to the proposed recreational sports program.

8. Discussion and Interpretation of Results According to the Hypotheses

8.1 Discussion of the First Hypothesis

The first hypothesis stated that there are statistically significant differences in social stress between the mean scores of the experimental group in the pre-test and post-test attributable to the proposed recreational sports program. The results confirmed this hypothesis, as the calculated t-value (2.64) exceeded the tabulated value (2.093) at 19 degrees of freedom and a significance level of 0.05.

These results support the findings of Sultan Abdulsamad Ismail (2005), who highlighted the positive role of recreational programs in reducing feelings of social isolation, and the studies by Ashraf Eid Ibrahim (1990) and Sami Ghoneim Moutawa (1991), which emphasized the importance of sports activities in enhancing psychological adjustment, forming social

relationships, and preventing introverted personality development. Therefore, the first hypothesis is confirmed.

8.2 Discussion of the Second Hypothesis

The second hypothesis stated that there are statistically significant differences in emotional stress between the pre- and post-test mean scores attributable to the proposed recreational sports program. The calculated t-value (3.45) exceeded the tabulated value (2.093) at 19 degrees of freedom and a significance level of 0.05, confirming the hypothesis.

This result is consistent with Rania Bakir Ali (2021), who found that dance as a form of recreational physical activity positively reduced emotional states such as anger, anxiety, shyness, and guilt. It also aligns with Sherman (1994), who emphasized the importance of physical activity—especially aerobic exercises—in relaxation and stress reduction. Hence, the second hypothesis is supported.

8.3 Discussion of the Third Hypothesis

The third hypothesis stated that there are statistically significant differences in academic stress between the pre- and post-test mean scores attributable to the proposed recreational sports program. The calculated t-value (4.30) exceeded the tabulated value (2.093) at 19 degrees of freedom and a significance level of 0.05, confirming the hypothesis.

This finding is supported by Mohammed Haidar Suleiman (2001), who argued that

recreational sports activities enhance concentration and attention, thereby improving academic achievement, especially when cognitive learning is accompanied by practical application. Anan (1995) also noted that individuals who engage in sports—whether organized or recreational—acquire greater skills, knowledge, and abilities, which positively influence academic performance. Therefore, the third hypothesis is confirmed.

9. Conclusions

The researchers concluded that participation in recreational sports activities provides university students with natural opportunities for personality development across social, psychological, and academic dimensions.

The confirmation of the research hypotheses indicates that recreational sports activities contribute to reducing psychological stress, decreasing tension, enhancing inner calm, improving mood and energy levels, increasing concentration and attention, improving sleep and relaxation, and promoting overall mental and emotional health. These findings are consistent with Abd Al-Qader and Al-Maz (2015), who reported that recreational sports activities positively affect quality of life, including general health, family and social life, education, emotional well-being, mental health, and leisure-time quality.

Recommendations

1. Recreational sports programs should be designed to be diverse, enjoyable, and suited to students' needs.
2. Universities should provide adequate infrastructure such as equipped sports facilities, playgrounds, and green spaces to encourage participation in recreational activities.
3. Students should be educated and guided about the psychological benefits of recreational sports and how to use them effectively.
4. Universities should enhance their role in organizing joint recreational events that promote social interaction and participation.

5. Social support for students' participation in recreational sports should be strengthened through family encouragement and the development of community-based support networks.

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