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RESEARCH PAPER

Empowering Youth by Mitigating Depression, Anxiety, and Suicidal Thoughts through Cricket Sport

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Abstract

This cross-sectional study sought to evaluate the prevalence and influence of sports participation on depression, anxiety, and suicidal ideation among male cricketers and non-cricketer students from various universities. Secondly, to assess the impact of depression and anxiety on suicidal ideation was also one of the primary objectives of the study. Therefore, a total of 192 male students from 6 universities participated in this cross-sectional study. The PHQ-2, GAD-2, SIDAS, and a demographic questionnaire were used to gather data. The gathered data underwent analysis through the utilization of independent t-test, descriptive statistics and simple linear regression. The findings revealed that anxiety and depression had a positive correlation with suicidal ideation. It was also observed that the levels of depression, suicidal ideation and anxiety were significantly lower in cricketers as compared to non-cricketer students. Hence, these findings reinforce the importance of sports participation as a mean to mitigate mental health challenges.

Key Words Anxiety, Cricketers, Depression, Non- Cricketers, Suicidal Ideation, University Students

Introduction

The significance of mental health in the realm of students' well-being has garnered escalating concern among researchers. Over the past few decades, there has been a heightened emphasis on understanding and tackling issues such as depression, anxiety, and suicidal tendencies among students that have been enrolled in several universities. Depression, in this regard, can be conceptualized as a mood illness that results in a constant sense of sadness and restlessness (Salik & Marwaha, 2022). It is characterized by several symptoms, such as noticeable weight loss or gain, low energy, changes in sleep patterns, lack of interest in routine tasks and even persistent thoughts of death or suicide (Ramón-Arbués et al., 2020).

Depression is also suggested to affect student's social, physical and academic success (Ratnani et al., 2017). Whereas anxiety is an uncontrolled and unpleasant state of adverse effect that is anxious expectation of inescapable future danger. It manifests with physiological signs of tension and a regular state of alertness (Barlow, 2004). Emotional restlessness, low self-esteem and social withdrawal are reportedly related with increased anxiety which can culminate in school refusal, heightened test anxiety and social anxiety (Mofatteh, 2021).

Anxiety disorders exert numerous adverse effects on collegiate students leading to functional impairment and increased challenges with academic achievement, peer and

family relationships and social interactions (Bernal-Morales et al., 2015). These conditions may result in concentration problems for students, creating challenges in studying efficiently and achieving success in examinations (Rith-Najarian et al., 2019). Furthermore, there has been conflicting evidence regarding the relationship between suicidality and anxiety or depression (Sareen et al., 2005).

Suicidal ideation, on the other hand, encompasses a variety of thoughts, desires and obsessions with suicide and death (Obegi, 2018). Students who consider suicide frequently exhibit depressive symptoms, such as a chronically depressed mood, hopelessness, and a loss of interest. This detrimental impact is exacerbated by poor learning outcomes that may ultimately lead to failure. Moreover, prolonged suicidal thoughts may also impair immunity, elevate vulnerability to illness, provoke insomnia, affect appetite, and interrupt sleep (Auerbach et al., 2018).

The prevalence of metal health challenges among university level students reveals a troubling landscape, shedding light on the complex interplay of diverse psychological issues. According to recent studies, 24.4% of university students grapple with depression highlighting the widespread impact of this mental health condition (Sarokhani et al., 2013). Concurrently, anxiety emerges as a prevailing concern with a prevalence rate of 41%, emphasizing the significant impact of stressors inherent in the academic environment (Liyanage et al., 2021). Perhaps most alarming of them all is the disclosure that 58.3% of university students acknowledge grappling with suicidal ideation highlighting the severity of mental health crisis (Crispim et al., 2021). These statistics collectively emphasize the pressing need for comprehensive mental health support and intervention strategies on university campuses.

The notably high prevalence of mental health challenges including depression, anxiety, and suicidal behavior among university students has prompted a focused inquiry by researchers. Mental health diseases when treated with pharmaceutical medicines often yields more adverse impacts on the body than benefits. Hence dedicated researchers and scholars are also focused on identifying non-pharmacological treatment modalities as a means of countering these detrimental behaviors. Multiple studies have consistently demonstrated the meaningful impact of sports and physical activity (PA) in enhancing mental health across all age groups (Teychenne et al., 2020). Participation in sports is a significant activity that supports young people's mental wellness and holds a profound value in the lives of students.

Cricket on the other hand is a distinguished sport that is known for fostering healthy competition and strong player interactions (Marwat et al., 2023). About 2.5 billion people of all ages and levels of ability play cricket, making it a very popular sport (Bullock et al., 2019). Cricket participation may enhance fitness, and strength, and provides participants with psychological advantages (Johnstone & Ford, 2010). It may promote an enhanced general wellbeing, relationships, and self-esteem (Jewett et al., 2014). Given these positive outcomes, it is imperative to delve deeper into the relationship between mental health and sports participation (specially cricket) of university level students.

Hence, to assess the prevalence and effects of sports participation on depression, anxiety, and suicidal ideation among undergraduate students was the primary objective of this study. Focusing on varsity cricketers and non-cricketer students, our objective is to unravel the nuanced impact of sports involvement on these critical mental health indicators. By honing deeply into the unique context of cricket and its potential influence on mental health, our study endeavors to enrich the existing body of knowledge and provide a more comprehensive understanding of the subject. The findings garnered from

this research may lay a robust groundwork for further investigations and the formation of well-informed policies in the realm of mental health within educational institutions.

Literature Review

Depression among university students has been demonstrated to be correlated with physical activity (Wickham et al., 2020). Several studies involving Chinese students have revealed a positive correlation between physical activity and lower levels of stress, anxiety, and depression (Shi et al., 2015). They are also less prone to experience anxiety (Qian & Wang, 2017). Self-confident and highly esteemed student-athletes are better able to interact with their peers and utilize social support networks to cope with stress in ways that reduce sadness and anxiety (Moreland et al., 2018).

Prior studies conducted on student athletes' suicide rates seem to be considerably lower among student athletes than non-athlete students (Anchuri et al., 2020). Students' suicidal thoughts were also observed to be less common when they participated in sports Sabo et al. (2005), and vital enhancements to young athletes' quality of life (Moeijes et al., 2019). Although there is a significant correlation between sports participation and psychological well-being, it is not totally obvious why athletes are less likely than the general population to attempt or commit suicide.

Materials and Methods

Study Design

A cross-sectional study design that was quantitative, was opted for the conduction of this research.

Population and Sample

The study encompassed 192 university students with ages ranging from 19 to 24, including 96 male cricketers (mean age = 21.23; SD = 0.92) and 96 male non-cricketer students (mean age = 20.19; SD = 1.45). Data was systematically collected from six universities employing the purposive sampling method. 16 male cricketers and 16 male non-cricketer students were selected from each university. Precisely, the inclusion criteria for male cricketers involved being members of the university's varsity cricket team and concurrently enrolled in the BS program in a university. Similarly, non-cricketer students devoid of any sports competition or any sports team involvement were recruited as a controlled group for the study.

Instruments

The instrument for data collection was composed of four sections including **i)** Demographic and Personal information **ii)** Patient Health Questionnaire-2 **iii)** General Anxiety Disorder-2 **iv)** Suicidal Ideation Attribute Scale (SIDAS).

Demographic and Personal information

Demographic and personal information comprised of 16 items, including name of university, department of study, year of study, age, gender, marital status, residence, parental marital status, family economic status, academic performance in last year, educational stress, physical or emotional abuse by parents or other adults at home, ever harmed yourself, smoke to relieve stress, alcohol consumption and psychiatric treatment or sessions.

Patient Health Questionnaire-2

The depression assessment tool utilized in this study, the PHQ-2, was developed by Kroenke et al. (2003) and was freely accessible for implementation. Acknowledged for its high validity and reliability due to its Cronbach Alpha score being 0.770, the PHQ-2 consists of two items. Each item is scored using a Likert scale (0 being "Not at all" and 3 being "Everyday"). The cumulative scores are determined by adding the scores of both items. A total score of 0 on the global scale indicates "low or no depression", whereas a total score of 3-6 indicates "moderate to severe depression".

General Anxiety Disorder-2

The anxiety assessment tool, the GAD-2, was developed by Kroenke et al. (2007). This tool was employed in this study due to a robust Cronbach's Alpha score of 0.761 which is regarded highly valid and reliable. Consisting of two items, each item is evaluated using a Likert scale with a maximum of four points (0 being "Not at all" and 3 being "Everyday"). As this tool incorporated a scoring method aligned with PHQ-2 hence its finals scores were also determined by summing the scores of both items.

Suicidal Ideation Attribute Scale (SIDAS)

The SIDAS scale, utilized in this study was designed to measure suicidal ideation and was developed by Van Spijker et al. (2014). The SIDAS scale also showcased high validity and reliability as it's Cronbach Alpha score was also 0.767. This scale comprised of five items (each having a maximum score of 10). This scale also comprised of global scoring method where the scoring process involves summing the scores of all five items.

Procedure

Data collection comprised of a self-administered questionnaire with four sections including demographic & personal information and sections comprising of questionnaires of depression, anxiety, and suicidal ideation. The respondents received a thorough briefing on the questionnaire and with the opportunity to seek any clarifications on any unclear points. Subsequently, questionnaires were distributed and information was gathered sequentially from each participant. The completion of the questionnaire took approximately 15–20 minutes per respondent.

Data Analysis

SPSS was used for data analysis. The gathered data underwent analysis through the utilization of simple linear regression, independent t-test and descriptive statistics. The *p*-value criteria for significance were lower than 0.05.

Results and Discussion

Descriptive Statistics

Table 1
Characteristics & Personal Information of Cricketers

Variables	*f (% age)*
Age	
20	27 (28.1)
21	21 (26.0)
22	39 (40.6)
23	5 (5.2)
Semester	
3-4	27 (28.1)

5-6	30 (31.3)
7-8	39 (40.6)
Family Economic Status	
Middle Class	84 (87.5)
Wealthy	12 (12.5)
Smoke to relieve stress	
Never	84 (87.5)
Sometimes	6 (6.3)
Everyday	(6.3)

The results of the descriptive analysis unveiled the demographic profile of male cricketers. Age frequencies were as follows 20 years had 27 (28.1), 21 years had 21 (26.0), 22 years had 39 (40.6), and 23 years had 5 (5.2). The frequencies for the second variable, i.e., semesters 3–4 had 27 (28.1), semesters 5–6 had 30 (31.3), and semesters 7-8 had 39 (40.6). The frequencies for the third variable, family economic status, were as follow: wealthy had 12 (12.5), while the middle class had 84 (87.5). The frequencies for the fourth variable, smoke to relieve stress, were as follows: never had 84 (87.5), sometimes had 6 (6.3), and everyday had 6 (6.3). (See table 1 for details)

Table 2
Characteristics & Personal Information of Non-Cricketer students

Variables	*f (% age)*
Age	
19	34 (35.42)
20	26 (27.1)
21	16 (16.7)
22	14 (14.6)
23	5 (5.2)
24	1 (1.0)
Semester	
1-2	40 (40.7)
3-4	25 (26.0)
5-6	22 (22.9)
7-8	9 (9.4)
Family Economic Status	
Middle Class	84 (87.5)
Wealthy	12 (12.5)
Smoke for Stress release	75 (78.1)
Never	16 (16.7)
Sometimes	5(5.2)
Everyday	

The demographics characteristics of the male non-cricketer students were unveiled by descriptive analysis, indicating a mean age of 20.19 and a SD = 1.45 (See Table 2). Across six universities, the age frequencies for the first variable 'age' were: 19 years had 34 (35.42), 20 years had 26 (27.1), 21 years had 16 (16.7), 22 years had 14 (14.6), 23 years had 5 (5.2), 24 years had 1 (1.0). The second variable of 'semester' was distributed as follows: 1-2 semester had 40 (40.7), 3-4 semester had 25 (26.0), semester 5-6 had 22 (22.9), and semester 7-8 had 9 (9.4). The frequencies for the third variable, family

economic status, were as follow: middle-class had 84 (87.5), and wealthy had 12 (12.5). The frequencies for the fourth variable, smoke to relieve stress, were as follows: never had 75 (78.1), sometimes had 16.7, and everyday had 5 (5.2).

Table 3
Mean Comparison of Cricketers Vs Non- Cricketer students on Depression, Anxiety, and Suicidal Ideation

	Cricketers		Non-cricketers				
Variables	M	SD	M	SD	t (190)	p	Cohen's d
Depression	0.85	0.52	2.88	1.60	-11.74	.000	1.71
Anxiety	1.75	1.03	3.06	1.81	-6.18	.000	0.89
Suicidal Ideation	3.15	3.38	6.88	7.53	-4.43	.000	0.64

Findings revealed that male cricketers and non-cricketer students exhibit significance mean differences on depression with t (190) = -11.74, p<.000 (See Table 3 for further details). The Cohen's d value was 1.71(> 0.80), indicating a larger effect size. It also revealed that male cricketers and non-cricketer students exhibit significant mean differences on anxiety with t (190) = -6.18, p<.000. The Cohen's d value was 0.89(> 0.80), indicating a larger effect size. The results also indicated that cricketers and non-cricketer students exhibit significant mean differences on suicidal ideation with t (190) = -4.43, p<.000. The Cohen's d value was 0.64(< 0.80), indicating a small effect size.

Table 4
Descriptive Analysis of Depression, Anxiety, and Suicidal Ideation among Cricketers vs non-cricketer students

Variables		f (% age)
Depression category	No Depression	161 (83.9)
	Severe Depression	31 (16.1)
Anxiety category	No Anxiety	144 (75.0)
	Severe Anxiety	48 (25.0)
Suicidal ideation category	No ideation	78 (40.6)
	Low ideation	107 (57.7)
	High ideation	7 (3.6)

The results of the descriptive analysis (see Table 4) showed the characteristics of cricketers and non-cricketer students. The frequencies for the first variable, depression, were as follow: no depression had 161 (83.9), severe depression had 31 (16.1). The results of the descriptive analysis (see Table 4) showed the characteristics of cricketers and non-cricketer students. The frequencies for the second variable, anxiety, were as follows: no anxiety had 144 (75.0), severe anxiety had 48 (25.0). The frequencies for the third variable, suicidal ideation, were as follow: no ideation had 78 (40.6), low ideation had 107 (57.7), high ideation had 7 (3.6).

Table 5
Characteristics of Depression, Anxiety, and Suicidal Ideation among Non-Cricketer students

Variables		***f (% age)***
Depression category	No Depression	96 (100.0)
Anxiety category	No Anxiety	88 (91.7)
	Severe Anxiety	8 (8.3)
Suicidal ideation category	No ideation	47 (49.0)
	Low ideation	49 (51.0)

The results of the descriptive analysis (see Table 5) showed the characteristics of non-cricketer students. The frequencies for the first variable, depression, were as follow: no depression had 65(67.7), severe depression had 31 (32.3). The frequencies for the second variable, anxiety, were as follow: no anxiety had 56 (58.3), severe anxiety had 40 (41.7). The frequencies for the third variable, suicidal ideation, were as follow: no ideation had 31(32.3), low ideation had 58 (60.4), high ideation had 7(7.3).

Table 6
Characteristics of Depression, Anxiety, and Suicidal Ideation among Cricketers

Variables		*f (% age)*
Depression category	No Depression	65 (67.7)
	Severe Depression	31 (32.3)
Anxiety category	No Anxiety	56 (58.3)
	Severe Anxiety	40 (41.7)
Suicidal ideation category	No ideation	31 (32.3)
	Low ideation	58 (60.4)
	High ideation	7 (7.3)

The results of the descriptive analysis (see Table 6) showed the characteristics of cricketers. The frequencies for the first variable, depression, were as follow: no depression had 96(100.0). The frequencies for the second variable, anxiety, were as follow: no anxiety had 88(91.7), severe anxiety had 8 (8.3). The frequencies for the third variable, suicidal ideation, were as follow: no ideation had 47(91.7), low ideation had 49 (51.0). These results yielded that university cricketers exhibit lower levels of depression, anxiety, and suicidal ideation whereas non-cricketer students showed higher levels of depression, anxiety, and suicidal ideation.

Table 7
Regression Coefficients of Depression on Suicidal Ideation among Cricketers Vs non-cricketer students

Dependent Variable	**Predictor variable**	***B***	***β***	***SE***	***R²***	***P***
Suicidal Ideation	Depression	1.497	.383	.262	.383	.000

The effect of depression on suicidal ideation of male cricketers vs non-cricketer students is presented in Table 4.7. The predictor variable was depression and outcome were suicidal ideation which is dependent variable. The R^2 value of .383 indicates that the depression explained 38.3% variance in the suicidal ideation with F (1, 190) = 32.563, P < .05. These findings indicate that depression has significant positive association with suicidal ideation (β = .383, P <.05). The findings also revealed that if depression increases either in cricketers or non-cricketer students it ultimately increases the risk of suicidal ideation.

Table 8
Regression Coefficients of Anxiety on Suicidal Ideation among Cricketers Vs non-cricketer students

Dependent Variable	**Predictor variable**	***B***	***β***	***SE***	***R²***	***P***
Suicidal Ideation	Anxiety	1.420	.326	.261	.106	.000

The effect of anxiety on suicidal ideation among male cricketers and non-cricketer students is shown in Table 4.8. The predictor variable was anxiety and outcome were suicidal ideation which is dependent variable. The R^2 value of .106 indicates that the anxiety explained 10.6% variance in the suicidal ideation with F (1, 190) = 22.641, P < .05. The findings showed that depression has significant positive relationship with suicidal ideation (β = .326, P <.05). The results also revealed that suicidal ideation directly relates to anxiety. When anxiety levels rise, suicidal ideation eventually occurs.

Discussions

The present study aimed to investigate the relation between anxiety, depression and suicidal ideation among cricketers and non-cricketer students from diverse universities of Lahore. The outcomes of the study revealed a noteworthy trend: cricketer students demonstrated lower susceptibility to mental health disorders as compared to their non-cricketer counterparts. The therapeutic impact of cricket on cricketers was evident as it reduced anxiety and depression among cricketers that ultimately led to the reduction of the suicidal ideation among cricketer students. These findings highlight the positive impact of cricket as a sport in promoting mental well-being among university students.

The findings concerning the association of depression among university level cricketers and non-cricketer students were in line with previous studies showing a lower level of depression among cricketers and higher levels of depression among non-cricketer students. Their mental and physical well-being may benefit from organized sport training (Edwards & Froehle, 2023). Moreover, the symptoms of depression and anxiety can be effectively treated by physical activity (Stathopoulou et al., 2006). Depression among university students is linked to various negative social and health effects, including poor academic and professional performance (Kang et al., 2013).

Similarly, increasing moderate physical activity can greatly increase self-esteem and a positive attitude on life. It may also significantly minimize symptoms of depression and anxiety (Bruyninckx & Basu, 2012). The findings regarding the association of suicidal ideation indicated a positive impact on the mental health of athlete students and indicated negative mental health symptoms among non-athlete students. It also showed that actively considering, planning, or attempting suicide is greatly decreased by being an active participant of a collegiate sports team (Brown & Blanton, 2002).
It was also observed that a significant portion of university students having a history of suicide behavior were those who participated in less physical activity. Similarly, study conducted on the relation between physical activity and suicidal ideation suggested that engaging in moderately vigorous physical activities that enhance respiration, including walking for at least 30 minutes a day or cycling at a steady speed, can help lower suicidal ideation (Kim et al., 2019). Most studies support the assumption that physical activity, especially for women, lowers the risk of having suicidal ideation (Koo & Kim, 2020).

The results of the study also align with numerous studies which demonstrated that a variety of factors, such as sociodemographic traits, family circumstances, some daily routines, sleep issues, and depression or other mental diseases are linked to suicidal ideation among college students (Rodríguez-Cintas et al., 2018). Moreover, a college student may be at risk for suicide for several reasons, such as substance misuse, a family history of suicide, impulsive and violent conduct, and relationship issues (Mann et al., 2005). Suicidal thoughts can be a symptom of depressive disorders, which are typically considered to be the biggest risk factor for suicide and are a natural place to start when trying to identify people who may be at risk (Konick & Gutierrez, 2005).

Conclusion

This study reveals significant differences between cricketers and non-cricketer students, with cricketers showing better mental health outcomes. They are primarily in their early twenties, from middle-class backgrounds, and exhibit lower levels of depression, anxiety, and suicidal ideation. Nonetheless, the findings underscore the potential benefits of sports participation for mental well-being among university students.

Recommendations

The study was carried out on university students and the sample was limited to male population only. Since this research is cross-sectional in design, it can be challenging to draw assumptions about the causes of depression, anxiety, and suicidal ideation in cricketers compared to non-cricketer students. Future research should investigate the relationship between mental health disorders and other sports activities. To enhance applicability, studies should consider larger and more specialized sample sizes, including both genders. These studies should employ diverse assessment tools, examine various levels of participation, explore different sports, and consider alternative study designs like longitudinal research to uncover delicate outcomes.

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