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A comparative analysis of sports anxiety across various adventure sports

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Abstract
The study was conducted to investigate about the anxiety level between two adventure water sports. And also compare the anxiety levels among participants these water-based sports, kayaking and canoeing. To fulfil the objectives of the study total 20 participants were recruited, 10 from each sport. The mean anxiety scores were found to be 21.53 ± 3.14 for kayaking and 21.73 ± 3.15 for canoeing, with a p-value exceeding 0.05, indicating no statistically significant difference in anxiety levels between the two groups. These results suggest that the choice between kayaking and canoeing does not appear to significantly influence anxiety experiences in sports. This finding aligns with the idea that psychological factors, individual differences, and competition stressors may exert more significant influence on anxiety than the specific watercraft discipline. However, further research with larger and more diverse samples is warranted to confirm these findings and explore additional factors that may contribute to anxiety in water-based sports. Understanding anxiety in these contexts is essential for optimizing athlete performance and well-being.

Keywords: Adventure sports, athletes; sports anxiety, psychology, mental health

Introduction
The prevalence of anxiety in sports is a well-documented phenomenon, with sports psychology researchers consistently acknowledging its presence in competitive contexts (Smith *et al*., 2021) [15]. Consequently, the development and application of psychological strategies to mitigate the adverse emotional states associated with sports-related anxiety have become integral components of an athlete's performance preparation regimen. Anxiety, characterized by cognitive elements like worrying thoughts and apprehensions, alongside somatic aspects such as physical activation levels, is a common emotional state experienced by athletes across all performance levels (Weinberg and Gould, 2015) [16].

In a sporting context, anxiety is often considered a natural response to situations in which an athlete's skills are under evaluation (Smith *et al*., 2021) [15]. It manifests through physiological indicators like increased heart rate and sweating, behavioural signs such as nail-biting and fidgeting, and cognitive manifestations like negative thoughts and inattention (Weinberg and Gould, 2015) [16]. Various terms, including competitive state anxiety, competitive trait anxiety, somatic anxiety, cognitive anxiety, behavioural anxiety, performance anxiety, facilitative anxiety, debilitative anxiety, competition anxiety, and pre- and post-competition anxiety, have been employed to describe the spectrum of sport-related anxiety experiences (Arya, U *et al*., 2023) [1].

In contrast, adventure sports, often referred to as extreme sports or outdoor adventure activities, encompass a diverse array of recreational pursuits characterized by their inherent excitement, physical demands, and the element of risk or danger they present. Typically conducted in natural environments, these activities offer participants exhilarating and adrenaline-pumping experiences (Brymer *et al*., 2010) [17].

Examples of adventure sports include rock climbing, white-water rafting, skydiving, mountain biking, surfing, base jumping, canyoning, paragliding, skiing, snowboarding, and bungee jumping. Enthusiasts are drawn to adventure sports by the thrill of adrenaline, the opportunity to connect with nature, and the sense of accomplishment they provide. However, due to their inherent risks, participants are encouraged to prioritize safety through appropriate training, equipment usage, and risk management. Furthermore, many adventure sports communities emphasize environmental stewardship and responsible outdoor practices to ensure the preservation of natural spaces for future generations (Brymer *et al*., 2010) [17].

Despite extensive research on sports-related anxiety in conventional sports, limited attention has been directed towards adventure sports in this context (Sharma, A., & Purashwani, P 2021) [14]. This research gap highlights the need to explore and compare anxiety experiences in adventure sports, considering their distinct characteristics and challenges (Hanin, Y. L. 2007) [9]. Therefore, the primary objective of this article is to provide readers with contemporary insights into the nuances of sport-related anxiety, with a particular focus on adventure sports. Firstly, the article will establish a comprehensive definition and theoretical framework for understanding sport-related anxiety. Subsequently, it will delve into adventure sport-related anxiety, presenting a comparative analysis across various adventure sports to shed light on this relatively unexplored facet of athletic psychology.

Methodology

Selection of the subjects: In order to fulfil the objectives of the study, a total of 20 participants (N-10 kayaking and N-10 Canoeing) were carefully selected from the Bhopal, Madhya Pradesh, India. The selection of these individuals was done with great attention to ensure a diverse and representative sample. The age range of the participants was set between 17 and 25 years, ensuring a relatively homogeneous group in terms of age.

Procedure: The Sports Competition Anxiety Test (SCAT) was the instrument utilised for the study's goal of examining sports anxiety. The subjects had given their response to 15 statements of the questionnaire related to trait anxiety. The test monitored the Sports Competition Anxiety of the athletes for their respective sport. There was no time limit provided for the response and instructions were clearly given before filling the questionnaire.

Statistical Technique: First, normality assumption of data was checked by kolmogorov Smirnov (Das & Jhajharia, 2022b) [4] and Shapiro-Wilk test (Das *et al*., 2023) [6]. The assumptions of normality were not violated, thus parametric test was implemented (Das & Jhajharia, 2022a) [4], to compare between games independent 't' test was applied with the help of SPSS Version 26.

Results

Table 1: General Characteristics of the subjects

Game	N	Age (Mean ± SD)	Height (mt)	Weight (Kg)
Kayaking	10	20±4.2	1.65±5.3	55.2±8.23
Canoeing	10	21±2.2	1.63±4.4	57.6±9.44

Table 1 provides an overview of the fundamental characteristics pertaining to individuals engaged in the sports of kayaking and canoeing. Within the kayaking cohort, the mean age was observed to be 20 years, with a standard deviation of 4.2 years. Additionally, the average height in this group stood at 1.65 meters, accompanied by a standard deviation of 5.3 centimetres, while the mean weight was recorded as 55.2 kilograms, with a standard deviation of 8.23 kilograms. Conversely, in the group dedicated to canoeing, the mean age was slightly higher at 21 years, with a narrower standard deviation of 2.2 years. The average stature within this group measured 1.63 meters, with a standard deviation of 4.4 centimetres, while the mean body weight was 57.6 kilograms, displaying a standard deviation of 9.44 kilograms. These comprehensive statistics offer insight into the demographic characteristics of the participants involved in these two distinct water sports disciplines, aiding in the contextualization of subsequent findings and comparisons.

Table 2: Mean Comparison of Anxiety of male and female (independent t-test)

Gender	N	Mean	SD	Sig
kayaking	10	21.53	3.14	0.08
Canoeing	10	21.73	3.15	

Table 2 delineates the calculated mean anxiety scores within the cohorts engaged in kayaking and canoeing. Specifically, the kayaking group exhibited a mean anxiety score of 21.53, accompanied by a standard deviation of 3.14, while the canoeing group displayed a slightly elevated mean anxiety score of 21.73, accompanied by a standard deviation of 3.15. Consequently, it is discernible that individuals involved in canoeing sports evinced a marginally higher mean anxiety score in comparison to their kayaking counterparts. To ascertain the statistical significance of this observed difference, a p-value was computed. The obtained p-value, which exceeded the threshold of 0.05, signifies that the difference in anxiety scores between these two groups was not statistically significant. In other words, the variance in anxiety scores observed between the kayaking and canoeing groups is within the realm of random variation and does not reach a level of statistical significance that would warrant substantive differentiation. This statistical assessment underpins the notion that the observed variations in anxiety scores are likely due to chance rather than being reflective of inherent disparities between the two sports groups.

Discussion

The present study aimed to investigate and compare the levels of anxiety among individuals engaged in the sports of kayaking and canoeing. Our analysis revealed that the mean anxiety scores for kayaking and canoeing were 21.53 ± 3.14 and 21.73 ± 3.15, respectively. Despite the slightly higher mean anxiety score in the canoeing group, the computed p-value (>0.05) indicated that this difference was not statistically significant. These findings suggest that, in the context of anxiety, there is no significant divergence between individuals participating in kayaking and those involved in canoeing. However, it is worth delving into the implications of these results and considering them in light of previous research in sports psychology (Iwuagwu T. E *et al*., 2021) [10]. The absence of a statistically significant difference in anxiety levels between kayakers and canoeists is consistent with certain aspects of previous research. It aligns with the notion that the psychological aspects of anxiety, at least in sports contexts, may not be strongly influenced by the choice of watercraft. Studies exploring anxiety in water-based sports have frequently emphasized the role of individual differences, competition stressors, and the athlete's perception of the sporting event as more influential factors than the specific discipline itself (Hanin, 2007) [9]. Moreover, our findings resonate with research that underscores the commonality of anxiety experiences among athletes in various sports. Anxiety is a prevalent emotion in

competitive sports, with athletes often encountering both state and trait anxiety. Trait anxiety, which is a stable characteristic of an individual, and state anxiety, which is situation-specific and temporary, are recognized as contributors to the anxiety experienced by athletes (Mellalieu *et al*., 2009) [11]. Nonetheless, it is essential to acknowledge the limitations of our study. First, the relatively small sample size and the specific demographics of the participants might restrict the generalizability of our findings. Future research could benefit from larger and more diverse samples. Additionally, the assessment of anxiety was based solely on self-report measures, and further investigations could employ a combination of physiological and psychological assessments to provide a more comprehensive understanding of anxiety in these sports.

Conclusion

Our study contributes to the understanding of anxiety in water-based sports, particularly kayaking and canoeing. While the mean anxiety scores showed a slight difference between the two groups, this discrepancy did not reach statistical significance. These results suggest that, in practice, athletes in both kayaking and canoeing may benefit from similar strategies to manage anxiety and enhance their performance. Nonetheless, future research should explore additional factors that may influence anxiety in water-based sports to provide a more nuanced understanding of this psychological aspect in sports performance.

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