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## **A comparative study of sport competition anxiety in track and road cyclist of inter-university level**

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### **Abstract**

**Study Aim:** The aim of this study was to determine the significant difference of Sport Competition Anxiety in Track and Road Cyclist of Inter-University level.

**Material and Methods:** Twelve (N=12) boys aged 19-25 years participated in the study. Participants took part in the study voluntarily, and all subjects were also informed about the purpose and protocol of the study. The subjects were divided into two groups: Group-A: Track Cyclist; (N<sub>1</sub>=6) and Group-B: Road Cyclist; (N<sub>2</sub>=6). The Sport Competition Anxiety Test (SCAT; Martens, 1977) to assess the effect of anxiety on the performance of athletes was used for the present study.

**Statistical Analysis:** Unpaired t-test was employed for the present investigation. The SPSS (statistical package for the social sciences) version 20.0 was used for all analyses. The level of significance was set at 0.05.

**Results:** The absolute value of the calculated t exceeds the critical value [2.3669>2.228], so the means are significantly different. Hence, it is concluded that the Track Cyclist and Road Cyclist are significantly different on the variable, Sport Competition Anxiety at 0.05 level of significance.

**Keywords:** Sport competition anxiety, track cyclist, road cyclist, inter-university

### **Introduction**

Anxiety is a negative emotional feeling that affects perceptions in sport competitions. Many athletes consider anxiety to be debilitating towards their motor abilities which may result in a decrease in performance [1]. Level of anxiety changes dramatically during competition as its cognitive and somatic components alters with time and situation [2]. The cognitive anxiety may show as “negative expectations, worries, and concerns about oneself, the situation at hand, and potential consequences” while the somatic anxiety refers to as “the perception of one’s physiological arousal”. With anxiety related problems, athletes feel threatened and try to deal with the issue themselves without constructive plan. Since competition requires highly demands of success, athletes expect that effective control of anxiety could help achieving a successful result [3]. The anxiety affects the overall performance through physiological and behavioral effects and personality changes. Anxiety has physiological effects either directly or indirectly on body functions such as muscles shaking, fast heartbeat, sweating and fast breathing. Anxiety affects individual’s feelings and perceptions that could induce behavioral changes such as anger, displeasure, problems in communication and unfriendliness. When athletes could not cope with anxiety, personality shall be changed and negatively effect on performance [4]. With varying circumstances in competition, personality trait appeared to be associated with psychological characteristics of sportsmen [5, 6]. Anxiety and depressive symptoms existed with an increasing serotonin transporter which could define the neuroticism aspect of trait anxiety [7, 8]. In actual competitions, victory and defeat are often affected more by the athletes’ anxiety, tension, stress, and pressure than by their technical skill. In general, stress activates the hypothalamic pituitary adrenal (HPA) axis and the sympathetic adrenal medullary (SAM) system [9, 10]. Anxiety is defined as an emotion characterized by feelings of tension, worried thoughts, and physical changes like increased blood pressure. Anxiety usually occurs due to an impending event with an uncertain outcome [11]. Anxiety and depression in terms of sporty spirit but there are also some problems that our players are facing in their day-to-day life and sometimes they didn't do anything to cure them [12].

### **Materials and Methods**

Twelve (N=12) boys aged 19-25 years participated in the study. Participants took part in the study voluntarily, and all subjects were also informed about the purpose and protocol of the study. The subjects were divided into two groups:

Group-A: Track Cyclist

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(N<sub>1</sub>=6)  
 Group-B: Road Cyclist  
 (N<sub>2</sub>=6)

The Sport Competition Anxiety Test (SCAT; Martens, 1977) to assess the effect of anxiety on the performance of athletes was used for the present study.



**Fig 1:** Data collection during All India Inter-University, Track & Road Cyclist Championship (2023-2024).

**Table 1:** Descriptive regarding Track Cyclist (N<sub>1</sub>=6) and Road Cyclist (N<sub>2</sub>=6).

Sample Size (N=12)			
Descriptive	Track Cyclist (N <sub>1</sub> =6)		Road Cyclist (N <sub>2</sub> =6)
Minimum	min =	12	14
Maximum	max =	17	19
Range	R =	5	5
Size	n =	6	6
Mean	$\bar{x}$	14.166	16.333
Median	$\tilde{x}$	14	16.5
Standard Deviation	s =	1.722	1.751
Variance	s <sup>2</sup> =	2.966	3.066
Mid-Range	MR =	14.5	16.5
Interquartile Range	IQR =	2	2
Sum of Squares	SS =	14.833	15.333
Mean Absolute Deviation	MAD =	1.222	1.333
Root Mean Square	RMS =	14.253	16.411
Std Error of Mean	SE $\bar{x}$ =	0.703	0.714
Skewness	$\gamma_1$ =	0.678	0.248
Kurtosis	$\beta_2$ =	7.064	6.235
Coefficient of Variation	CV =	0.121	0.107

**Statistical Analysis**

Unpaired t-test was employed for the present investigation. The SPSS (statistical package for the social sciences) version 20.0 was used for all analyses. The level of

significance was set at 0.05.

**Results**

**Table 2:** Descriptive statistics and independent samples t-test result comparing Track Cyclist and Road Cyclist on the variable, Sport Competition Anxiety.

Sport Competition Anxiety		
	Track Cyclist	Road Cyclist
Mean	14.1667	16.3333
Variance	2.4722	2.5556
Stand. Dev.	1.5723	1.5986
n	6	6
t	2.3669	
critical value	2.228	
t > critical value	➤ there is sig. diff.	

The absolute value of the calculated t exceeds the critical value [2.3669>2.228], so the means are significantly different. Hence, it is concluded that the Track Cyclist and

Road Cyclist are significantly different on the variable, Sport Competition Anxiety at 0.05 level of significance.

**Table 3:** The table of critical values.

Table of critical values	
d.o. f	0.05
1	12.706
2	4.303
3	3.182
4	2.776
5	2.571
6	2.447
7	2.365
8	2.306
9	2.262
10	2.228
11	2.201
12	2.179
13	2.16
14	2.145
15	2.131
16	2.12
17	2.11
18	2.101
19	2.093
20	2.086
21	2.08
22	2.074
23	2.069
24	2.064
25	2.06
26	2.056
27	2.052
28	2.048
29	2.045
30	2.042
31	2.04
32	2.037
33	2.035
34	2.032
35	2.03
36	2.028
37	2.026
38	2.024
39	2.023
40	2.021
42	2.018
44	2.015
46	2.013
48	2.011
50	2.009
60	2.00
70	1.994
80	1.99
90	1.987
100	1.984
120	1.98
150	1.976
200	1.972
300	1.968
500	1.965

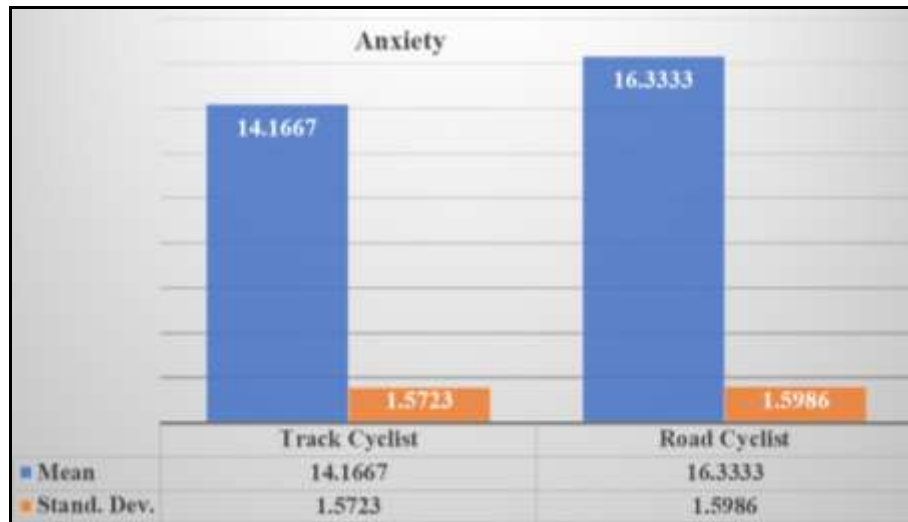


Fig 2: Mean and Stand. Dev. comparison between Track Cyclist and Road Cyclist.

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