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A comparative study of the level of healthy sports physical activity with female university students in Algeria

A field study on female students among university residences in Souk Ahras State

Abdelmalek Boufrida

[1] University of Souk Ahras (Algeria), a.boufrida@univ-soukahras.dz

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Abstract:

This study aims to identify the level of health status among female students of university residences who practice and do not practice healthy physical activity sports(University of Souk Ahras). The study was conducted on a sample of (40) female students from university residences. They were chosen intentionally. To collect data for the study and because the descriptive technique is suitable for the nature of the study issue, it was employed to confirm its goals. But as for the data collection tools, we relied on books and references. In addition to using a questionnaire directed to the study sample The Statistical Package for Statistics (SPSS) software was used for the statistical processing, and the study's findings were as follows: - There are statistically significant differences in the level of Muscular fitness between practitioners and non-practitioners healthy sports physical activity at the significance level of &=0.05, it is in favor of practitioners.There are statistically significant differences in the level of Cardiorespiratory fitness between practitioners and non-practitioners healthy sports physical activity at the significance level of &=0.05, it is in favor of practitioners.

KEY WORDS : Healthy sports physical activity ; Students; University residences

الملخص: هدفت الدراسة إلى معرفة مستوى الحالة الصحية بين الممارسات و غير الممارسات للنشاط البدني الرياضي الصحي عند طالبات الاقامات الجامعية (جامعة سوق أهراس) أجريت الدراسة على عينة قوامها (40) طالبة من الاقامات الجامعية، تم اختيارهم عمدا، حيث استخدام المنهج الوصفي لأنه ملائم لطبيعة موضوع الدراسة، لكن فيما يخص أدوات جمع البيانات استندنا إلى الكتب و المراجع، بالإضافة إلى استخدام استمارة استبيان موجهة لعينة الدراسة، تمت المعالجة الاحصائية باستخدام برنامج الحزم الاحصائية (SPSS)، حيث جاءت نتائج الدراسة على النحو التالي: – توجد فروق ذات دلالة احصائية في مستوى اللياقة العضلية بين الممارسات و غير الممارسات للنشاط البدني الرياضي الصحي عند مستوى الدلالة &=0.05 و هو لصالح الممارسات.

Corresponding Author.

– توجد فروق ذات دلالة احصائية في مستوى اللياقة القلبية التنفسية بين الممارسات و غير الممارسات للنشاط البدني الرياضي الصحي عند مستوى الدلالة &=0.05 و هو لصالح الممارسات.

الكلمات المفتاحية: النشاط البدني الرياضي الصحي؛ الطالبات؛ الاقامات الجامعية.

1-Introduction:

Exercise is closely related to health, as it has a beneficial effect on all ages on the level of physical and mental health, especially if exercise is regular, as it improves the quality of life and protects against diseases and health problems. Recently, bad habits have spread that have led to a lack of exercise, such as watching television excessively, playing video games, and using the Internet, It has caused the spread of contemporary diseases, poor public health, and a decline in physical fitness. All Member States endorsed the United Nations Political Declaration on the Prevention and Control of No communicable Diseases in 2011, renewed its call for Member States to take measures to reduce physical inactivity. At the World Health Assembly in May 2013, Member States approved the need to implement measures to achieve the goal of reducing physical inactivity by 10% by 2025**. (bilal.khouhli, 2023:82)**

Because of their unique characteristics, athletic and physical activities in university residence halls are among the things that provide students the chance to participate with and connect with the university community. Through it, students' physical abilities and readiness can be revealed, and through it, their talents can be refined, nurtured, developed, modified, and they can acquire new skills. This will only be achieved through different programs and plans distributed over time periods, whether monthly, weekly, quarterly, or daily, in each of the sports games practiced in university residences, so as to allow students the opportunity to enjoy themselves while practicing sports activities that are in accordance with the continuation of this practice. Sports within university walls, in the whole world, constitute a high-level sports movement and a basic tributary from which various game entities draw and a spacious outlet for amateurs and professionals. **(katfa-Belkacem, 2017:16)**

Sports in the university environment ensures the healthy development of all the different sensory and motor abilities for the student, and also helps him to occupy and invest well his free time that he encounters in the university housing especially, where he is

exposed to psychological problems and various emotional disorders as a result of free time, and he can occupy it by practicing recreational sports activities that are in line with his personal inclinations and desires. If there is a reluctance to practice recreational sports activities of various types in the university environment, this leads to the creation of intensive free time for students, which causes them subjective emotions and psychological problems that lead to the emergence of activity disorders. **(djamal.korsi, 2022:434)**

Globally, the challenges of low levels of physical activity pose significant threats to health care systems in many countries. A significant increase in physical inactivity has recently been reported globally. Despite global concerns about individuals' risk of developing non-communicable diseases and/or obesity, physical activity monitoring and surveillance is undertaken in relatively few countries. **(Khalaf A, et al 2013:434)**

Public health organizations across the world have made encouraging physical activity (PA) and healthy lifestyles a top goal ,When contemplating children and adolescents, education has been purposed as a key setting for achieving this goal . The school gives pupils the chance to be physically active and promote healthy lives, particularly via physical education (PE). Fitness for the heart and lungs (CRF) is a key health metric associated with PA. Up to half of the CRF is thought to be inherited. However, regular physical activity is still thought to be the most effective way to increase fitness Systematic evidence revealed strong correlations between cardiovascular fitness (CRF) and various aspects of youth cardiometabolic health, including hypertension, triglyceride and cholesterol levels, and glucose tolerance. Additionally, it is recommended that childhood CRF follow adults into adulthood, providing a reliable indication of future health. **(Miguel Peralta et al ,2020 :02)**

With the presence of recreational sports activities in university residences and through their actual practice by resident female students, because it is truly an important, purposeful and effective approach to alleviate some emotional disorders and improve the health condition that appears in the form of emotional responses or negative reactions as a result of the psychological side suffering from the various harsh conditions that resident female students have experienced in their social lives. Therefore, we decided, through this modest study, to address the following general question:

Does healthy sports physical activity play a positive role in improving the health status with female university students in Algeria ?

2- Research hypotheses:

A- General hypothesis:

- Healthy sports physical activity has a positive role in improving the health status with female university students in Algeria.

B - Partial hypotheses:

- There are statistically significant differences in the level of Muscular fitness between practitioners and non-practitioners healthy sports physical activity at the significance level of &=0.05, it is in favor of practitioners.
- There are statistically significant differences in the level of Cardiorespiratory fitness between practitioners and non-practitioners healthy sports physical activity at the significance level of &=0.05, it is in favor of practitioners

3- Research objectives:

- Recognizing the importance of healthy sports physical activity and its positive role in the growth and improvement of health, which the physical fitness factor represents.
- Recognizing the importance of healthy sports physical activity and its positive role in improving health, which is represented by the element of cardiorespiratory fitness.

4- The significance of the study:

- This study examines the use of consistent, healthful physical activity in sports. and its role in improving health status (muscular fitness).
- Focus on healthy sports physical activity and improving the health status of female students in terms of cardiorespiratory fitness.

5- Defining study terms:

5-1- Healthy sports physical activity:

It is a category of physical sports activity that encompasses various physical and athletic programs and is regarded as such. the most influential type of recreation on the physical and physiological aspects of the individual practicing its activities, which include various games and sports. **(djamal.korsi, 2022:437).**

5-2- University residences:

It is the place where female university students reside, located at a certain distance from the university.

5-3- Female students:

Those females who have obtained a baccalaureate degree, which qualifies them to register in a certain specialization in university study seats. **(djamal.korsi, 2022:438).**

6- Field procedures for the study:

6-1- Exploratory study

It is the first step that helps the researcher collect information about the features of the field investigation for his research. The exploratory study seeks to ensure the applicability of the research study, guarantee the validity of the instrument used to gather information, and understand the appropriate time to conduct the study.

6-2- Study variables:

Independent variable: healthy sports physical activity

Dependent variable: female university residence students

6-3- The population of study and sampling:

In the present research, the study community comprises of female students of the university dormitories at Souk Ahras University.

6-4- Fields of study:

A- Temporal domain:

This study was conducted (from January 3, 2024 to February 15, 2024).

B- Spatial field:

This study was conducted in Souk Ahras State.

C- The human field:

University residence students.

6 -5- Data collection tools:

A questionnaire form was used in addition to theoretical sources and references

6-6- Statistical methods:

- percentage
- C-squared test

7- Analyzing, discussing and interpreting the results:

The first hypothesis: There are statistically significant differences in the level of Muscular fitness between practitioners and non-practitioners healthy sports physical activity at the significance level of &=0.05, it is in favor of practitioners.

Table No. (01): Shows the sample members' answers to the first hypothesis.

The answers	iterations	Percentage	K2	significance level	Sig	degrees of freedom	Statistical estimate
Yes	32	80%	8.3	α=0,05	0,00	n−1 =2	significant
No	08	20%					
The Total	40	%100					

Table source: current study.

From Table No. 01 We notice that those who answered yes were 32 students, representing 80%, and those who answered no were eight pupils, or twenty percent. At the significance threshold of 0.05, K2 = 08.3 is larger than sig = 0.00, and as a result, The degree of muscular fitness exhibited by practitioners and non-practitioners differs statistically significantly. healthy physical exercise in sports at the significance level of &=0.05, it is in favor of practitioners.

Figure No. (01): shows the proportion of people in the research sample for the first hypothesis.

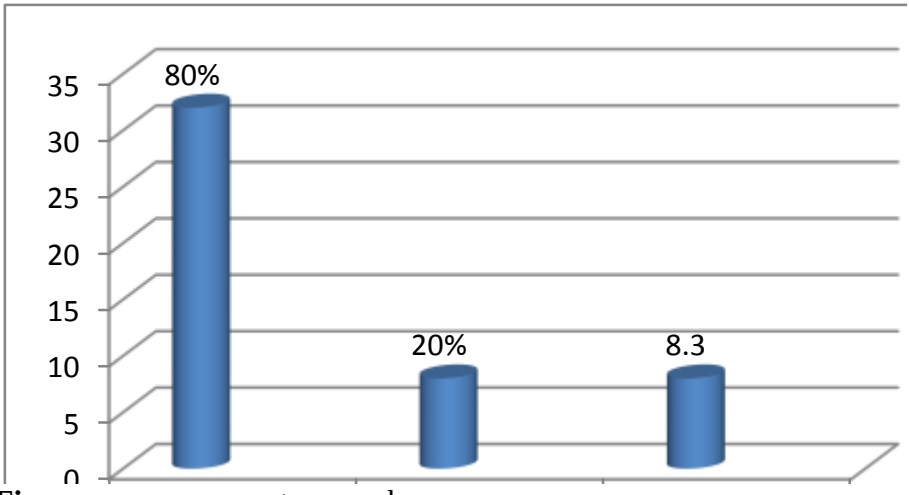


Figure source: current research.

The second hypothesis: There are statistically significant differences in the level of Cardiorespiratory fitness between practitioners and non-practitioners healthy sports physical activity at the significance level of &=0.05, it is in favor of practitioners.

The answers	iterations	Percentage	K2	significance level	Sig	degrees of freedom	Statistical estimate
Yes	27	67,5%	6.4	α=0,05	0,00	n−1 =2	significant
No	13	32,5%					
The Total	40	%100					

Table source: current study.

From Table No. (02): We note that those who answered yes were 27 students, representing 67.5%, and those who answered no were 13 students,32.5% of the total. At the significance level of 0.05, the value of K2 = 06.4 is larger than sig = 0.00. Consequently, The degree of cardiorespiratory fitness exhibited by practitioners and non-practitioners differs statistically significantly. healthy physical exercise in sports at the significance level of &=0.05, it is in favor of practitioners.

Figure No. (02): symbolizes the second hypothesis's circular depiction of the study sample's proportion of participants.

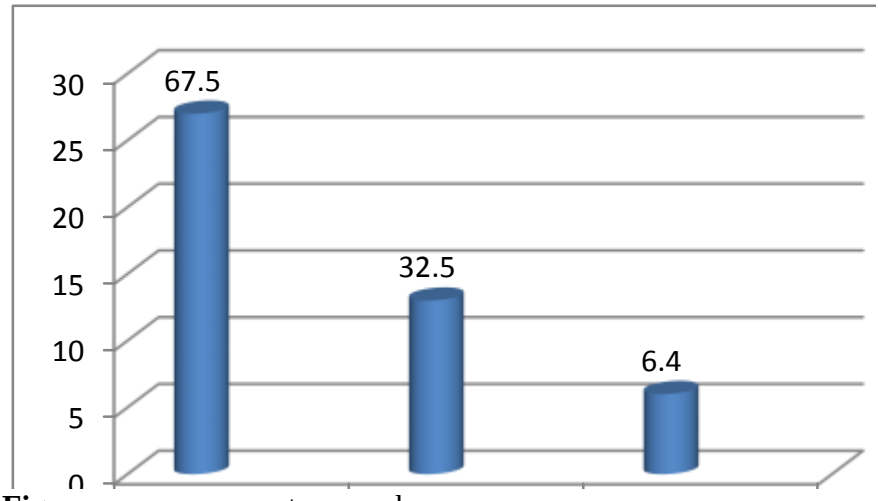


Figure source: current research.

8-Discussing the findings in light of the study hypothesis.

8-1- Discussion of the outcomes of the primary hypotheses:

The researcher discovered statistically significant differences in the level of muscular fitness between practitioners and non-practitioners through statistical analysis of the results obtained, as required by the research process to ensure the validity of the hypothesis. The results are shown in Table No. (01). healthful physical exercise in sports at the significance level of &=0.05, it is in favor of practitioners.

This is consistent with the study of **bilal.khouhli (2023)** entitled Educational Sports Physical Activity and its Impact on Public Health For students in secondary education, the research's findings indicated that there are statistically significant differences between those who practice and those who don't sports physical activity, and there are no statistically significant differences between those who practice within the institution and those who practice inside and outside the institution. There are statistically significant differences depending on the type of activity practiced. **(bilal.khouhli: 2022).**

This is consistent with The paper "A Study of the Level of Some Elements of Physical Fitness" by Chafa Amer (2022) among Intermediate School Students Practicing and Not Practicing Competitive Sports Activities, where the study's findings indicated that there are distinctions between kids who practice and those who don't competitive sports activity in some elements of physical fitness (endurance, speed, flexibility, muscle endurance of the arm and abdominal muscles) in favor of practitioners, while there were no differences in the element of strength (explosive strength of the legs), as the level was close between students practicing and not practicing competitive sports activity. **(Chafa Amer: 2022).**

This is consistent with the study of **Amrouch Mostafa et al. (2018)** entitled Physical activity and prevention of diabetes among pupils in middle school (ages 11 to 15). According to the study's findings, the average self-esteem of the participants in the experimental group—who were engaging in physical activity—and the control group—who were not—differed statistically significantly in this post-measurement in favor of the experimental group. There are statistically significant differences in self-esteem between the average of the members of the experimental group (practicing physical activity) in the pre-measurement and their average scores in the post-measurement, in favor of the post-measurement. **(Amrouch Mostafa et al: 2018).**

This is consistent with the study of **rabah.belgouchi et al. (2022)** entitled, The reality of health-related physical fitness among adolescent girls in secondary schools in Laghouat The results of the

study concluded that, Cardiorespiratory fitness in females was very poor, while musculoskeletal fitness was acceptable. The results showed that the body mass index of the research sample was within normal limits. **(rabah.belgouchi et al:2022)**

This is consistent with the study of wahab.bouafia (2023) entitled A comparative study between practitioners (non-obese) and non-practitioners (obese) of sports activities in terms of body image (a field study at the Association of The former Football The players of Oulad Adi Lakbala with M'Sila), where the study's findings indicated that individuals who participate in sports have statistically significant differences in their two dimensions of body image compared to those who do not**. (wahab.bouafia :2023)**

This is in line with the findings of our study's first hypothesis, which states that, at the significance level of &=0.05, there are statistically significant differences in the level of muscular fitness between practitioners and non-practitioners of healthy sports physical activity, favoring practitioners.

8-2- Discussion of the outcomes of the second hypotheses:

As required by the research process to guarantee the validity of the hypothesis, the researcher statistically processed the results and discovered that, as shown in Table No. (02), there are statistically significant differences in the degree of cardiorespiratory fitness between practitioners and non-practitioners of healthy sports physical activity at the significance level of &=0.05, it is in favor of practitioners.

This is consistent with the study by **P. Štursová et al. (2023)** entitled Sports activities and cardiovascular system change. Additionally, the study produced a number of findings, the most significant of which are: Athletes with cardiac hypertrophy often show cardiac hypertrophy, which is an adaptation to regular intense physical activity, and electrocardiogram changes Electrocardiogram (ECG) changes are observed, reflecting the heart's adaptation to increased physical demands, as well as blood pressure variability: Regular sports participation can improve blood pressure regulation and variability**.(P. Štursová et al :2023)**

This is consistent with the study by (**Jonathan Myers et al)**. (2019) entitled Physical Activity, Cardiorespiratory Fitness, and the Metabolic syndrome. The study also produced a number of findings, the most significant of which are attesting to the value of exercise and fitness in the management of metabolic syndrome and advocating for the adoption of of exercise interventions on a wider scale to improve health outcomes, so that physical activity and high levels of fitness provide benefits in

preventing and treating metabolic syndrome. Understanding these mechanisms is essential to developing effective interventions and promoting physical activity as a key component of health care. **(Jonathan Myers et al :2019).**

This is consistent with the study by (Chaochao Wang et al). (2023) named A Systematic Review of Physical Activity Interventions for Cardiopulmonary Fitness in Obese Children and Adolescents, The study also produced a number of findings, the most significant of which are that physical exercise improved heart rate, resting heart rate, maximum oxygen uptake, and peak oxygen uptake. With a modified methodology selected based on the experiment, the measuring protocol is mostly focused on walking and running. Physical exercise, cardiovascular fitness, autoimmune inflammation reduction, and fat metabolism enhancement are the three approaches to increase cardiopulmonary fitness in obese kids and teens. Systolic and diastolic blood pressure, heart rate, resting heart rate, and maximal and peak oxygen absorption are the primary outcomes of the intervention. Obese children and adolescents' cardiovascular fitness can also be impacted by their living situation, food habits, sleep habits, and genetic susceptibility. (**Chaochao Wang et al :2023)**

This is consistent with the study by (Aneta Aleksova et al). (2022) named The Contribution of Vitamin D and Exercise-Induced Molecular Processes to Enhancing Cardiorespiratory Fitness and Cardiac Rehabilitation in Heart Failure Patients Additionally, the study produced a number of findings, the most significant of which are: By controlling protein synthesis and catabolism, exercise promotes the activation of the IGF-1/PI3K/Akt pathway, which is implicated in muscle development in both the heart and skeletal muscle. Additionally, exercise promotes the activation of the mitogen-activated protein kinase (MAPK) pathway, which controls apoptosis, differentiation, and cellular proliferation. Furthermore, new research has shown that exercise has anti-inflammatory benefits. As a result, it is crucial that doctors precisely assess the patient's status using a 6-minute walking test and/or a cardiopulmonary exercise test. In this context, portable gadgets that could evaluate exercise capacity also proven to be quite helpful.(**Aneta Aleksova et al :2022).**

This is consistent with the study by (M.Z. Kruk et al). (2020) entitled The condition of the pupils' bodies' cardiorespiratory systems while they participate in sports and physical culture Additionally, the study produced a number of findings, the most significant of which are: Because the body's cardiorespiratory system plays a major role in

adapting to various types of physical activity and ensuring that the organism functions at its best in a variety of situations, it is crucial to evaluate its functional state during physical training and sports. terms of training activity, Therefore, since there is a tendency to deteriorate the health of students, in particular, the condition of their cardio-respiratory system, the question of improving it through the use of physical education is very relevant. **(M.Z. Kruk et al : 2020)**

This is consistent with the study by (Miguel Peralta et al). (2020) Promoting Health-Related Cardiorespiratory Fitness in Physical Education: The Significance of Habitual Physical Activity and Class Intensity. Additionally, the study produced a number of findings, the most significant of which are: The results showed that from the start of the school year to the conclusion, the proportion of participants in the CRF healthy fitness zone increased from 73.1% to 79.7% ($p = 0.022$). Boys' participation in organized sports ($B = 4.61$, 95% CI: 0.33, 8.88) and the percentage of time spent engaging in rigorous physical education (PE) ($B = 0.90$, 95% CI: 0.44, 1.35) demonstrated a positive correlation with the difference between PACER laps. While being overweight or obese ($B = -5.11$, 95% CI: -8.28, -1.93) showed a negative correlation with changes in PACER scores, daily vigorous physical activity ($B = 0.38$, 95% CI: 0.15, 0.60) and involvement in organized sports ($B = 4.10$, 95% CI: 0.93, 7.27) showed positive correlations. Finally, it was demonstrated that physical education had a favorable impact on cardiorespiratory fitness, particularly in boys, whereas habitual physical activity appears to play a more significant role for girls. Results and conclusions must be evaluated with caution, considering study limitations, including the indirect measures of physical education class intensity, cardiorespiratory fitness, and the school environment. **(Miguel Peralta et al :2020)**

This is consistent with the study of Fatih Tablawi and All (2019) The impact of physical sports on the compatibility of 16–19-year-old secondary school pupils. Additionally, the study produced a number of findings, the most significant of which are: In terms of overall psychological compatibility, there are statistically significant differences between pupils who participate in physical sports and those who do not, which is in favor of the practitioners, which means that physical sports activity has a positive effect in raising the degree of psychological compatibility through all its dimensions, so that this activity provides the opportunity to acquire many psychological needs among practitioners, such as a sense of self and acceptance, the ability

to bear responsibility, emotional balance, self-control, and reduced stress. **(Fateh Tablawi et al :2019)**

This is consistent with the study of Adel Khodja and All (2019) entitled A research comparing the degree of life satisfaction among physically challenged individuals who participate in sports and those who do not found that the group of physically disabled individuals who participate in sports is characterized by a high degree of life satisfaction, and the category of physically disabled people who do not practice sports activities is characterized by a medium degree of life satisfaction, the degree of life satisfaction varies statistically significantly between the physically disabled who practice sports activities and those who do not practice them in favor of the practitioners. **(Adel Khodja et al :2019)**

The lack of practice of physical activity is associated with negative psychological feelings and symptoms. These various effects have been confirmed by many studies and researches that have also shown that many negative psychological symptoms such as anxiety, sadness, and psychosomatic pain gradually decrease after practicing sports exercises. **(Hazaa ben Mohamed Al-Hazaa:2004)**

This is consistent with the study of **Dada Amira et al** (2023) (2023) The study's findings, which were published in a report titled "The Role of Recreational Sports Activities in Achieving Mental Health Among Workers of the Algerian Electricity and Gas Distribution Company," indicated that recreational sports activities contribute to the mental well-being of such employees. **(Dada Amira et al :2023)**

This is in line with the findings of our study's second hypothesis, which states that practitioners and non-practitioners of healthy sports physical exercise differ statistically significantly in their levels of cardiorespiratory fitness at the significance level of &=0.05, it is in favor of practitioners.

9 - Conclusion:

Based on our study of this topic to identify the importance of practicing healthy sports physical activity and their positive role in improving muscular fitness and cardiorespiratory fitness among female university students, our study reached the most important results:

- Practitioners and non-practitioners of healthy sports physical exercise differ statistically significantly in their levels of muscular fitness at the significance level of &=0.05, it is in favor of practitioners.

- The degree of cardiorespiratory fitness exhibited by practitioners and non-practitioners differs statistically significantly. healthy physical exercise in sports at the significance level of &=0.05, it is in favor of practitioners.

10 - Recommendations:

The study suggests the following in light of the findings:

- Motivating college students to complete their free time by practicing various types of recreational sports activities.
- Organizing comprehensive awareness campaigns for the community as a whole to realize the importance of practicing healthy sports activities.
- Disseminating the culture of practicing recreational sports activities and focusing attention on healthy sports activity programs that contribute to raising the level of physical fitness of the body.
- Conducting preventive awareness sessions and meetings for university students about the benefits of physical activity on human health.

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