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Impact of sports activities on happiness and mental well-being of tribal-student athletes and non-athletes: A comparative analysis

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Abstract
This comparative study explored the impact of sports activities on the Happiness and Mental well-being of the tribal-student athletes and non-athletes. It also aimed to find out the relationship between Happiness and Mental well-being of the tribal-students across athletic status. The study was conducted on a sample of 120 tribal college students (60 tribal athletes and 60 tribal non-athletes). There were 30 males and 30 females each under athletes and non-athletes student categories involved in different sporting events. They were selected from KISS-DU through purposive sampling. Happiness and Mental well-being of the participants were assessed using standardized scales. The findings of the study revealed that tribal-student athletes had higher level of Happiness and Mental well-being compared to their non-athletes counterparts. More so, Male tribal-student athletes were happier and enjoyed better mental well-being than the Female-student athletes. It was further revealed that there was a positive and significant association between Happiness and Mental well-being of tribal students irrespective of their participation in sports. It was the highest in case of Female tribal-student athletes. Results thus, implicated that physical sport activities kept tribal students happy and contributed to their overall Happiness and Well-being. Getting engaged in physical activities like sports and games helped students in the secretion of feel good hormones which kept them happy, energetic and vibrant. These findings can be extended beyond educational setting, emphasizing on the importance of integrating physical activity and sports in life, to foster Happiness and Mental well-being among tribal students.

Keywords: Sports, happiness, mental well-being, tribal, athletes, students

Introduction
Happiness and Mental well-being are two closely related constructs that contribute to an individual's overall quality of life. While they share some similarities, these are distinct differences between the two. Happiness is a subjective emotional state characterized by feelings of joy, contentment, and overall life satisfaction. It is often associated with experiencing positive emotions and having a positive outlook on life. Happiness is influenced by various factors, including personal values, life circumstances, and social relationship, and individual traits. It is a multidimensional construct that encompasses both hedonic (Pleasure based) and eudemonic (Meaning-based) aspects of well-being. Mental well-being, on the other hand, refers to a state of optimal psychological functioning and positive emotions. It encompasses aspects such as life satisfaction, positive effect, self-acceptance, purpose in life, autonomy, and positive relationship (Ryff & Singer, 2008) [29]. Mental well-being goes beyond the absence of mental illness and includes elements of positive psychological functioning, resilience, and the ability to cope with life's challenges effectively. Engaging in the activities that promote mental well-being and Happiness are essential for maintaining optimal psychological health and overall well-being. These activities may include pursuing meaningful goals, practicing gratitude, cultivating positive relationships, engaging in physical exercise, participating in hobbies, and practicing mindfulness and self-care. A more balanced and satisfying life can be attained by adopting a holistic strategy that addresses both the hedonic and eudemonic facets of well-being (Diener *et al*., 2006) [7].
The physical and mental health benefits of sports activities have been widely acknowledged in numerous studies (Pasanen *et al*., 2014; Biddle & Asare, 2011; Fox, 1999) [23, 3, 12]. Regular participation in sports has been associated with improved physical fitness, reduced risk of chronic diseases, enhanced cognitive functions, and increased social interaction

(Durstine *et al*., 2000; Fox, 1995) [10, 34]. Sports activities have been recognized as a significant contributor to physical fitness and overall well-being (Laurier *et al*., 2021; Harris, 2018) [20, 14]. Engaging in sports has been associated with various physical health benefits, including improved cardiovascular health, increased muscular strength, and reduced risk of chronic diseases (Dustine *et al*., 2013; Haskell *et al*., 2007; Warburton *et al*., 2006) [10, 15, 31]. Moreover, participation in sports has been linked to positive mental outcomes, such as enhanced self-esteem, reduced stress levels, and improved psychological well-being (Knowles *et al*., 2023; Rodriguez *et al*., 2019) [18, 28]. Sports activities encompass a wide range of physical exercises, games, and competitions that involved structured and organized physical exertion. These activities can be individual centred or team-based and they often require skill, strategy, and physical fitness. Sports activities can include popular sports such as football, basketball, tennis, swimming, cricket, and hockey as well as lesser-known or traditional sports specific to certain cultures or communities. Engaging in sport activities offers numerous benefits beyond physical fitness. It promotes social interaction, teamwork and cooperation among the participants. Sports activities also provide opportunities for personal growth, skill development and goal setting. Additionally, sports can serve as a platform for cultural expression, fostering a sense of identity and pride.

Research has demonstrated the positive impact of sports activities on Happiness and Mental well-being. Participation in sports has been associated with improved psychological well-being, reduced symptoms of depression and anxiety, and increased self-esteem (Sabiston *et al*., 2019; Biddle, 2019; Weiss *et al*., 1989; Reed & Ones, 2006) [16, 4, 21, 27]. The structured nature of sports activities, along with the physical exertion can help individuals manage stress and enhance their mood. Furthermore, sports activities contribute to the release of endorphins, serotonin and dopamine- neurochemicals known as "feel-good" hormones. These substances are associated with improved mood, feelings of happiness, and reduced stress levels (Craft & Perna, 2004) [6]. The positive effects of sports activities on mental well-being extend beyond the immediate post-activity period, with long-term benefits for overall psychological health (Penedo & Dahn, 2005) [25].

In the context of tribal population, sports activities play a crucial role in promoting their Happiness and Mental well-being. Tribal communities often face unique challenges, including cultural preservation, social inequalities and limited access to resources. Engaging in sports activities can provide outlet for stress, enhance social connections, and empower tribal individuals. Moreover, sports activities can contribute to their development of resilience, discipline and self-confidence. These qualities are essential for navigating the challenges faced by tribal communities and can have a positive impact on Happiness and Mental well-being (Su *et al*., 2022; Livingstone & Helsper, 2007) [30, 22].

Thus, Sports activities offer more than just physical benefits; they contribute to overall Happiness and Mental well-being. The structured nature of sports, the release of neurochemicals, and the social aspects associated with participation in sports; all play a significant role in promoting positive mental health. Recognizing the impact of sports activities on Mental well-being is particularly important within tribal communities, where cultural and social factors also influence quality of life and well-being outcomes. By incorporating sports into the daily lives of tribal people; we can foster a healthier, happier, and more resilient population.

While there is a growing body of research on Mental well-being and Happiness in various populations (Keyes, 2007) [17], including athletes and non-athletes, there is a need to explore these factors specifically among tribal athletes and tribal non-athletes students (Gibson, 2016) [13]. Tribal communities often face unique challenges and experience, and understanding the impact of sports activities on their mental well-being and happiness is essential for addressing their specific need and promoting their overall well-being. However, limited research has focused on the impacts of sports on the mental well-being and Happiness of tribal students, particularly tribal athletes. This study aimed to bridge this gap and explore the impact of sports activities on Happiness and Mental well-being on the tribal-student athletes and tribal student non-athletes, and the relationship between their Happiness and Mental well-being.

By focusing on the tribal students, the study acknowledges the cultural context and social determinants that may influence their well-being. Understanding the role of sports activities in promoting Happiness and Mental well-being among tribal students can help in the development of targeted interventions and policy formulations that will address their specific needs.

Objectives

1. To find out the effect of Sports activities on the Happiness and Mental well-being of the tribal-student athletes and compare it with the tribal-student non-athletes.
2. To assess the effect of Gender on the Happiness and Mental well-being of the tribal-student athletes and tribal-student non-athletes.
3. To explore the interaction effect of Sports activities X Gender on the Happiness and Mental well-being of the tribal-student athletes and tribal-student non-athletes.
4. To find out the nature of relationship existing between Happiness and Mental well-being of the tribal-student athletes and tribal-student non-athletes across Gender.

Hypotheses

1. Sports activities would have a positive impact on the Happiness and Mental well-being of the tribal-student athletes compared to the tribal-student non-athletes.
2. Gender would have a significant influence on the Happiness and Mental well-being of tribal-student athletes and tribal-student non-athletes.
3. There would be a significant interaction effect of Sports activities x Gender on the Happiness and Mental well-being of tribal-student athletes and triba-student non-athletes.
4. There would be a high positive relationship between Happiness and Mental well-being of tribal-student athletes than their non-athletes counterparts across Gender.

Research Design: This study was based on a 2 (Athletes) X 2 (Gender) factorial design, with the independent variables being participation of tribal-students in Sports activities (Athletes and Non-athletes) and Gender (Male and Female). The dependent variables were Happiness and Mental well-being of tribal-student athletes and non-athletes.

Sports Activities	Gender	
	Male	Female
Athletes	30	30
Non -Athletes	30	30

Sample

Using purposive sampling, a total number of 120 tribal college students were selected from Kalinga Institute of Social Sciences (KISS), Bhubaneswar, Odisha, India, with an equal distribution of 60 male and 60 female participants. They were further categorized into two groups based on their active involvement in sports activities or lack of it, resulting in 30 tribal athletes and 30 tribal non-athletes in each group across Gender

Tools Used

The Warwick-Edinburgh Mental Well-being Scale (WEMWBS, 2006) it was developed jointly by the University of Warwick and the University of Edinburgh. It consisted of 14 positively worded items that covered feelings and functioning of the participants over the past two weeks. It was a five-point Likert scale. The test had high reliability and validity.

The Oxford Happiness Questionnaire (2002) the scale was a widely used self-assessment tool developed by psychologists Michael Argyle and Peter Hills at the University of Oxford. It consisted of 29 statements which participants rated on a scale from 1 to 7, indicating their level of agreement. It also had high reliability and validity.

Procedure The procedure of data collection involved both individual and group settings by the participants, who were contacted within the campus of the Kalinga Institute of Social Science (KISS) in Bhubaneswar, Odisha. Prior to data collection, a sufficient level of rapport was established with the participants, and their verbal informed consent for participating in the research was obtained. The purpose of the study was clearly explained to them, and they were assured of the maintenance of confidentiality of their data. Ethical considerations were strictly adhered to during the research process. Data were collected using the Warwick-Edinburgh Mental Well-being Scale (WEMWBS) and the Oxford Happiness Questionnaire. The entire data collection process spanned approximately over a period of two months.

Results

Table 1: Two-way ANOVA on Happiness scores of the Tribal Students

Source	Sum of squares	df	Mean Square	F	P
Sports activities	8909.63	1	8909.63	7.05	0.009**
Gender	8433.63	1	8433.63	6.67	0.011**
Sports activities X Gender	22.53	1	22.53	0.02	0.8878
Error	146671.67	116	1264.41		
Total	164037.47	119			

**$p<0.01$

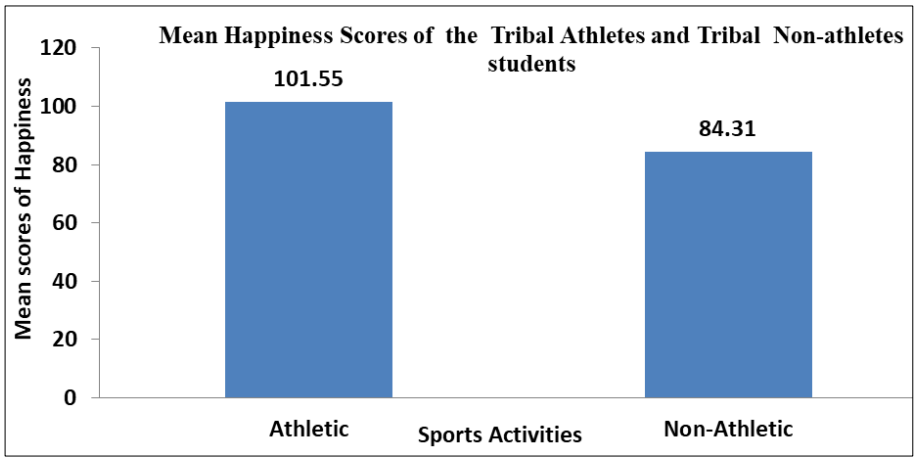
Results in Table 1 showed that Sports activities had a significant main effect on Happiness score of the tribal students (F = 7.05, df = 1,116, $p<.01$). Gender too had a significant main effect (F = 6.67, df = 1,116, $p<.01$). However, there was no significant Sports activities X Gender interaction effect (F = 0.02, <1. NS).

Result

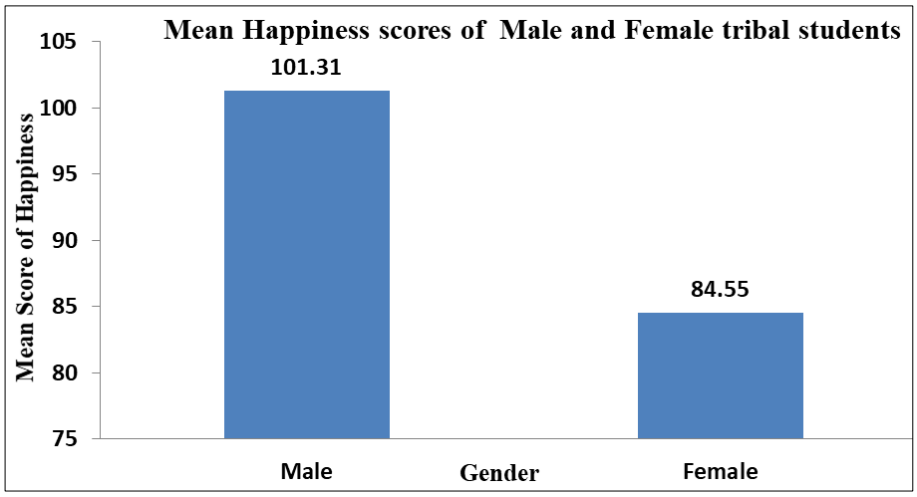
Table 2: Mean and SD of Happiness scores of the Tribal students

Sports activities	Male		Female		Combined	
	Mean	SD	Mean	SD	Mean	SD
Athletes	110.36	45.26	92.73	35.74	101.55	41.4
Non –Athletes	92.26	35.80	76.36	21.22	84.31	30.26
Combined	101.31	41.48	84.55	30.28	92.93	37.13

The comparative analysis of the Mean scores on Happiness of tribal-student athletes (M = 101.55, SD= 41.4) and tribal-student non-athletes (M = 84.31, SD = 30.26), indicated that tribal-student athletes were happier than their non-athletes counterparts (M=92.26, SD=35.80). Similarly with regard to Gender, Male tribal students were much happier (M = 101.31, SD = 41.48) than the Female tribal students (M = 84.55, SD = 30.28).



Graph 1: Showing the higher Happiness mean scores of the Tribal-student athletes than the Non-athletes Tribal students



Graph 2: Showing Mean Happiness scores of Male tribal students higher than Female tribal students

Result

Table 3: Two-way ANOVA on Mental Well-being scores of the Tribal students

Source	Sum of squares	Df	Mean Square	F	P
Sports Activities	667.7	1	667.41	4.09	0.045*
Gender	1786.41	1	1786.41	10.95	0.001**
Sports Activities X Gender	3.01	1	3.01	0.02	0.887
Error	18916.77	116	163.08		
Total	21373.59	119			

*p<0.05 **p<0.01

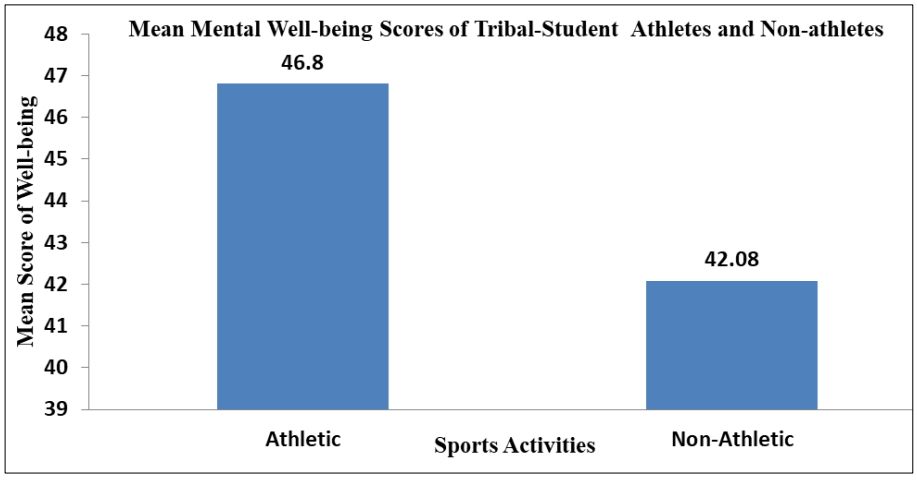
Results in Table 3 indicated that Sports Activities (F = 4.09, df = 1,116. p<.05) and Gender (F = 10.95, df = 1,116, p<.01) had significant main effects on Mental well-being scores of the tribal students. On the other hand, the interaction effect of Sports Activities X Gender did not have any significant effect of the Mental well-being score of the participants (F = 0.02, <1, NS).

Result

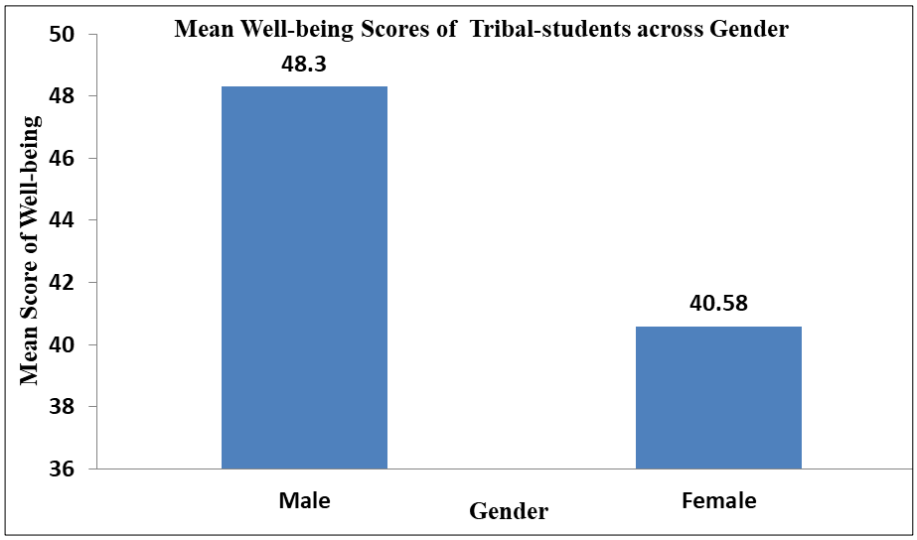
Table 4: Mean and SD of Mental Well-being scores of the Tribal Students

Sports Activities	Male		Female		Combined	
	Mean	SD	Mean	SD	Mean	SD
Athletes	50.50	10.50	43.1	15.95	46.8	14.07
Non- Athletes	46.10	13.38	38.06	9.95	42.08	12.37
Combined	48.30	12.32	40.58	13.42	44.44	13.40

Comparison of mean scores showed that Tribal athlete-students had higher Mental well-being (M= 46.3, SD=14.07) than their Non-athletes counterparts (M =42.08, SD= 12.37) With regard to Gender difference, Male tribal students enjoyed better Mental well-being (M= 48.30, SD = 12.32) than the Female tribal students (M = 40.58, SD =13.42).



Graph 3: Showing mean well-being scores of Tribal Student Athletes and Non-athletes



Graph 4: Showing Mean Well-being scores of Male tribal students higher than Female tribal students

Result

Table 5: Correlation ('r') values between Happiness and Mental well-being across Sports Activity and Gender groups

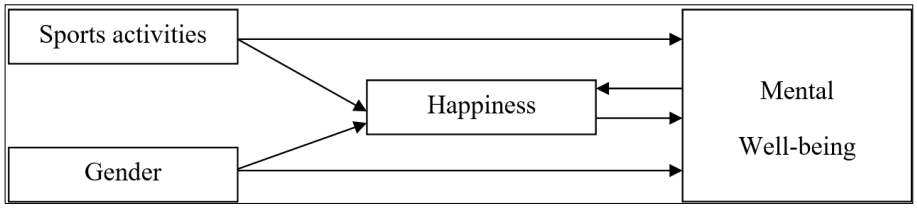
Variables	Groups	'r'	df
Happiness & Mental well-being	Male athletes	0.411*	28
	Female athletes	0.473*	28
	Male Non-athletes	0.384*	28
	Female Non-athletes	0.416*	28

*p<0.05

In Result Table 5, the correlation values between Happiness and Mental Well-being of tribal students in different groups, based on Sports activities and Gender indicated a clear-cut relationship picture. Tribal female-student athletes had the highest relationship (r =.473, df =28, p<.05), followed by tribal female–student non- athletes (r =.416, df= 28, p<.05). On the contrary, correlation values for the tribal male students were less compared to the tribal female students. However, in case of tribal Male-student athletes r value was higher (r =.411, df =28, p<.05) compared to tribal Male-student non-athletes (r =.384, df =28; p<.05). Thus, both tribal Female and Male student-athletes had higher relationship in their Happiness and Mental well-being than the Male and Female non-athletes revealing the strength of sports activities in strengthening their Happiness and Mental well-being for achieving consistent success in the world of sports as well as their personal growth and development.

Model

A model showing the Role of Sports activities and Gender on Happiness and Mental well-being of Tribal Students



Discussion and Conclusion

The study revealed insightful findings that shed light on the significance of sports in promoting Happiness and Mental well-being among tribal students engaged in physical sports activities. Sports activities had a significant main effect on Happiness and Mental well-being of the tribal students. More so, tribal-student athletes exhibited higher levels of Happiness and Mental well-being compared to their non-athletes counterparts. This suggests that active engagement in sports activities has a positive influence on the Happiness and Mental well-being of tribal-student athletes than the tribal-student non-athletes. Within the broader context of tribal communities, sports participation has been recognized as a potential protective factor, offering psychological benefits beyond the individual level (Kohrt *et al*., 2018) [19]. This is particularly relevant for tribal students, as cultural sports engagement can foster a sense of identity and community belonging, contributing to overall well-being (Windsor & Anstey, 2008) [33]. Furthermore, the neurobiological aspect of sports and physical activity, triggering the release of neurotransmitters like endorphins, serotonin, and dopamine, forms a crucial link between engaging in sports and maintaining positive mental states (Ratey & Hagerman, 2008) [26]. Thus, Hypothesis 1 which proposed that Sports activities would have a positive impact on the Happiness and Mental well-being of the tribal-student athletes than the tribal-student non-athletes is proved and accepted.

Results further revealed that Gender too had a significant main effect on Happiness and Mental well-being of the tribal students. Male tribal students had higher Happiness and Mental well-being scores than their Feale counterparts. This was true both in case of tribal-student athletes and non-athletes. Thus, Hypothesis 2 which proposed that Gender would have a significant influence on the Happiness and Mental well-being of tribal-student athletes and tribal-student non-athletes is proved to be correct and accepted.

There was no significant interaction effect of Sports activities x Gender on Happiness and Mental well-being of the tribal students. Thus, Hypothesis 3 which proposed that interaction effect of Sports activities x Gender would significantly influence the Happiness and Mental well-being of tribal-student athletes and tribal-student non-athletes, could not be

verified as the result was not statistically significant. Hence, it was rejected. Thus, it was concluded that the independent variables Sports activities and Gender had independent significant effects on both the dependent measures namely Happiness and Mental well-being of the tribal-students and they did not jointly influence the dependent variables.

With regard to linkage dimension, correlations between Happiness and Mental well-being were positive and significant across Sports activities and Gender of the tribal students, in all the four groups namely Male tribal-student athletes, Female tribal-student athletes, Male tribal-student non-athletes and Female tribal-student non-athletes. The highest 'r' value was found in Female tribal-student athletic group. Thus, Hypothesis 4 which proposed that there would be significant and positive relationship between Happiness and Mental well-being of tribal-students across Sports activities and Gender was proved to be correct and accepted. Thus, it was concluded that irrespective of participation in Sports activities and Gender difference, there is a positive linkage between Happiness and Mental well-being among the tribal students.

Research findings on the impact of sports activities on Happiness and Mental well-being, particularly within tribal communities, reflect a growing body of evidence emphasizing the positive psychological effects of sports engagement. Research has consistently highlighted the beneficial relationship between sports participation and mental well-being, with physical activity being associated with reduced symptoms of anxiety and depression. Additionally, there is a well-established link between sports engagement and happiness, with physical activity stimulating the release of endorphins and contributing to an overall sense of well-being (Peterson, 2017; Awsi, 2022) [25, 1]. Despite the general acknowledgment of these positive effects, limited attention has been given to tribal communities, where unique challenges and cultural considerations come into play (Gibson, 2016) [13]. The current study contributes to addressing this gap by specifically examining the impact of sports activities on Happiness and Mental well-being among tribal-student athletes and non-athletes.

In summary, this study demonstrated that tribal-student athletes experienced higher levels of Happiness and Mental well-being than the tribal-student non-athletes. Male tribal-students experienced higher Happiness and Mental well-being than the Female tribal students. There was a positive relationship between Happiness and Mental well-being among the tribal students across Sports activities and Gender, although the highest relationship was marked among the Female-student athletes. The positive association between Happiness and Mental well-being is a well-documented phenomenon in the literature (Keyes, 2007) [17] and in the present study, it is explored within the specific context of tribal-student athletes. Additionally, the study extends beyond academia, emphasizing the importance of integrating physical activity and sports into daily life to promote their Happiness and Mental well-being (Donnelly *et al*., 2016; Kohl *et al*., 2012) [9, 35]. In conclusion, research studies in this area provide a foundation for understanding the nuanced relationship among sports, happiness and mental health. The focus of the current study on tribal communities has added meaning and depth to this discourse.

Engagement in sports activities positively influenced the physical and psychological health of the tribal students by releasing "feel-good" hormones and promoting positive emotions. The findings highlighted on the significance of sports in enhancing Happiness and Mental well-being, particularly within tribal communities facing unique challenges. This research emphasized on the importance of integrating sports into the lives of tribal population to foster their overall Happiness and Mental well-being among the tribal youths. KISS- DU is sincerely promoting sports activities among its students under the supervision and care of the competent coaches, and special nutritious food is supplied to them for energy and spirit. Many of its students are being awarded with state, national and international awards in sports like Rugby, Hockey, Archery, Kho Kho, Track events, Volley ball, Swimming, Handball, Lawn Tennis, Boxing, Kabbadi, Badminton, Yoga etc. They are not only getting medals and laurels for the institution; they keep on getting glory for the state Odisha as well as India.

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