Physical Education, Health and Social Sciences

https://journal-of-social-education.org

E-ISSN: 2958-5996
P-ISSN: 2958-5988

Are Sports Constructing Minds? "Assessing the Interplay Between Sports Engagement on the Psychological Well-Being of Pakistani Male University Students: A Quantitative Approach"

Dhanak Zafar[1], Iram Shaheen[2], Syeda Sitwat Hasan[3]

[1,3] Visiting Lecturer, PhD Scholar, Department of Sociology, International Islamic University, Islamabad.
[2] MS Scholar, Department of Sociology, International Islamic University, Islamabad.

DOI: https://doi.org/10.63163/jpehss.v3i3.621

Abstract

This study investigates the relationship between sports participation and psychological well-being among male university students in Pakistan, with a focus on stress, emotional resilience, and self-esteem. Drawing on Bandura's Social Cognitive Theory, the research employed a quantitative design using a structured questionnaire adapted from validated scales, including the Perceived Stress Scale, Connor-Davidson Resilience Scale, Rosenberg Self-Esteem Scale, and the Warwick-Edinburgh Mental Well-Being Scale. A sample of 223 students from the Department of Sociology, International Islamic University Islamabad, was determined through Taro Yamane's formula, and 201 valid responses were collected through online surveys. Data were analyzed using SPSS 27, applying reliability, correlation, and regression techniques. Findings revealed statistically significant but weak positive effects of sports participation on reducing stress, enhancing resilience, and improving self-esteem, with very low explanatory power ($R^2 = 0.003–0.004$). While results confirm that sports engagement contributes to psychological well-being, the modest effect sizes suggest that additional sociocultural, academic, and personal factors play a stronger role. The study highlights the importance of integrating sports into broader university mental health strategies and calls for longitudinal, multi-theoretical approaches to better understand the complex interplay between physical activity and student well-being in Pakistan.

Introduction

All students, regardless of class, need to be mentally healthy (Sun et al., 2024). The students are expected to care for themselves psychologically to perform better in class (Sonza et al., 2021). When it comes to the capacity of students to study actively, mental wellness is crucial (Sun et al., 2024). Eather et al. (2023) asserted that the mental health benefits of student sports engagement include decreased anxiety, depression and tension along with the increased feelings of mental well-being, confidence, and satisfaction with their daily life. Male students who are active in sports tend to have a better feeling of community and other positive social outcomes. Male students who participate in sports tend to have better overall mental health (Congsheng et al., 2022). Students who participate in organized sports are more likely to engage in physical exercise that is good for their health. Regular engagement in university sports has been shown to benefit students' physical, psychological, social, and cognitive well-being. Students' physiological, cognitive, and societal well-being in the short- and long-term benefit from participation in sports (Singleton, 2016). More life satisfaction has been linked to engaging in sports as mental and social well-being benefits than other leisure activities in particular. However, scholarly studies and data on the wellbeing of university students is limited (Kenioua & Elkader, 2016). Few academic researchers have examined the positive effects of university sport on students' wellness (Lin, 2023) in context of

Pakistan which shows a contextual and geographical research gap. Thus, the current study is needed to explore the impact of sports participation on the mental well-being of the male students in the universities of Pakistan. A quantitative research study has been conducted in order to answer the related questions and research hypotheses. Many university students devote significant time and energy to sports and other forms of physical exercise throughout their time there, providing universities with a prime chance to promote their health and well-being. Higher levels of physical exercise are linked to better quality of life and wellness and lower levels of anxiety, sadness, and dissatisfaction (Tarlton, 2023). Despite an extensive body of evidence demonstrating sports' positive impact on university students, few studies have examined how students' sports participation affects their well-being in Pakistan. Hence, the present research study has investigated the impact of sports participation on the mental well-being of male students who are studying at university level. The research objectives of the study are

1. To explore the demographic characteristics of the students
2. To explore the impact of sports participation on the mental well-being of the university students

Furthermore, the research questions of the study are

i. Does the participation in sports affect the stress levels and emotional resilience of university students?
ii. What is the relationship between regular sports engagement and the overall mental well-being (e.g., anxiety, depression, self-esteem) of university students?

Conceptualization

Independent Variable: Sports Participation

Sports participation refers to the active engagement of individuals in organized or recreational physical activities or sports, either individually or in teams, for physical fitness, social interaction, or competitive purposes.

Dependent Variable: Mental Well-being

Mental health is a state of well-being in which individuals can cope with daily stressors, maintain emotional balance, perform effectively, and experience positive relationships and personal growth (WHO, 2022).

Operationalization

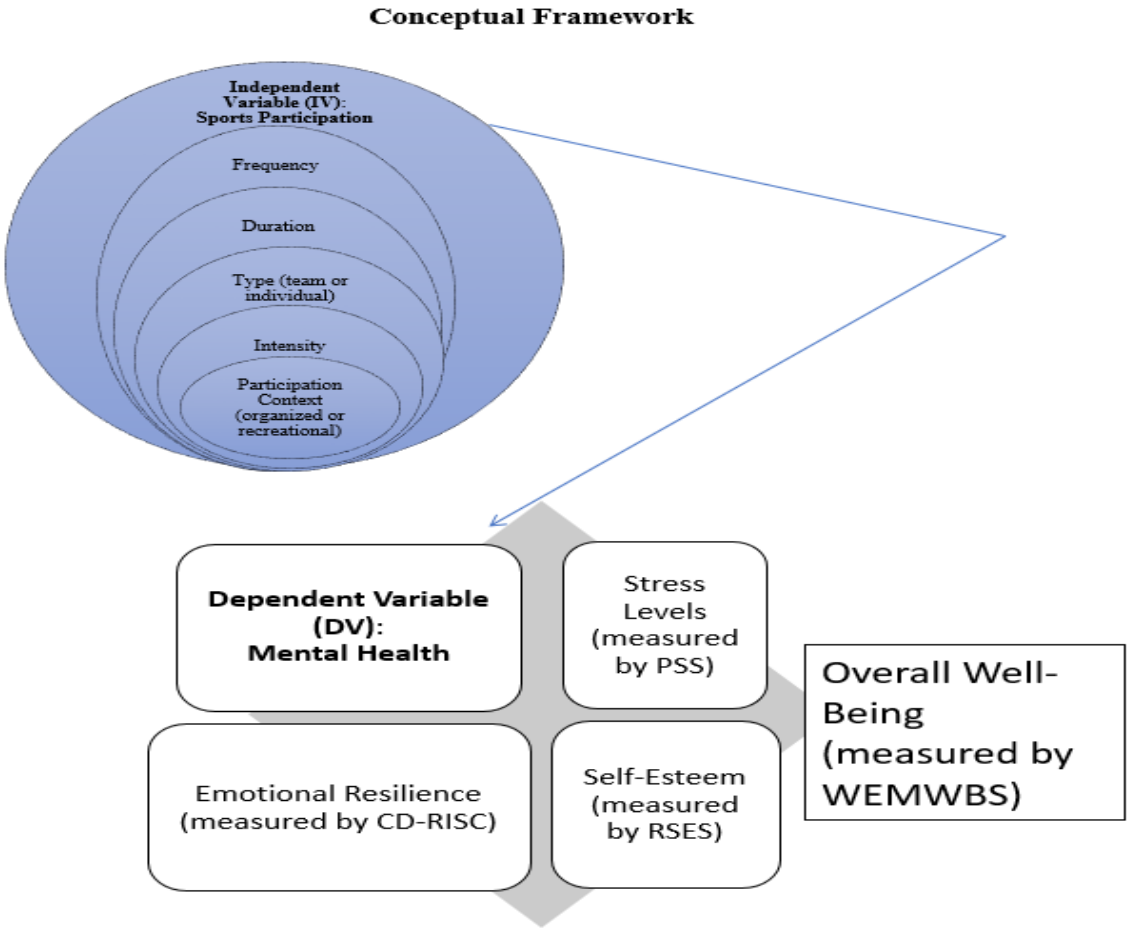
Independent Variable: Sports Participation

There are many dimensions in sports that, when we understand them together, gives an overview concerning the engagement in sports. One of them is frequency, which indicates the number of times that students engage in sports per week; this can be categorized into 0, 1-2, 3-4, or 5 times or more. Another is duration, which refers to the average time a student spends in sports during a session and has categories of less than 30 minutes, 30-60 minutes, or more than 60 minutes. Type refers to the sports activity ranging from team sports, such as football or cricket, to individual sports such as running or swimming. Another dimension is intensity; this is based upon how much self-reported level of physical exertion by a respondent has during participation, which can range from light, moderate, or intense activities. Last but not least, participation contexts differentiate organized participation from spontaneous ones, e.g., organized under university teams or sports clubs for organized ones, while friends might be gathered casually for spontaneous participation. These dimensions altogether form a comprehensive structure by which sports participation can be analyzed among the students.

Dependent Variable: Mental Well-being

Mental health in this study has been measured through various validated scales to ensure comprehensive and accurate results. Stress levels were calculated using the *Perceived Stress Scale (PSS)*, which is a widely used tool for measuring the perception of stress. Emotional resilience,

which reflects the ability to adapt and recover from challenges, was assessed using the *Connor-Davidson Resilience Scale (CD-RISC). Self-esteem* was evaluated through the *Rosenberg Self-Esteem Scale (RSES),* a recognized measure of an individual's self-worth and confidence. Overall mental well-being was assessed using the *Warwick-Edinburgh Mental Well-Being Scale (WEMWBS),* which provides a holistic view of mental health. Together, these tools provide a robust framework for operationalizing mental health in the context of the study.



Literature Review

We have provided a detailed review of academic literature regarding the concepts of sports participation of the university students and their well-being.

Sports Participation and Mental Health

Sport is a subcategory of exercising that has been shown to improve adults' psychological, physiological, and social well-being in both the short and long terms. Psychological health and social effects of adult sport engagement at both the community and elite levels were analyzed in depth in a recent paper (2023) by Eather et al. His research revealed that people's mental health improved when they participated in sports, both at the educational and community levels. Research demonstrates that youngsters in highly competitive activity could encounter greater levels of psychological distress, but overall, adults who participated in team sports had sports on a regular basis generally claim the greatest benefits to their health, surpassing those who engaged in solitary activities.

Grima et al. (2017) have theoretically examined the effects of sporting participation. They stated that people's chances of participation in sports are beneficial for one's health and well-being on

several fronts (physical, mental, and social). There has been an increase in sports involvement in certain European nations while in others it has decreased. Green's Model of Sports Training; the "Beckerian Method;" and "The SLOTH Structure" among others, were each created to analyze and forecast sports participation. Researchers have used these models to pinpoint various factors that motivate people to participate in sports. Studies demonstrate a favorable and statistically significant association between age and sports participation; this trend holds true for hiking as well. The rising popularity of fitness among adolescents, particularly once they reach secondary school, may have its roots in educational requirements. Thanks to its prosperous economy, high standard of living, gender equality, an abundance of sports facilities, an education system that promotes physical activity, thriving voluntary sports club sector, and high instances of parental engagement, Norway is an outstanding representation of a country where the value of sport and tangible recreation has become firmly established in society. The research has also examined how social support and personal motivation boost exercise participation. Parental involvement in sports has a strong, positive impact on their children's likelihood of joining in, and the influence of one's peer group is also substantial.

Social and Behavioral Benefits of Sports Participation

Students may find a supportive community via sports that encourages the development of positive character traits like teamwork, fair play, and healthy competition (Muñoz-Bullón et al., 2017). Delinquency and substance misuse are two social problems that sports may help prevent. Sports participants should expect the health advantages of regular exercise since their sports engagement often entails significant physical activity. Team rules and procedures often promote health-enhancing practices, such as an optimal diet and tobacco use prevention, suggesting that sports participation may also foster healthy living via ecological and social routes (Lim et al., 2011). Young people who participate in sports have healthier habits than those who do not. However, new research has cast doubt on the health advantages of sports engagement and instead linked it to increased risk-taking behaviours in young people across all educational levels, from elementary school through university. It has been argued in the last decade that the advantages of sports involvement may have been exaggerated for university students and that the meaning and effects of participation in sports may vary among participants too (Fricke et al., 2018). However, there has been little scholarly investigation into how university sports affect students' mental health. Therefore, this research aims to investigate the impact of sports participation on students' social, physical, and mental well-being.

Emotional State and Self Esteem

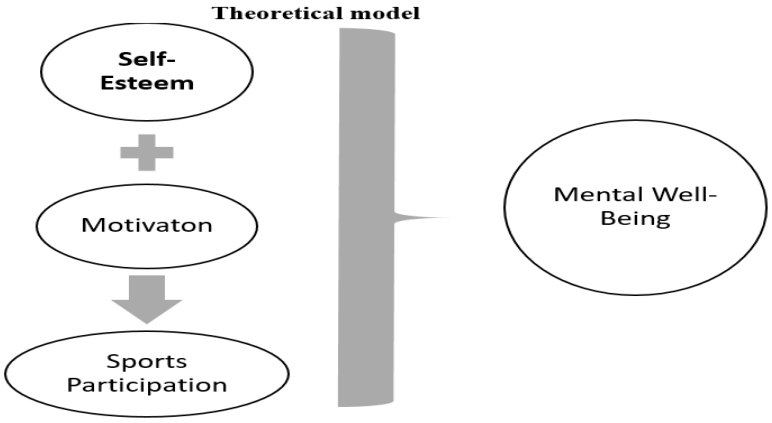
Multiple studies have shown that engagement in physical exercise and sports significantly enhances an individual's mental well-being throughout various life stages (Bălţătescu & Kovács, 2012). Sport is a kind of exercise that has the potential to provide significant advantages for both immediate and prolonged health, both mental and physical, as well as social life, among adult individuals. Engagement in sports enhances individuals' emotional state and self-perception, promoting mental well-being. Moreover, it has been shown that sports involvement might serve as a viable intervention for addressing symptoms of depression and anxiety (Luo & He, 2021). More scholarly evidence suggests that engagement in sports activities is associated with improved life experiences and mental health. Additionally, sports involvement has been shown to alleviate socio emotional challenges, particularly among young individuals enrolled in higher education institutions. Athletic activity engagement has a beneficial influence on individuals' mental and social well-being. Engaging in sports activities enhances physical fitness, social skills, an inner sense of control, academic performance, and attaining sporting objectives while fostering the acquisition of leadership roles within teams. Furthermore, it imparts valuable qualities that contribute to success in subsequent stages of life, such as social aptitude, cooperation, problem-

solving abilities, exploring other societies, and understanding peer dynamics. These factors promote healthy choices, social behaviour, and overall well-being (Liu et al., 2023). Sport may be seen as a mitigating element for the person. Therefore, it is important to comprehend the influence of sports engagement on the social, psychological, and physical well-being of students within the universities of Pakistan. Thus we formed the research hypotheses:

H_1: *Participation in sports significantly reduces stress levels among university students.*
H_2: *Regular engagement in sports leads to higher emotional resilience in university students.*
H_3: *Regular participation in sports enhances self-esteem among university students.*

Theoretical Framework

The study thus based its theoretical framework on the Social Cognitive Theory of Albert Bandura (2001). SCT presents the ways in which sports participation affects male university students psychologically. SCT focuses the interplay among personal factors, behaviors, and the environment in which these elements work together towards influencing the actions and mental health outcomes for an individual. Self-esteem in SCT and is related to a person's belief in capacity to perform in particular situations. So far as sports participation is concerned, the students perform physical activities and through them develop skills that enlighten them on their competence. The student may tend to feel some amount of competence that he or she can utilize to improve mental well-being by lessening anxiety and depression. Such a student considers the chances of success in sports greater and participates in positive behaviors, thus raising self-esteem and emotional resilience. Social support is another criterion largely viewed in SCT but vital in mental health and participation in sports. Recent evidence suggests that there are many paths through which sports can affect psychological wellbeing. The first is through an apparent path whereby participation in sports activities increases the ability or potential of an individual to cope with stressful situations. The second path is defined by the individual's evaluation of sport activities. The last path is indirectly related to sports participation stimulation of emotions associated with negative feelings which inhibit proper coping with stress. Indeed, however, all these show some substantial evidence on a positive correlation between mental health and sports participation. Thus, it draws on the basis that sports participation is beneficial to men in general. This theoretical foundation is well established as the methodological study for this research.



Tools and Method

In this study, the researcher takes a quantitative technique to test the numerical data collected from the respondents.

Sampling Technique

A "sampling technique" is a procedure for selecting a statistically valid subset of a population. The term "random sampling" refers to the fact that in probability sampling, participants (or other units of interest) are chosen in a statistically random manner (Jansen, 2020). In current study, the common trait is the student's participation in the sports, therefore only the participants who take part in sport competitions both organized and recreational were selected as population of the study, from which the researcher has drawn the sample size.

Sample and Sample Size

In scientific dialect, the wider group is called the population, while the subset (with which the researcher will interact) is termed as the sample. In current study, all the male students enrolled in sociology department of International Islamic University Islamabad are the population of the study. As the population of the study was unknown therefore it was supposed that 500 students were enrolled in sociology departments. To calculate the sample size we used Taro Yamani formula which gave us the sample size of 223. Detailed calculations are given below:

Population Size (N): 500
Margin of Error (e): 0.05
Step 1: Calculate e^2:
$e^2 = 0.052 = 0.002500$
Step 2: Calculate the denominator ($1 + N * e^2$):
$1 + N * e^2 = 1 + 500 * 0.002500 = 2.2500$
Step 3: Calculate $n = N / (1 + N * e^2)$:
$n = 500 / 2.2500 = 222.2222$
Step 4: Round up to the nearest whole number:
Final Sample Size (n) = 223

Data Collection Instrument

Data collection instrument refers to the tool which is used to collect data from the respondents of the study. In quantitative research, survey questionnaire is best suited and mostly used instrument to collect numerical data from larger sample size (Jansen, 2020). The researchers used pre designed close ended questionnaire to collect data from respondents. As stated earlier, mental health in this study has been measured by adapting validated scales to ensure comprehensive and accurate results. Necessary modifications according to the context of current study were made while adapting the scales. Stress levels were calculated using the *Perceived Stress Scale (PSS).* Emotional resilience, which reflects the ability to adapt and recover from challenges, was assessed using the *Connor-Davidson Resilience Scale (CD-RISC). Self-esteem* was evaluated through the *Rosenberg Self-Esteem Scale (RSES),* a recognized measure of an individual's self-worth and confidence. Overall mental well-being was assessed using the *Warwick-Edinburgh Mental Well-Being Scale (WEMWBS).*

Data Analysis Method

In quantitative research, SPSS (Statistical Package for Social Sciences) is mostly used method to analysis numerical data. The researcher used SPSS 27 version to analyse the collected data from the respondents.

Ethical Consideration

In order to conduct the primary research regarding the students who took part in sport competitions, the researcher took the consent from the respondents for their willingness to participate in the research. Further, the researcher remained objective throughout the data collection and analysis

process and ensure the anonymity of the participants of the research. The researcher ensured the respondents that their provided data was solely used for academic purpose.

Results and Analysis

Although the sample size of study is 223, the questionnaires were distributed to 240 students for higher response rate through Google Form shared on Whatsapp and Email as these are these are fastest way of communication current era. The return rate of the responses was 201 which make 90% for 223 size of sample. Out of the 240 questionnaires distributed among university students in Islamabad, 201 were completed and returned, resulting in a response rate of 90% for sample size 223. This high response rate has been effective distribution strategy and respondents interest in the topic. The first section demonstrates the validity and reliability of the scales used in questionnaire to measure data.

Scale Reliability analysis

The internal consistency of the variables was tested to check the reliability of the instrument. The reliability test of the variables is given in table below:

Table 4.1 Scale Reliability analysis

Variables	Cronbach's Alpha	Number of Items
SP	.741	5
STL	.889	8
ER	.748	5
SE	.794	5

The reliability analysis of the scales used in this study indicates acceptable to excellent internal consistency across all variables. The scale for Sports Participation (SP), with 5 items and a Cronbach's Alpha of 0.741, demonstrates acceptable reliability. Similarly, the Stress Levels (STL) scale, comprising 8 items, shows excellent reliability with a Cronbach's Alpha of 0.889, ensuring a consistent measurement of this construct. The Emotional Resilience (ER) scale, with 5 items and a Cronbach's Alpha of 0.748, also exhibits acceptable reliability. Lastly, the Self-Esteem (SE) scale, consisting of 5 items, achieves good reliability with a Cronbach's Alpha of 0.794. These results confirm that the scales used are reliable and consistent in measuring the constructs of sports participation and its impact on mental well-being among university students.

Demographic characteristics of the respondents

All the participants of the study were male students; other demographic variables are analysed as follows:

Table 4.1 Age

Categories	Frequency	Percent
Below 20 years	30	14.9
20–30years	152	75.6
30-40years	12	6.0
Above 40years	7	3.5
Total	201	100.0

The age distribution of the sample reveals that the majority of respondents are between the ages of 20 and 30 years, comprising 75.6% (152 out of 201) of the total sample. A smaller portion of respondents, 14.9% (30 individuals), are below 20 years of age. Only 6.0% (12 respondents) fall within the 30-40 years age range, and a mere 3.5% (7 respondents) are above 40 years. This distribution indicates that the sample is predominantly composed of younger individuals, with the highest concentration of participants in the 20-30 years category, which may reflect the age group most likely to engage in university-level studies or sports participation.

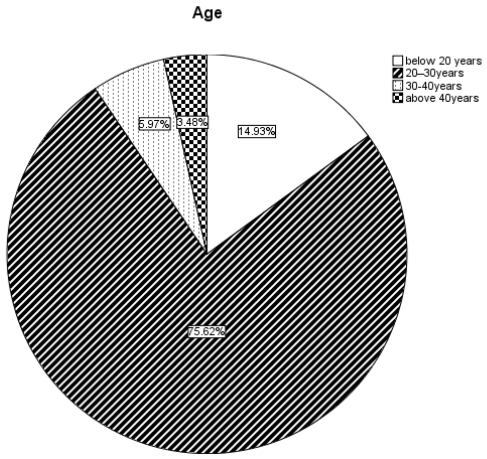


Table 4.2 Employment status

Categories	Frequency	Percent
Employed	32	15.9
Unemployed	130	64.7
Part time	12	6.0
Freelancer	14	7.0
Business	13	6.5
Total	201	100.0

The employment status of the sample shows that the majority of respondents, 64.7% (130 out of 201), are unemployed. A significant portion, 15.9% (32 individuals), are employed full-time. Smaller percentages of respondents are engaged in part-time work (6.0%, 12 respondents), freelancing (7.0%, 14 respondents), or running their own business (6.5%, 13 respondents). This distribution suggests that the sample is primarily composed of individuals who are either

unemployed or in flexible employment arrangements, which may reflect the student population or individuals engaged in part-time or freelance work while pursuing other activities.

Table 4. 3 Marital Status

Categories	Frequency	Percent
Single	178	88.6
Married	23	11.4
Total	201	100.0

The marital status distribution of the sample shows that a vast majority of respondents, 88.6% (178 out of 201), are single. A smaller proportion, 11.4% (23 individuals), are married. This indicates that the sample is predominantly composed of unmarried individuals, which may reflect the younger age range of the respondents, many of whom are likely to be students or early-career professionals where single status is more common.

Table 4.4 Number of Children

Categories	Frequency	Percent
None	178	88.6
1	8	4.0
2-4	15	7.5
Total	201	100.0

The distribution of the number of children among the respondents reveals that a significant majority, 88.6% (178 out of 201), have no children. A smaller proportion, 4.0% (8 individuals), have one child, while 7.5% (15 respondents) have between two to four children. This indicates that the sample is largely composed of individuals without children, which aligns with the predominance of younger, possibly unmarried participants, many of whom may still be in education or early stages of their careers.

Table 4.5 Education

Categories	Frequency	Percent
BS Sociology	161	80.1
MS sociology	36	17.9
PhD sociology	4	2.0
Total	201	100.0

The education level distribution of the sample indicates that the majority of respondents, 80.1% (161 out of 201), have completed a Bachelor's degree in Sociology (BS Sociology). A smaller proportion, 17.9% (36 individuals), have attained a Master's degree in Sociology (MS Sociology), while only 2.0% (4 respondents) have pursued a PhD in Sociology. This suggests that the sample is predominantly composed of undergraduate students or early-career professionals in the field of Sociology, with fewer participants at the graduate and doctoral levels.

Descriptive statistics

Table 4.6 Descriptive Statistics

	N	Maximum	Mean	Std. Dev	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
SP total	201	19.00	10.4527	2.42467	.578	.172	.668	.341
STL total	201	26.00	15.3234	4.45420	-.758	.172	.934	.341
ER total	201	20.00	12.7413	3.71924	-.765	.172	.882	.341
SE total	201	17.00	9.4776	3.41917	-.118	.172	.041	.341
Valid N (listwise)	201							

(Note: SP refers to Sports Participation, STL refers to Stress Level, ER refers to Emotional Resilience, SE refers to Self Esteem)

The descriptive statistics of the study variables, including mean (M), standard deviation (SD), skewness, and kurtosis, were analyzed to assess data normality. For sports participation (SPtotal), the mean was 10.45 (SD = 2.42), with skewness of 0.578 and kurtosis of 0.668, indicating a slight positive skew but within the acceptable range of normality. The stress levels (STLtotal) had a mean of 15.32 (SD = 4.45), with skewness of -0.758 and kurtosis of 0.934, showing a slight negative skew, yet the values remain within the acceptable range (-1 to +1). Emotional resilience (ERtotal) reported a mean of 12.74 (SD = 3.72), with skewness of -0.765 and kurtosis of 0.882, also confirming normality. For self-esteem (SEtotal), the mean was 9.48 (SD = 3.42), with skewness of -0.118 and kurtosis of 0.041, indicating an almost symmetrical distribution. All skewness and kurtosis values lie within the range of -1 to +1, confirming that the data is approximately normally distributed, making it suitable for regression and further statistical analysis.

Correlation analysis and Direct Hypothesis Testing

Descriptive statistics showed that data is normally distributed therefore we have applied parametric tests to test the hypothesis, i.e. Pearson correlation and regression analysis.

Table 4.7 Correlations

	SP total	STL total	ER total	SE total
SP total	1			
STL total	.199**	1		
ER total	.257**	.320**	1	
SE total	.206**	.324**	.314**	1

**. Correlation is significant at the 0.01 level (1-tailed).

The correlation analysis supports the hypotheses of the study, revealing significant relationships between the variables. For H1, which posits that participation in sports significantly reduces stress levels among university students, a weak but positive correlation was observed between sports participation (SPtotal) and stress levels (STLtotal) ($r = .199$, $p < .01$), confirming the hypothesis. For H2, which states that regular engagement in sports leads to higher emotional resilience in university students, the results show a weak positive correlation between sports participation (SPtotal) and emotional resilience (ERtotal) ($r = .257$, $p < .01$). Additionally, a moderate positive correlation exists between stress levels (STLtotal) and emotional resilience (ERtotal) ($r = .320$, $p < .01$), further supporting the hypothesis. For H3, which hypothesizes that regular participation in sports enhances self-esteem among university students, a weak but positive correlation was found between sports participation (SPtotal) and self-esteem (SEtotal) ($r = .206$, $p < .01$). Furthermore, self-esteem also shows weak to moderate positive correlations with stress levels (STLtotal) ($r = .324$, $p < .01$) and emotional resilience (ERtotal) ($r = .314$, $p < .01$), aligning with the theoretical framework. These results confirm that sports participation has significant, though varying, positive relationships with stress reduction, emotional resilience, and self-esteem, validating the study's hypotheses.

Regression analysis

Table 4.7 Regression

Hypothesis	IV	DV	F	R^2	β	SE	T	Sig	DF
H1	SP	STL	.717	.004	.04(4%)	.13	1.19	.032	1
H2	SP	*ER*	.427	.003	.03(3%)	.109	1.87	.021	1
H3	SP	SE	.677	.003	.03(3%)	.100	1.94	.042	1

H1: Participation in sports significantly reduces stress levels among university students. The regression analysis for H1 indicates that sports participation (SP) predicts stress levels (STL) with a very weak coefficient of determination ($R^2 = 0.004$), meaning only 0.4% of the variation in stress levels can be explained by sports participation. The beta coefficient ($\beta = 0.13$) suggests a small but positive relationship between sports participation and stress levels, indicating that higher participation in sports is associated with a slight reduction in stress. However, the t-value of 1.19 and significance level ($p = 0.032$) indicate that while the relationship is statistically significant, it is weak and explains only a very small portion of stress levels, providing only partial support for the hypothesis.

H2: Regular engagement in sports leads to higher emotional resilience in university students. For H2, the regression analysis shows that sports participation (SP) accounts for 0.3% of the variance in emotional resilience (ER) ($R^2 = 0.003$). The beta coefficient ($\beta = 0.109$) indicates a positive relationship between sports participation and emotional resilience, though it is quite small. The t-value of 1.87 and a p-value of 0.021 suggest that the relationship is statistically significant, though the effect is minimal. Therefore, while regular engagement in sports has a positive effect on emotional resilience, this effect is relatively weak, supporting the hypothesis with caution.

H3: Regular participation in sports enhances self-esteem among university students. In H3, the regression results for sports participation (SP) and self-esteem (SE) reveal that 0.3% of the variation in self-esteem is explained by sports participation ($R^2 = 0.003$). The beta coefficient ($\beta = 0.100$) indicates a small positive effect, and the t-value of 1.94 with a significance level of 0.042 confirms that the relationship is statistically significant. While the effect is statistically significant, the relationship is weak, suggesting that while sports participation is associated with an increase in self-esteem, the effect is relatively minor. The regression results for all three hypotheses (H1,

H2, and H3) show weak positive relationships between sports participation and the mental well-being factors (stress levels, emotional resilience, and self-esteem). Though statistically significant, the very small R^2 values indicate that other factors likely contribute to mental well-being, and sports participation alone has a modest effect. Thus, while sports can contribute to improving these mental health aspects, the impact is limited and requires further exploration of other influencing variables.

Discussion

This study investigated the impact of sports participation on university students' mental well-being, focusing on stress, emotional resilience, and self-esteem. Findings revealed weak but statistically significant positive relationships, with regression results showing that sports explained only a small proportion of variance in outcomes ($R^2 = 0.003–0.004$). These results indicate that while sports engagement provides measurable psychological benefits, its direct effects remain modest. The findings align with prior research emphasizing the multifactorial nature of mental health. Beyond sports, academic workload, family expectations, and peer interactions play a larger role in shaping students' psychological outcomes. From a sociological perspective, sports contribute not only to physical activity but also to collective identity, teamwork, and social integration, all of which enhance coping mechanisms. Bandura's Social Cognitive Theory offers a useful lens: sports participation may increase self-efficacy and resilience through peer modeling, feedback, and social support. However, the weak effect sizes suggest that these benefits are moderated by broader institutional and cultural contexts. This study also revealed that stress reduction was the most strongly linked outcome of sports participation, followed by resilience and self-esteem. This suggests that physical activity may primarily act as a coping outlet, while its role in building deeper psychological traits is secondary. The implications for higher education are clear: universities should encourage sports participation, but not as a stand-alone intervention. Instead, it should be embedded within comprehensive mental health strategies that integrate counseling, academic support, and inclusive social programs.

Conclusion

In conclusion, while the study's findings support the idea that sports participation can have a positive impact on stress levels, emotional resilience, and self-esteem, the effects are relatively modest. This suggests that sports participation is one of many factors that contribute to university students' mental health. Social Cognitive Theory offers valuable insights into how self-efficacy and social support can enhance the benefits of sports participation. However, a more comprehensive sociological approach is needed to fully understand the complex interplay of personal, behavioral, and environmental factors that shape mental well-being in university students. From a sociological standpoint, this study has some limitations that need to be addressed in future research. First, the cross-sectional design limits the ability to draw causal conclusions. Longitudinal studies would provide a clearer understanding of how sports participation influences mental health over time. Second, the study primarily focuses on university students, and the findings may not be generalizable to other populations, such as those outside the university setting or individuals from different cultural backgrounds. Furthermore, future research could benefit from integrating other sociological theories, such as Bourdieu's concept of social capital or Goffman's theory of stigma, to explore how sports participation interacts with other social factors such as class, gender, and race. For example, the ability of students to access sports facilities or participate in sports may be influenced by their socioeconomic status, which could mediate the relationship between sports participation and mental well-being.

References

Bălţătescu, S., & Kovács, K. (2012). Sport Participation and Subjective Well-being among University Students in the Hungarian-Romanian-Ukrainian Cross-border Area (pp. 134–148).

Bandura, A. (1997). Self-efficacy: The exercise of control. W.H. Freeman and Company.

Bandura, A. (2001). Social cognitive theory: An agentic perspective. Annual Review of Psychology, 52, 1-26. https://doi.org/10.1146/annurev.psych.52.1.1

Congsheng, L., Kayani, S., & Khalid, A. (2022). An empirical study of physical activity and sports affecting mental health of university students. Frontiers in Psychology, 13. https://www.frontiersin.org/articles/10.3389/fpsyg.2022.917503

Connor-Davidson Resilience Scale (CD-RISC): Campbell-Sills, L., & Stein, M. B. (2007). Psychometric analysis and refinement of the Connor–Davidson resilience scale (CD-RISC): Validation of a 10-item measure of resilience. Journal of Traumatic Stress, 20(6), 1019–1028. https://doi.org/10.1002/jts.20271

Eather, N., Wade, L., Pankowiak, A., & Eime, R. (2023). The impact of sports participation on mental health and social outcomes in adults: A systematic review and the 'Mental Health through Sport' conceptual model. Systematic Reviews, 12(1), 102. https://doi.org/10.1186/s13643-023-02264-8

Fricke, H., Lechner, M., & Steinmayr, A. (2018). The effects of incentives to exercise on student performance in college. Economics of Education Review, 66, 14–39. https://doi.org/10.1016/j.econedurev.2018.06.009

Generalized Anxiety Disorder Scale (GAD-7): Spitzer, R. L., Kroenke, K., Williams, J. B. W., & Löwe, B. (2006). A brief measure for assessing generalized anxiety disorder: The GAD-7. Archives of Internal Medicine, 166(10), 1092–1097. https://doi.org/10.1001/archinte.166.10.1092

Hartig, T., Mitchell, R., de Vries, S., & Frumkin, H. (2019). Nature and health. Annual Review of Public Health, 40, 2-28. https://doi.org/10.1146/annurev-publhealth-040218-043930

Jansen, D. (2020, June 15). What Is Research Methodology? Definition + Examples. Grad Coach. https://gradcoach.com/what-is-research-methodology/

Judge, A. (2018). An empirical study of physical activity and sports affecting mental health. PMC. https://pmc.ncbi.nlm.nih.gov/articles/PMC9478583

Kuyper, L., de Jong, M., & Smit, E. (2021). Social support and sports participation: The impact of peer and family support on athletic performance. Journal of Sports Psychology, 19(2), 145-162. https://doi.org/10.1080/10413200.2021.1920395

Lim, S. Y., Warner, S., Dixon, M., Berg, B., Kim, C., & Newhouse-Bailey, M. (2011). Sport Participation Across National Contexts: A Multilevel Investigation of Individual and Systemic Influences on Adult Sport Participation. European Sport Management Quarterly, 11(3), 197–224. https://doi.org/10.1080/16184742.2011.579993

Lin, P. (2023). The Relationship Between Trait Mindfulness and Well-Being in College Students: The Serial Mediation Role of Flow Experience and Sports Participation. Psychology Research and Behavior Management, 16, 2071–2083. https://doi.org/10.2147/PRBM.S414890

Liu, T., Li, D., Yang, H., Chi, X., & Yan, J. (2023). Associations of sport participation with subjective well-being: A study consisting of a sample of Chinese school-attending students. Frontiers in Public Health, 11. https://www.frontiersin.org/articles/10.3389/fpubh.2023.1199782

Luo, W., & He, Y. (2021). Influence of sports applications on college students' exercise behaviors and habits: A thematic analysis. Alexandria Engineering Journal, 60(6), 5095–5104. https://doi.org/10.1016/j.aej.2021.03.059

Muñoz-Bullón, F., Sanchez-Bueno, M. J., & Vos-Saz, A. (2017). The influence of sports participation on academic performance among students in higher education. Sport Management Review, 20(4), 365–378. https://doi.org/10.1016/j.smr.2016.10.006

National Institutes of Health. (2021). Association between sports participation and resilience in school-attending students. PMC. https://pmc.ncbi.nlm.nih.gov/articles/PMC11081067

Patient Health Questionnaire (PHQ-9): Kroenke, K., Spitzer, R. L., & Williams, J. B. W. (2001). The PHQ-9: Validity of a brief depression severity measure. Journal of General Internal Medicine, 16(9), 606–613. https://doi.org/10.1046/j.1525-1497.2001.016009606.x

Perceived Stress Scale (PSS): Cohen, S., Kamarck, T., & Mermelstein, R. (1983). A global measure of perceived stress. Journal of Health and Social Behavior, 24(4), 385–396. https://doi.org/10.2307/2136404

Rosenberg Self-Esteem Scale (RSES): Rosenberg, M. (1965). Society and the adolescent self-image. Princeton University Press.

Schaal, K., Tanguy, S., & Ravussin, P. (2017). The role of social support in improving mental health through sports. International Journal of Sports Science & Coaching, 12(4), 509-519. https://doi.org/10.1177/1747954117712342

Seattle Anxiety. (2023). Exploring the psychological impacts of participating in sports. https://seattleanxiety.com/psychiatrist/2023/9/15/exploring-the-psychological-impacts-of-participating-in-sports

Singleton, S. (2016). THE IMPACT OF SPORTS PARTICIPATION ON THE ACADEMIC ACHIEVEMENT OF AFRICAN AMERICAN GIRLS.

Sonza, A., da Cunha de Sá-Caputo, D., Sartorio, A., Tamini, S., Seixas, A., Sanudo, B., Süßenbach, J., Provenza, M. M., Xavier, V. L., Taiar, R., & Bernardo-Filho, M. (2021). COVID-19 Lockdown and the Behavior Change on Physical Exercise, Pain and Psychological Well-Being: An International Multicentric Study. International Journal of Environmental Research and Public Health, 18(7), 3810. https://doi.org/10.3390/ijerph18073810

Sun, H., Du, C.-R., & Wei, Z.-F. (2024). Physical education and student well-being: Promoting health and fitness in schools. PLOS ONE, 19(1), e0296817. https://doi.org/10.1371/journal.pone.0296817

Sundberg, T., Nordström, A., & Sandberg, S. (2020). Social dynamics within sports teams and their effect on resilience. Sport & Society, 23(3), 391-407. https://doi.org/10.1080/2159676X.2020.1770045

Tarlton, E. (2023). 'University Sport & Mental Health' Available at: http://www.studentminds.org.uk/uploads/3/7/8/4/3784584/university_sport___mental_health_resource.pdf

Warwick-Edinburgh Mental Well-Being Scale (WEMWBS): Tennant, R., Hiller, L., Fishwick, R., Platt, S., Joseph, S., Weich, S., Parkinson, J., Secker, J., Stewart-Brown, S., & Croudace, T. (2007). The Warwick-Edinburgh Mental Well-being Scale (WEMWBS): Development and UK validation. Health and Quality of Life Outcomes, 5, 63. https://doi.org/10.1186/1477-7525-5-63

WHO, (2022). https://www.who.int/news-room/fact-sheets/detail/mental-health-strengthening-our-response