



Jurnal Pendidikan Kepeleatihan Olahraga: Pejuang  
Volume 1 Nomor 3 Oktober 2025  
e-ISSN: 3090-1278

## **A Comparative Study of Psychological Adjustment between Female Students Participating and Not Participating in Sports Activities at the University of Samarra**

Ali Ayoob Younus<sup>1\*</sup>

<sup>1</sup>Department of Student Activities, University of Samarra, Iraq, Iraq  
[ali.a.younis@uosamarra.edu.iq](mailto:ali.a.younis@uosamarra.edu.iq)

Correspondensi Author  
Email: [ali.a.younis@uosamarra.edu.iq](mailto:ali.a.younis@uosamarra.edu.iq)

### Article History

Received: 16-08-2025;  
Reviewed: 19-10-2025;  
Accepted: 25-10-2025;  
Published: 30-10-2025

### **ABSTRACT**

The present study was set to determine what differences exist in the psychological adjustment of female students who participate in sports activities with those who do not participate at the University of Samarra. The research acquires its significance by an advanced level gap which exists due to an insufficiency of laborious field studies on the preventive and therapeutic effects through sports among female students inside Iraqi universities. This is exactly at a time when several cultural and institutional challenges are impeding their participation. The net sample came out, finally, as (94) students for the practicing group that includes those from the College of Physical Education and Sports Sciences while, for the non-practicing group, there were students from the Department of Civil Engineering. The researcher adopted the Psychological Adjustment Scale developed by Hana (1970) in her study and used an independent sample t-test for analyzing data. Results presented here mean that practicing students had better psychological adjustment at a statistically significant level than non-practicing students (mean = 105.08, mean = 83.03). Regular physical practice reduced biological stress indicators and increased the secretion of positive neurotransmitters; thus, practicing sports raises self-efficacy, self-esteem, and mental toughness as one discovers a very suitable means to control emotions and organize stress. This results from team sports giving high social support and also a state of belongingness which will boost the social and psychological adjustment of students on all fronts. This leads to increasing the general mental health of an individual student through the regular physical activities that help in adapting to challenging academic situations among Iraqi university students.

Keywords: Comparative Study; Psychological Adjustment; Sports Activities; University of Samarra.



## ABSTRAK

Penelitian ini ditetapkan untuk mengetahui perbedaan apa saja yang ada dalam penyesuaian psikologis mahasiswi yang mengikuti kegiatan olahraga dengan mereka yang tidak mengikuti di Universitas Samarra. Penelitian ini memperoleh signifikansinya oleh kesenjangan tingkat lanjutan yang ada karena kurangnya studi lapangan yang melelahkan tentang efek pencegahan dan terapeutik melalui olahraga di antara mahasiswa perempuan di dalam universitas Irak. Ini persis pada saat beberapa tantangan budaya dan kelembagaan menghalangi partisipasi mereka. Sampel bersih keluar, akhirnya, sebagai (94) siswa untuk kelompok praktik yang mencakup mereka dari Sekolah Tinggi Pendidikan Jasmani dan Ilmu Olahraga sementara, untuk kelompok non-praktik, ada siswa dari Departemen Teknik Sipil. Peneliti mengadopsi Skala Penyesuaian Psikologis yang dikembangkan oleh Hana (1970) dalam penelitiannya dan menggunakan uji-t sampel independen untuk menganalisis data. Hasil yang disajikan di sini berarti bahwa siswa yang berlatih memiliki penyesuaian psikologis yang lebih baik pada tingkat yang signifikan secara statistik daripada siswa yang tidak berlatih (rata-rata = 105,08, rata-rata = 83,03). Latihan fisik teratur mengurangi indikator stres biologis dan meningkatkan sekresi neurotransmitter positif; Dengan demikian, berlatih olahraga meningkatkan efikasi diri, harga diri, dan ketangguhan mental karena seseorang menemukan cara yang sangat cocok untuk mengendalikan emosi dan mengatur stres. Hal ini dihasilkan dari olahraga tim yang memberikan dukungan sosial yang tinggi dan juga keadaan memiliki yang akan meningkatkan penyesuaian sosial dan psikologis siswa di semua lini. Hal ini mengarah pada peningkatan kesehatan mental umum siswa individu melalui aktivitas fisik teratur yang membantu beradaptasi dengan situasi akademik yang menantang di antara mahasiswa Irak.

Kata Kunci: Studi Komparatif; Penyesuaian Psikologis; Kegiatan Olahraga; Universitas Samarra.

## INTRODUCTION

Psychological adjustment refers to positive mental health that describes a state of continuous balance between internal (thoughts and feelings) and external (social and academic) environmental pressures that allow the individual to adequately use his or her psychological resources to achieve good adaptation and subjective well-being. In this context, the university environment makes psychological adjustment in female students very significant because the effect is not only limited to academic achievement alone, but also increases motivation to excel, strengthens academic self-concept, and encourages positive social integration within the university community.

As a result of the psychosocial pressures and social burdens that occur in contemporary times, universities around the world are reporting an increasing trend of psychological problems in students. The most common complaints include symptoms of anxiety and depression, as well as academic burnout. This raises the urgent need for preventive interventions and comprehensive remediation strategies that need to be met (Hunduma et al., 2021; Grineski et al., 2021). A few reports also support that recent global health statistics report a higher psychological risk among female students at this stage, so strict preventive strategies are highly recommended (World Health Organization, 2024).



Regular participation in sports activities serves as a preventive and influential factor through biological and psychosocial mechanisms to facilitate psychological adjustment. Physical activity reduces indicators of biological stress and increases the secretion of positive neurotransmitters, thereby improving mood, improving symptoms of depression and anxiety, increasing perceived self-efficacy, and building the strength of psychological resilience necessary to face challenges.

The current scientific literature on the relationship between physical activity and mental health in the university environment is enlightening. Rodriguez-Romo et al. (2023) observed a statistically significant positive relationship between psychological and social well-being and moderate physical activity levels in college students. A systematic review by Eather et al. (2023) described structured sports activities as highly effective in reducing feelings of social isolation—especially team sports—thereby increasing a sense of belonging to a group, which is a key determinant of psychological adjustment. Studies conducted by various researchers explicitly show that physical exercise reduces depressive symptoms through an increase in self-esteem brought about by positive psychological capital (Wei et al., 2024). Another study from Shang et al. (2021) showed that the relationship between exercise and psychological well-being is mediated by body image and self-efficacy. Recent evidence also suggests that negative body image significantly increases the likelihood of depression, while social support and physical activity substantially reduce these effects (Yuan et al., 2025). Related findings suggest that sports participation among college students helps reduce anxiety as mental toughness is strengthened through social support mechanisms (Qin et al., 2024). Extensive analysis in the literature also validated by field studies shows that regular participation in sports activities improves social skills, integrates youth psychologically and socially more consistently, and provides better confidence to cope with university-related stressors. Consistency was found to have a higher correlation with increased confidence and ability to cope with university-related pressures compared to mere initiation (Cekin, 2015; Lin et al., 2025).

Although the benefits of physical activity have been well documented, women's participation in sports activities, particularly in Arab countries, faces significant gender-specific barriers. These barriers include cultural norms that limit women's mobility, traditional gender role expectations, lack of separate sports facilities for women, lack of family and institutional support, and social stigma against women who exercise in public spaces. These factors contribute to the low level of sports participation among female students in Arab universities, which in turn can affect their psychological well-being and academic adjustment.

The University of Samarra, located in Salah ad-Din Province, Iraq, is one of the institutions of higher education that serves a diverse student population in a post-conflict context. Students at the University of Samarra face unique challenges stemming from a combination of academic, social, and cultural factors. Academically, they experience intense pressure from heavy study loads, high competition, and family expectations of achieving success. Socially, they face limitations in access to recreational and sports facilities, limited institutional support for mental health programs, and social support networks that are often limited to traditional family structures. Although the University of Samarra has a Faculty of Physical Education and Sports Sciences, female students' access to sports facilities and structured programs is



still limited compared to their male counterparts. The lack of women-only sports spaces, inflexible schedules, and the lack of programs specifically designed for the needs of female students contribute to the low level of sports participation among this population. This situation creates an environment where female students are at risk of poor psychological adjustment without adequate support mechanisms.

Although a broad epistemological consensus on the effectiveness of physical activity has been reached, gaps in research are particularly striking. Most of the available evidence uses samples taken from Western or Asian contexts, with very few studies conducted in Arab settings—particularly Iraqi universities. This issue is no less important to consider because women's involvement in sports activities faces a combination of cultural and institutional barriers, social constraints, lack of facilities and infrastructure, and institutional support compared to other regions.

There was a methodological gap in rigorous field research at the University of Samarra that compared psychological adjustments qualitatively and quantitatively between female students who participated and did not participate in sports activities. This methodological gap hinders the ability to determine the preventive and therapeutic effects of physical activity within Iraqi university settings, where female students face unique academic and social pressures. These pressures are vital indicators of overall mental health as well as success in academic and social integration.

To ensure conceptual and methodological clarity, this study defines the main variables among others 1) Psychological Adjustment: A state of mental balance that allows individuals to deal effectively with internal and external demands, measured using a scale developed by Alaborous (1970), covering dimensions of emotional, social, academic, and subjective well-being. 2) Regular Exercise Participation: Active involvement in structured sports activities at least three times per week for a minimum of one academic semester, both in curricular contexts (students of the Faculty of Physical Education and Sports Sciences) and extracurricular. 3) Practice Groups: Female students who are enrolled in the Faculty of Physical Education and Sports Sciences and actively participate in sports practices as part of their curriculum. 4) Non-Practice Group: Students from other faculties (in this study, the Department of Civil Engineering) who do not participate in structured sports activities on a regular basis.

Based on the identified research gaps and the specific context of the University of Samarra, this study aims to determine the differences in psychological adjustment between female students who participate in regular sports activities and female students who do not participate in the University of Samarra. The importance of this comparative study lies in its ability to guide investment in sports activities not as a purely recreational practice, but as an effective psychosocial intervention to improve university quality of life and reduce academic and emotional stress. The use of comparative analysis by this study quantitatively distinguishes between the two groups and creates a basic foundation for the exploration of causality in future studies, in addition to the psychological and social mechanisms that may be involved when physical activity influences this particular direction. This will result in specific practical recommendations that encourage the creation of an environment in universities where comprehensive psychological adjustments can be made for female students in Iraq, ultimately contributing to the limited literature on female mental health in the Arab



context and providing insights for institutional policies that support female student well-being through inclusive and sustainable sports programs.

## **METHOD**

### **Participants**

The research sample has been purposively selected from female students at Samarra University who participate in sports activities for the 2024-2025 academic year, totaling (94) female students. The sample consisted of learners from two departments representing diverse learning environments. The first variation consists of female students engaging in physical activities and exercises. The first group included (42) female students taking courses in the School of Physical Education and Sport Sciences that involved ongoing connections with group therapy training. The second group consisted of (52) learners from engineering courses—specifically architecture classes and Bachelor of Civil Engineering who engaged with exercises with occasional participation in competitions or physical exercises. This is a good base on which one can compare the strata according to the variables under consideration.

A comprehensive survey was used to include everyone in the study group, except for a few female students who helped with a pilot trial that aimed to check the validity of the tool and method steps before starting the study. Therefore, after the female student was expelled, the last group had (85) people in it—this resulted in (90%) of the entire study group which was a large enough share to show the true facts about the larger group.

Limitations of Research Design is using cross-sectional comparative design, which has inherent limitations in establishing causal relationships. This design cannot prove a causal relationship between participation in sport and psychological adjustment for several methodological reasons:

First, no baseline measurements are taken before female students begin participating in sports activities. Psychological adjustment measurements are only carried out at one point in time, namely when female students are already in the practice group (exercising) or the non-practice group (not exercising). Without longitudinal data or pre-post measurements, it is impossible to determine whether the observed differences in psychological adjustment are the result of participation in the sport or were pre-existing before the student started the sport activity.

Second, the directionality of the relationship between exercise and psychological adjustment cannot be definitively determined in this design. There are two equally plausible possible interpretations: (a) sports participation improves female students' psychological adjustment (intervention hypothesis), or (b) female students with better levels of psychological adjustment are initially more likely to choose to participate in sports activities and stick to the program (self-selection hypothesis). This phenomenon of self-selection can create a selection bias in which pre-existing psychological characteristics—such as higher motivation, better self-efficacy, or lower levels of depression—influence a student's decision to engage in sports, rather than the other way around.

Third, although this study controlled for several demographic variables, the possibility of unmeasurable confounding variables remained. Factors such as family support, socio-economic status, previous sports experience, personality, or intrinsic



motivation can influence both the decision to exercise and the level of psychological adjustment independently.

Therefore, the findings of this study should be interpreted as an association or correlational relationship between exercise participation and psychological adjustments, not as evidence of causality. Nonetheless, this study makes an important contribution by: (1) documenting differences in psychological adjustments between practice and non-practice groups in a specific context of the University of Samarra, (2) providing baseline data for future longitudinal research, and (3) identifying patterns of associations consistent with the international literature on the benefits of physical activity for mental health. Longitudinal or experimental studies with randomized controlled trial (RCT) designs will be needed to establish a more definitive causal relationship between sports participation and psychological adjustment in female college students in the Iraqi context.

### **Tools and Instruments**

The Psychological Adjustment Scale was adopted in this study by Hana (1970) to achieve this goal. This scale has its basic development in the personality assessment of high school students. There are sixty-six items in the scale. The item statement is formulated positively, with five responses given for each item: completely applicable to me, mostly applicable to me, applicable to me, rarely applicable to me, and not applicable at all. Positive items must be scored on a Likert scale of 5-1 and negative items are reversed. The participants' overall scores on this scale indicate the level of psychological adjustment. If the highest score achieved is 180 and the lowest is 36, a higher score indicates a higher level of psychological adjustment.

The scale is checked by showing the item to a group of experts in education and psychology who see how relevant and clear the item is as well as the response choice. Researchers use a standard rule that items must be approved by a percentage (85%) or more to retrieve items and prove their validity.

Regarding reliability, the test-retest method is used. Scales have been given at two times for the same sample. The Psychological Adjustment Scale produces a reliability coefficient of 0.87, which proves that this scale has good stability and can therefore be used in any research work.

### **Procedure**

The Psychological Adjustment Scale was distributed to all participants in a controlled environment, with clear and uniform instructions given to all groups. The researchers ensured that the data collection process was carried out uniformly across all groups to minimize procedural bias, although self-selection bias could not be fully controlled in this cross-sectional design. Participants were given sufficient time to complete the instrument, and the confidentiality of their responses was guaranteed to increase honesty and reduce social response bias.

The researcher began the field procedures with a pilot study to check the appropriateness of the research instrument used and certain indicators that validity and reliability evidence would require. Therefore, it administered the scale to a pilot group consisting of 30 female students from within the same research community at the University of Samarra on Wednesday, April 2, 2025. It adopted one measure of reliability known as test-retest by applying the scale on that very pilot group after two weeks had elapsed, specifically on another Wednesday falling in April nine days into that month in



2025. This data was used to compute the correlation coefficient for assessing whether this scale is reliable or not in measuring what it purports to measure. The other information obtained from the pilot study included actual response time and clarity for all items.

Once the adequacy of the scale had been established, final administration took place among a main study sample consisting of two equivalent groups, one referred to as the practicing group comprising students from the College of Physical Education and Sports Sciences, and another known as the non-practicing group consisting of students from the Department of Civil Engineering. The first-by group received their scale on Sunday, April 21st, 2025, while the second-by group was given theirs on Monday, April 22nd, 2025, after coordination with respective teachers regarding time allotment at lecture ends for this purpose. All respondents were provided with standard instructions reiterating that participation was only meant for scientific research work and that responses would be kept confidential. Research controlled distribution activities so that completeness could be attained within one session. Having completed field data collection, questionnaires were coded and scores were prepared accordingly.

Once the data collection is complete, the data is encoded and entered statistical software for analysis. Descriptive (mean, standard deviation) and inferential (independent t-test) statistical analyses were performed to compare the level of psychological adjustment between the practice group and the non-practice group. The difference was considered statistically significant at a level of  $\alpha = 0.05$ .

## **RESEARCH RESULT**

### **Statistical Assumption Test**

Before conducting independent t-tests, several statistical assumptions are verified to ensure the accuracy of the inferential analysis. First, the assumption of normality was tested using the Kolmogorov-Smirnov and Shapiro-Wilk tests. Results showed that the distribution of psychological adjustment scores in both groups did not deviate significantly from the normal distribution (Practice Group:  $p = 0.142$ ; Non-Practice Group:  $p = 0.168$ ), which met the normality assumptions for parametric tests. Second, the homogeneity of variance was tested using the Levene test. The results showed that the variance of the psychological adjustment score in the two groups did not differ significantly ( $F = 0.187$ ,  $p = 0.666$ ), which indicates that the homogeneity assumption of variance was well met. Therefore, an independent t-test assuming equal variances is assumed.

### **Comparison of Psychological Adjustment Scores Between Groups**

To test the research hypothesis that there is a statistically significant difference in the level of psychological adjustment between female students who participate in regular sports activities and female students who do not participate, an independent t-test was conducted.



**Tabel 1.** Hasil uji-t independen.

Variable	Group	N	Mean	SD	T	Sig
Psychological Adjustment	Practicing Students	42	105.08	5.54	18.69	0.000
Psychological Adjustment	Non-Practicing Students	52	83.03	5.86		

The table above presents the results of a comparison of psychological adjustment scores between two groups of female students at Samarra University with a total sample of 94 female students.

The results of the analysis showed a very substantial difference in the average score of psychological adjustment between the two groups. The practice group had an average score of 105.08 with a standard deviation of 5.54, while the non-practice group had an average score of 83.03 with a standard deviation of 5.86. This mean difference of 22.05 points represents an increase of about 26.5% in psychological adjustment scores in the practice group compared to the non-practice group. The very low standard deviation in both groups—5.54 for the practice group and 5.86 for the non-practice group—indicated a high degree of homogeneity within each group. The results of the independent t-test showed very strong statistical significance with a t-value of 18.69 and a p-value of 0.000 ( $p < 0.001$ ) at 92 degrees of freedom. A t-value of 18.69 is a very high value, well beyond the critical value for significance at a level of  $\alpha = 0.05$  which is usually around 2.0 for a degree of freedom of 92.

## Discussion

Therefore, it can be concluded that female students who are not participating in sports have lower psychological adjustment compared to those who participate in sports activities. As the results indicate a statistically significant difference among these groups based on sports participation, it may be inferred that participation in sports increases student adjustment through raising the level of acceptance of social relations and readiness to assume responsibility toward decision making in different situations, more belongingness in group work and commitment to their interest in athleticism. In addition, it falls within the conceptual framework given by Fahmi (1971) when he described adjustment as “a continuous dynamic process through which an individual modifies behavior to achieve greater harmony with oneself and with the surrounding environment.”

Any athletic accomplishment gained by the students—whether through gaining better skill performance or achieving measurable progress—serves as an intrinsic motivator to strengthen their belief that they can control outcomes and be successful (Bandura, 1977). The heightened sense of personal efficacy carries over in a positive manner from the physical and motor domain to other areas of university life. It puts the students in a better position to cope with academic and social challenges. It lessens helplessness which is very critical in sound psychological adjustment. This is also supported by the findings of Al-Olayan (2019) which indicated a positive relationship



between participation in physical activity and the psychological adjustment of female students.

Also, sports are the main avenue for self-regulation and stress management because it will easily facilitate the release of negative energy and accumulated tension that was imposed by a very demanding university environment. Hammond & Ginty (2017) noted that organized and balanced physical activity raises the level of certain neurotransmitters, particularly serotonin and endorphins which will consequently improve the mood of an individual lowering the levels of anxiety as well as stress and depression attained. Such psychobiological resilience places the participant in a state to maintain a higher level of psychological stability than a non-participant who may be practicing less effective coping strategies.

The social-psychological dimension also significantly contributes. Group activities and team sports generate strong social support, which is a protective factor from any psychological disorder. This social support creates a good feeling of belonging to the group hence reducing feelings of loneliness—a factor that may affect psychological adjustment negatively. As indicated by Cacioppo et al., group participation improves the communication process as well as problem-solving abilities, therefore leading to better social adjustment. Findings by Al-Qushti (2018) show that sports activities improve self-image and self-esteem to a very great extent. Good physical fitness and motor skills raise the students' physical self-evaluation thereby strengthening general self-esteem further. Fox (2000) has found that improved psychological well-being leads to optimism in life among students—this finding was further supported by Hui (2015).

So, better mental health seen in active students at Samarra University fits as a reasonable and science-based result of a many-sided mental adjustment process. Looking at these results, the need for sports play as a good and strong part inside study plans gets support, just like Abdel-Salam (2010) and Ekeland et al. (2005) who shared that physical action puts forth a direct positive effect on state of mind.

## **CONCLUSION AND RECOMMENDATIONS**

This comparative study was carried out to Adjust the psychological adjustment levels of physically active and non-active female students at the University of Samarra. More specific attention was given to its College of Physical Education and Sports Sciences. Findings indicated a statistically significant advantage in the psychological adjustment of those students who were engaged in regular sports activities, particularly among physical education-related programs, interpreted from the view perspective of sports psychology whereby regular participation enhances self-efficacy as it discovers effective means for controlling emotion and applying control over stress. Moreover, an overall environment that is collective within academic programs related to sports provides strong social support and a feeling of belongingness that leads to psychological resilience. The study concludes that physical activity is not an aspect of play but rather a vital component of integration which yields general mental health and fortifies students' adaptation strength toward the rigors of university life.



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