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Exploring the difference of self-acceptance between road cyclist and track cyclist

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Abstract
Study Aim: The aim of this study was to explore the difference of self-acceptance between road cyclist and track cyclist.
Materials and Methods: Thirty (N=30) male subjects, between the age group of 18 to 25 years from All India Inter-University level participated in this study.
Statistical Analysis: Under the data analysis, exploration of data was made with descriptive statistics and graphical 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. For testing the hypotheses, the level of significance was set at 0.05.
Results: The calculated t value is smaller than critical value (0.9556 < 2.048), so the means are not significantly different. Hence, the means of road cyclist and track cyclist are not significantly different at $p<0.05$ with regards to variable, Self-Acceptance.

Keywords: Self-acceptance, road cyclist, track cyclist

Introduction

Sport psychology is recognized as an interdisciplinary science that draws on knowledge from many related fields including biomechanics, physiology, kinesiology and psychology. It involves the study of how psychological factors affect performance and how participation in sport and exercise affect psychological and physical factors. Sport psychologists teach cognitive and behavioral strategies to athletes in order to improve their experience and performance in sports [1]. Sports psychology is striving hard to investigate athletic performance, to stabilize it and to improve sports performance by seeking an appropriate balance between physiological and psychological dimensions of performance. Sports psychology is a healthy field with a bright future and within physical education, the field continues to grow. Sports psychology offers advancements in the mental aspects of athletic competition and performance [2]. Self-acceptance is crucial to mental health. The absence of ability to unconditionally accept oneself can lead to a variety of emotional difficulties, including uncontrolled anger and depression. The person who is caught up in self - evaluation rather than self-acceptance may also be very needy and may devote considerable attention and personal resources to self-aggrandizement in order to compensate for perceived personal deficits [3]. Self-acceptance appeared to be more closely associated with general psychological well-being and to be more helpful when undertaking clinical work for general psychological problems [4]. Mindfulness skills may offer a means to cultivate unconditional self - acceptance and to shift from an emphasis on self-esteem as a measure of worth [5]. Additionally, the focus of sports performance research is to provide coaches and athletes with information to inform better practice, yet the dimensions and features shaping the performances of elite athletes in actual competitions remain under-examined and under-theorized. In elite cycling, the factors related to achieving success have been investigated predominantly using the traditional reductionist paradigm, where components of performance are isolated and examined in laboratories or solo time trials in order to reduce the influence of confounding variables [6, 7]. The physiological, biomechanical, nutritional, aerodynamic and physical components of elite cycling performance have all been examined from this perspective [8, 9]. The contextual, temporal, and spatial parameters shaping athlete behaviour must be better understood if we are to further our knowledge of the determinants of cycling performance in race events [10, 11].

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The contextual, temporal, and spatial parameters shaping athlete behaviour must be better understood if we are to further our knowledge of the determinants of cycling performance in race events [12].

Materials and Methods
Participants
Thirty (N=30) male subjects, between the age group of 18 to 25 years from All India Inter- University level participated in this study.

The subjects were purposively divided into two groups
Group-A: Road Cyclist (N1=15)
Group-B: Track Cyclist (N2=15)

Fig 1: Graphical illustration of data collection.

Description of the Tests
Self-Acceptance
The author, on the basis of the wide use of the test made by him, is of the opinion that the test could be profitably employed by research workers interested in assessing such factors as sense of personal worth, self-acceptance and capacity for independent thinking and action. The justification for this ascertains lies in the inherent aim of the instrument. It provides valid and utilitarian measure of an essential person logical dimension of social personality.

Coefficients of correlation between self-acceptance and teaching skill were 0.59 (males 200) 0.38 (females 200) and 0.50 (total 400), between Self-acceptance and intellectual efficiency were 0.55 (males 200), 0.34 (females 200), 0.45 (total 400) all significant at 0.01 level.

The forecasting efficiency (k test) for determining teaching skill was 45%. Self -acceptance through this test, contributes to the total variance by 25% of the self -acceptance, as determined through this test, contributes to the total variance by 25%. Considering several other factors that contribute to teacher skill, the above said predication value and variance of self -acceptance of self- acceptance (as measured through this test) are quite significant and considerable.

Test-retest, Split-half, and Kuder Richardson reliability. Co-efficient were 0.94, 0.94 and 0.77, all significant at 0.01 level. Validity co-efficient (index of reliability) was equally high 0.97 the validity of the test determined experimentally by finding correlations between the test and an independent criterion (a rating scale) was 0.79 (males) and 0.86 (females).

Item analysis confirmed that the test items are satisfactory, that they cover a wide talent range, that the item correlations are highly valid and that the test is internally consistent. Item variance upheld the test efficiency by showing that a large majority of the test items have variance approximating the maximum (0.20 to 0.25).

Statistical Analysis
Under the data analysis, exploration of data was made with descriptive statistics and graphical 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. For testing the hypotheses, the level of significance was set at 0.05.

Results

Table 1: Descriptive statistics of Road Cyclist (N1=15)

Descriptive Statistics of Self-Acceptance of Road Cyclist		
Minimum	min =	21
Maximum	max =	30
Range	R =	9
Size	n =	15
Sum	sum =	398
Mean	$\bar{x}$ =	26.5333333
Median	$\tilde{x}$ =	27
Standard Deviation	s =	2.35634907
Variance	s2 =	5.55238095
Mid-Range	MR =	25.5
Sum of Squares	SS =	77.7333333
Mean Absolute Deviation	MAD =	1.76
Root Mean Square	RMS =	26.6308092
Std Error of Mean	$SE\bar{x}$ =	0.608406714
Skewness	$\gamma1$ =	-1.01199581
Kurtosis	$\beta2$ =	4.7580502
Kurtosis Excess	$\alpha4$ =	0.988819427
Coefficient of Variation	CV =	0.0888071259
Relative Standard Deviation	RSD =	8.88071259%

Table 2: Descriptive statistics of Track Cyclist (N2=15).

Descriptive Statistics of Self-Acceptance of Track Cyclist		
Minimum	min =	21
Maximum	max =	30
Range	R =	9
Size	n =	15
Sum	sum =	385
Mean	$\bar{x}$ =	25.6666667
Median	$\tilde{x}$=	26
Standard Deviation	s =	2.76887462
Variance	s2 =	7.66666667
Mid-Range	MR =	25.5
Sum of Squares	SS =	107.333333
Mean Absolute Deviation	MAD =	2.22222222
Root Mean Square	RMS =	25.8056841
Std Error of Mean	$SE\bar{x}$=	0.714920353
Skewness	$\gamma1$ =	-0.0664336647
Kurtosis	$\beta2$ =	3.0332994
Kurtosis Excess	$\alpha4$ =	-0.735931365
Coefficient of Variation	CV =	0.107878232
Relative Standard Deviation	RSD =	10.7878232%

Table 3: Independent samples t-test result comparing Road Cyclist and Track Cyclist on Self-Acceptance.

Self-Acceptance		
	Road Cyclist	**Track Cyclist**
Mean	26.5333	25.6667
Variance	5.1822	7.1556
Stand. Dev.	2.2764	2.675
n	15	15
t	0.9556	
d. o. f	28	
critical value	2.048	
t < critical value	➢	no sig. diff.

The calculated t value is smaller than critical value (0.9556 < 2.048), so the means are not significantly different. Hence, the means of Road Cyclist and Track Cyclist are not significantly different at $p<0.05$ with regards to variable, Self-Acceptance.

To find t value and degrees of freedom we will use following formulas:

$$t = \frac{\overline{X_1} - \overline{X_2}}{S_{X_1X_2} \cdot \sqrt{\frac{2}{n}}}$$

$$S_{X_1X_2} = \sqrt{\frac{1}{2}\left(S_{X_1}^2 + S_{X_2}^2\right)}$$

$$d.o.f = 2n - 2$$

$\overline{X_1}$ = Mean of data for group 1
$\overline{X_2}$ = Mean of data for group 2
$S_{X_1X_2}$ = Grand Standard Deviation
S_{X_1} = Standard deviation of data for group 1
S_{X_2} = Standard deviation of data for group 2
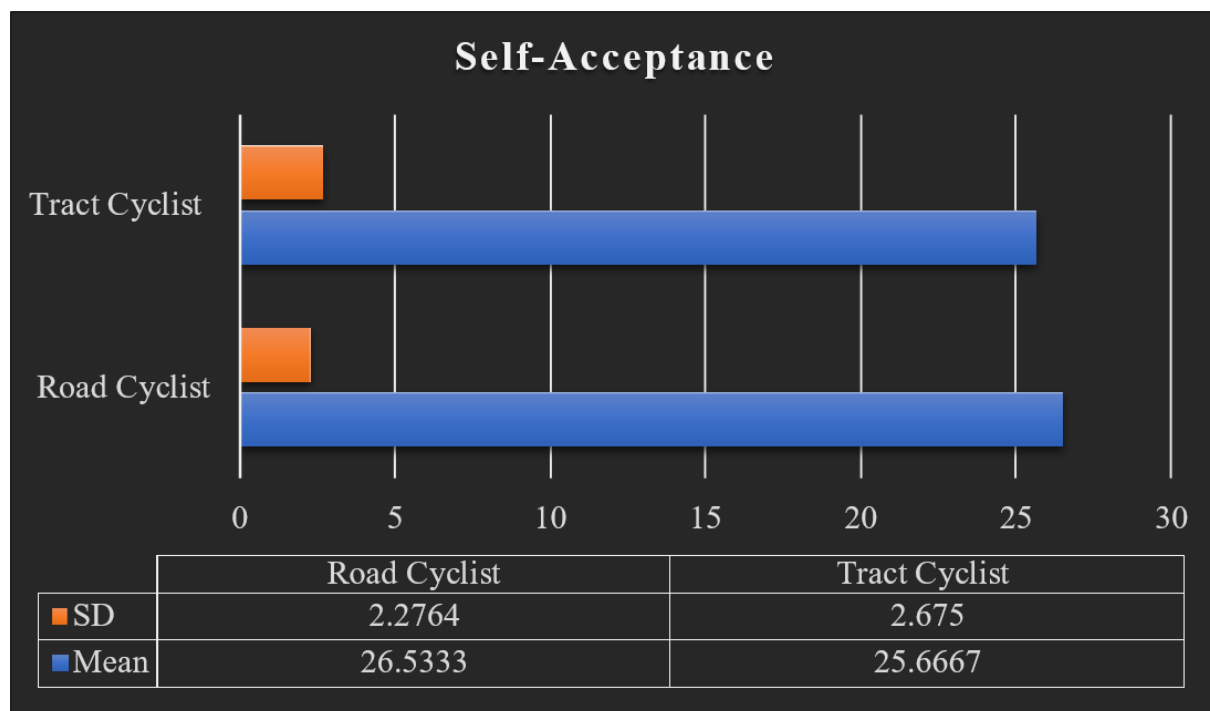$d.o.f$ = degrees of freedom
n = Total number of values

In this example we have:

$$\overline{X_1} \approx 26.5333$$
$$\overline{X_2} \approx 25.6667$$
$$S_{X_1}^2 = \frac{1}{n-1}\sum_{i=1}^{n}\left(X_{1i} - \overline{X_1}\right)^2 \approx 5.1822$$
$$S_{X_2}^2 = \frac{1}{n-1}\sum_{i=1}^{n}\left(X_{2i} - \overline{X_2}\right)^2 \approx 7.1556$$
$$S_{X_1X_2} = \sqrt{\frac{1}{2}\left(S_{X_1}^2 + S_{X_2}^2\right)} \approx 2.4837$$

After substituting these values into the formula for t we have:

$$t = \frac{\overline{X_1} - \overline{X_2}}{S_{X_1X_2} \cdot \sqrt{\frac{2}{n}}} = \frac{26.5333 - 25.6667}{2.4837 \cdot \sqrt{\frac{2}{15}}} \approx 0.9556$$

	Road Cyclist	Tract Cyclist
■ SD	2.2764	2.675
■ Mean	26.5333	25.6667

Fig 2: Graphical illustration of descriptive statistics of Road Cyclist and Track Cyclist on Self-Acceptance

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Conflict of interest
The authors declare no conflicts of interest.

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