



Research Paper

Competitive State Anxiety Among Inter-University and Open State Level Female Wrestlers: A Comparative Study

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Abstract: The purpose of the present study was to examine differences in competitive anxiety between inter-university and open state level female wrestlers. Competitive anxiety is considered a crucial psychological determinant of performance in combat sports, particularly in wrestling where athletes encounter direct physical confrontation and intense evaluative pressure. A total of twenty female wrestlers were purposively selected and divided into two groups: inter-university competitors ($n = 10$) and open state competitors ($n = 10$). Competitive anxiety was assessed using the Sport Competition Anxiety Test (SCAT). Descriptive statistics and an independent samples t -test were employed to analyze the data.

The results revealed that inter-university wrestlers demonstrated higher competitive anxiety scores ($M = 19.10$, $SD = 1.52$, $Min = 15$, $Max = 24$) compared to open state wrestlers ($M = 17.90$, $SD = 1.84$, $Min = 14$, $Max = 22$). The independent samples t -test indicated that this difference was statistically significant, $t(18) = 2.48$, $p = .019$ ($p < .05$). Furthermore, the calculated effect size (Cohen's $d = 0.71$) suggested a moderate to large practical significance of the difference. These findings indicate that competitive level influences anxiety responses among female wrestlers and highlight the importance of psychological skill development and anxiety management interventions to optimize performance.

Keywords: Competitive anxiety, female wrestlers, inter-university athletes, open state athletes, SCAT, sport psychology, Cohen's d .

I. Introduction

The evolution of modern competitive sport has emphasized the importance of psychological preparedness alongside physiological and technical excellence. Athletic performance is increasingly understood as a multidimensional construct shaped by physical conditioning, tactical ability, and psychological regulation (Weinberg & Gould, 2019). Among psychological constructs, competitive anxiety has received extensive attention due to its direct influence on performance outcomes.

Competitive anxiety refers to the tendency of athletes to perceive competitive situations as threatening and to respond with elevated state anxiety characterized by cognitive worry and physiological arousal (Martens et al., 1990). According to the Multidimensional Anxiety Theory, anxiety comprises cognitive anxiety (negative expectations and concerns), somatic anxiety (perceived physiological activation), and self-confidence, each exerting differential effects on performance. While moderate levels of arousal may facilitate alertness and readiness, excessive anxiety can impair motor coordination, concentration, and decision-making (Craft et al., 2003).

The Drive Theory (Hull, 1943) suggests that increased arousal enhances dominant responses; however, in complex motor tasks such as wrestling, heightened arousal may disrupt skilled performance. Furthermore, Catastrophe Theory (Hardy, 1990) proposes that when high cognitive anxiety interacts with elevated physiological arousal, performance may decline abruptly rather than gradually. These theoretical perspectives underscore the importance of understanding anxiety responses in high-intensity sports contexts.

Wrestling is a combat sport that demands strength, technical precision, rapid decision-making, and emotional control. Female wrestlers competing at different performance standards may experience varying degrees of competitive pressure due to differences in exposure, institutional expectations, and competitive environment. Inter-university competitions often involve structured organizational systems and heightened performance accountability, which may contribute to increased anxiety. Therefore, the present study aimed to compare competitive state anxiety between inter-university and open state level female wrestlers.

II. Methodology

The study employed a comparative research design. Twenty female wrestlers voluntarily participated and were divided into two groups: inter-university competitors (n = 10) who had represented their institutions in All India Inter-University competitions, and open state competitors (n = 10) who had participated in state-level open championships. All participants were active competitors with comparable training backgrounds.

Competitive anxiety was assessed using the Sport Competition Anxiety Test (SCAT) developed by Martens et al. (1990). The instrument consists of 15 items measured on a three-point Likert scale (Hardly Ever, Sometimes, Often), of which 10 items contribute to the final score and 5 are spurious items not included in scoring. Reverse scoring was applied where appropriate according to standardized guidelines. The SCAT has demonstrated acceptable reliability and construct validity across athletic populations.

Data collection was conducted during competitive and training settings. Participants were informed about the purpose of the study and assured of confidentiality. Standardized instructions were provided prior to questionnaire administration. Descriptive statistics (mean and standard deviation) were calculated, and an independent samples t-test was used to determine differences between groups. The level of significance was set at .05. Effect size was calculated using Cohen's d to assess the magnitude of difference.

III. Results

Descriptive Statistics

Descriptive statistics were computed to examine the mean, standard deviation, minimum, and maximum scores of competitive anxiety among inter-university and open state female wrestlers. The results are presented in Table 1.

Table 1

Descriptive Statistics of Competitive Anxiety Among Inter-University and Open State Female Wrestlers

Group	N	Mean (M)	Standard Deviation (SD)	Minimum	Maximum
Inter-University	10	19.10	1.52	15	24
Open State	10	17.90	1.84	14	22

As presented in Table 1, inter-university wrestlers (M = 19.10, SD = 1.52) demonstrated higher competitive anxiety scores compared to open state wrestlers (M = 17.90, SD = 1.84). The distribution of scores indicates moderate variability within both groups, with slightly greater dispersion observed in the open state group.

Inferential Statistics

An independent samples t-test was conducted to determine whether the observed difference in competitive anxiety between the two groups was statistically significant. The results are shown in Table 2.

Table 2

Independent Samples t-Test Comparing Competitive Anxiety Between Groups

Group	N	Mean (M)	SD	Mean Difference (MD)	t	df	p-value	Cohen's d
Inter-University	10	19.10	1.52					
Open State	10	17.90	1.84	1.20	2.48	18	.019	0.71

The independent samples t-test revealed a statistically significant difference in competitive anxiety between inter-university and open state female wrestlers, $t(18) = 2.48$, $p = .019$. Since the obtained p-value (.019) is less than the established alpha level of .05, the null hypothesis was rejected.

To determine the practical magnitude of this difference, Cohen's d was calculated using the pooled standard deviation. The resulting effect size ($d = 0.71$) indicates a moderate to large effect, suggesting that the difference in anxiety levels between the two groups is not only statistically significant but also practically meaningful.

IV. Discussion of Findings

The findings of the present study indicate that inter-university female wrestlers exhibited significantly higher competitive anxiety levels compared to open state wrestlers. The mean difference of 1.20 points reflects a meaningful variation between competitive standards.

This result may be interpreted within the framework of the Multidimensional Anxiety Theory, which posits that competitive anxiety is influenced by perceived evaluation pressure and situational demands. Inter-university competitions typically involve structured tournament systems, institutional representation, and heightened expectations from coaches, peers, and academic institutions. These factors may increase cognitive concerns related to performance evaluation and potential outcomes.

The moderate to large effect size ($d = 0.71$) suggests that competitive context plays a substantial role in shaping anxiety responses. Unlike trivial statistical differences, the magnitude observed here indicates that athletes competing at the inter-university level may experience noticeably greater psychological strain. This aligns with broader sport psychology literature indicating that competitive exposure and environmental pressure significantly influence anxiety levels.

In combat sports such as wrestling, anxiety can have dual effects. While moderate arousal may enhance alertness and aggressiveness necessary for performance, excessive anxiety may impair concentration, disrupt motor coordination, and reduce tactical efficiency. Therefore, the higher anxiety levels observed among inter-university wrestlers may reflect greater performance pressure rather than inferior psychological capacity.

From an applied perspective, these findings underscore the importance of incorporating structured psychological skill training within wrestling programs. Techniques such as progressive muscle relaxation, breathing regulation, imagery rehearsal, positive self-talk, and pre-performance routines may assist athletes in managing competitive stress more effectively. Psychological conditioning should be treated as an integral component of training, particularly for athletes competing at higher performance standards.

V. Conclusions

The study concludes that a statistically significant difference exists in competitive anxiety between inter-university and open state level female wrestlers. Inter-university wrestlers demonstrated higher anxiety scores compared to their open state counterparts.

The effect size analysis revealed a moderate to large magnitude of difference ($d = 0.71$), indicating that competitive level meaningfully influences anxiety responses. These findings highlight the critical role of psychological preparedness in combat sports and emphasize the need for systematic anxiety management interventions within athlete development programs.

Overall, competitive anxiety appears to vary according to performance level, and targeted psychological strategies may contribute to enhanced competitive readiness and optimal performance among female wrestlers.

Conflict of Interest

The authors declare no conflict of interest.

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