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Differences of personality traits between senior national and all India inter-university level hockey players

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Abstract

For this purpose, thirty-five (N=35) Female Hockey Players of 18 to 25 years of age group were selected to act as subjects. They were divided into two groups which includes: Group-A: (n₁=15; Senior National Level Hockey Players); Group-B: (n₂=20; All India Inter-university Level Hockey Players); The purposive sampling technique was used to attain the objectives of the study. The sample were taken from the three states of northern India viz. Punjab, Haryana and Himachal Pradesh. All the subjects, were informed about the objective and protocol of the study. Big Five Personality Inventory was utilized. The Statistical Package for the Social Sciences (SPSS) version 14.0 was used for all analyses. The independent-samples *t* test (between-groups design) were used to evaluate the difference between the means of two independent or unrelated groups. For testing the hypotheses, the level of significance was set at 0.05. Neuroticism (N): Accept null hypothesis: means not significantly different at 0.05 level of significance. Extraversion (E): Accept null hypothesis: means not significantly different at 0.05 level of significance. Openness to experience (O): Accept null hypothesis: means not significantly different at 0.05 level of significance. Agreeableness (A): Accept null hypothesis: means not significantly different at 0.05 level of significance. Conscientiousness (C): Accept null hypothesis: means not significantly different at 0.05 level of significance. Personality Traits: Accept null hypothesis: means not significantly different at 0.05 level of significance.

Keywords: Hockey Players, Neuroticism (N), Extraversion (E), Openness to experience (O), Agreeableness (A), Conscientiousness (C), Personality Traits

Introduction

The Big Five model describes five dimensions of personality: Extraversion, Agreeableness, Conscientiousness, Neuroticism, and Openness to experience. Extroversion implies that individuals are sociable, while introversion implies that they are quiet and reserved (John *et al.*, 2008) [2]. Extraversion is characterized by openness, assertiveness, and a high level of energy (John *et al.*, 1991) [1]. Persons with a high score on extraversion are more open, more persistent, more talkative, and more social than those with a low score on extraversion, who are shy, quiet, and aloof (Larsen and Buss, 2009) [3]. Extraversion is associated with values of achievement and hedonism (Roccas *et al.*, 2002) [5], but also with goals relating to an exciting lifestyle (Roberts *et al.*, 2004) [4].

Subjects

For this purpose, thirty-five (N=35) Female Hockey Players of 18 to 25 years of age group were selected to act as subjects. They were divided into two groups which includes:

- Group-A: (n₁=15; Senior National Level Hockey Players);
- Group-B: (n₂=20; All India Inter-university Level Hockey Players);

The purposive sampling technique was used to attain the objectives of the study. The sample were taken from the three states of northern India viz. Punjab, Haryana and Himachal Pradesh. All the subjects, were informed about the objective and protocol of the study

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Variables

Big Five Personality Inventory

The organizations of psychological trades determine the unique adjustment and behaviour of the person. Personality has always been a challenging aspect for the psychologist especially from the measurement point of view. However, various psycho-metrics measures are available for assessing personality.

However, the given inventory presents a unique step in the direction of measurement of personality. The research work of Allport & Odbert (1936) finalized about 4500 personality

traits. However, these innovative works encouraged other researcher to examine simplified description of these traits with a variety of populations leading to the derivation of five relatively strong factors. The analysis resulted into the emergence of five factors such as Neuroticism, Extraversion, Openness, Agreeableness and Conscientiousness. These big five factors are found to be abstract and broad in personality hierarchy. All these five factors considered to possess considerable reliability and Validity to remain relatively stable throughout the childhood.

Big Five Dimensions and their sub- factors

Dimensions	Sub- Factors
Neuroticism (N)	1. Anxiety 2. Angry hostility 3. Impulsiveness 4. Depression 5. Self- Consciousness
Extraversion (E)	1. Activity level 2. Assertiveness 3. Excitement seeking 4. Positive emotion 5. Gregariousness
Openness to experience (O)	1. Aesthetics 2. Action 3. Ideas 4. Fantasy 5. Value
Agreeableness (A)	1. Altruism 2. Compliance 3. Tender mindedness 4. Straight forwardness 5. Trust
Conscientiousness (C)	1. Competence 2. Order 3. Dutifulness 4. Self- discipline 5. Deliberations

Statistical Application

The Statistical Package for the Social Sciences (SPSS) version 14.0 was used for all analyses. The independent-samples *t* test (between-groups design) were used to evaluate the difference between the means of two independent or

unrelated groups. For testing the hypotheses, the level of significance was set at 0.05.

Results

Table 1: Comparison matrix of Senior National Level and All India Inter-university Level Hockey players for the variable Neuroticism (N).

	Senior National Level	All India Inter-university Level
Sample size	15	20
Arithmetic mean	61.0000	59.7000
95% CI for the mean	57.7845 to 64.2155	57.3718 to 62.0282
Variance	33.7143	24.7474
Standard deviation	5.8064	4.9747
Standard error of the mean	1.4992	1.1124
F-test for equal variances	P = 0.522	
Difference	-1.3000	
Pooled Standard Deviation	5.3434	
Standard Error	1.8251	
95% CI of difference	-5.0132 to 2.4132	
Test statistic <i>t</i>	0.712	
Degrees of Freedom (DF)	33	
Two-tailed probability	P = 0.4813	

Accept null hypothesis: means not significantly different at 0.05 level of significance.

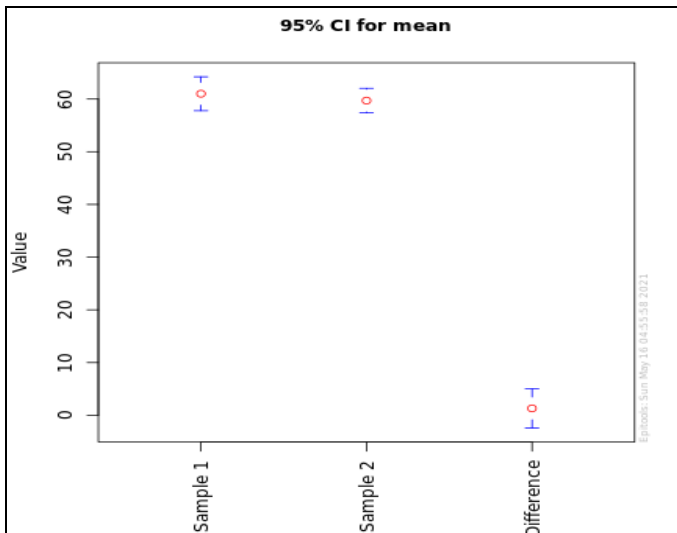


Fig 1: Graphical representation of Senior National Level and All India Inter-university Level Hockey players for the variable Neuroticism (N).

Table 2: Comparison matrix of Senior National Level and All India Inter-university Level Hockey players for the variable Extraversion (E)

	Senior National Level	All India Inter-university Level
Sample size	15	20
Arithmetic mean	63.7333	62.9500
95% CI for the mean	61.6990 to 65.7677	61.4741 to 64.4259
Variance	13.4952	9.9447
Standard deviation	3.6736	3.1535
Standard error of the mean	0.9485	0.7052
F-test for equal variances		P = 0.527
Difference		-0.7833
Pooled Standard Deviation		3.3839
Standard Error		1.1558
95% CI of difference		-3.1349 to 1.5682
Test statistic t		0.678
Degrees of Freedom (DF)		33
Two-tailed probability		P = 0.5027

Accept null hypothesis: means not significantly different at 0.05 level of significance.

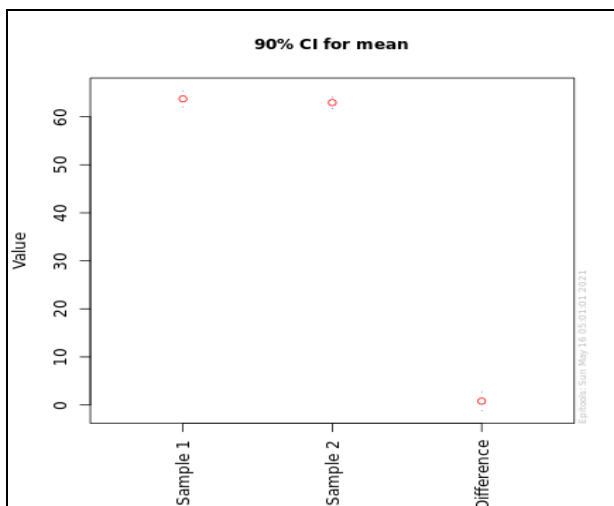


Fig 2: Graphical representation of Senior National Level and All India Inter-university Level Hockey players for the variable Extraversion (E).

Table 3: Comparison matrix of Senior National Level and All India Inter-university Level Hockey players for the variable Openness to experience (O).

	Senior National Level	All India Inter-university Level
Sample size	15	20
Arithmetic mean	62.6667	60.5500
95% CI for the mean	60.3110 to 65.0224	58.8423 to 62.2577
Variance	18.0952	13.3132
Standard deviation	4.2538	3.6487
Standard error of the mean	1.0983	0.8159
F-test for equal variances		P = 0.525
Difference		-2.1167
Pooled Standard Deviation		3.9169
Standard Error		1.3379
95% CI of difference		-4.8386 to 0.6052
Test statistic t		1.582
Degrees of Freedom (DF)		33
Two-tailed probability		P = 0.1232

Accept null hypothesis: means not significantly different at 0.05 level of significance.

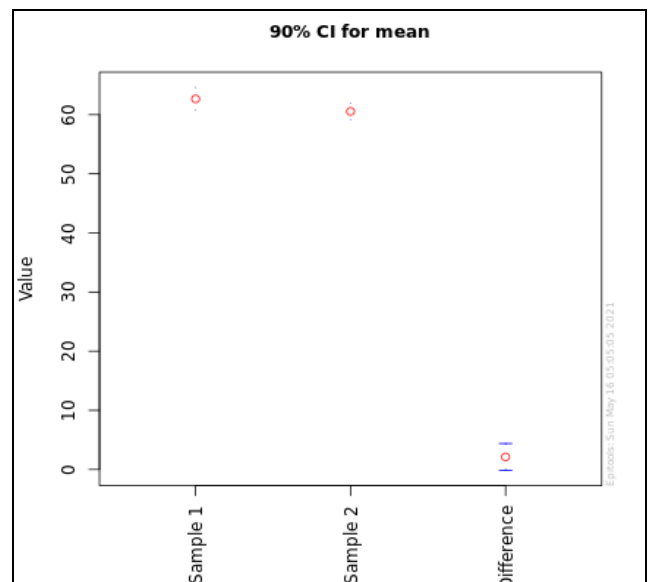


Fig 3: Graphical representation of Senior National Level and All India Inter-university Level Hockey players for the variable Openness to experience (O).

Table 4: Comparison matrix of Senior National Level and All India Inter-university Level Hockey players for the variable Agreeableness (A).

	Senior National Level	All India Inter-university Level
Sample size	15	20
Arithmetic mean	63.1333	61.4500
95% CI for the mean	59.0218 to 67.2449	59.9204 to 62.9796
Variance	55.1238	10.6816
Standard deviation	7.4245	3.2683
Standard error of the mean	1.9170	0.7308
F-test for equal variances		P = 0.001
Difference		-1.6833
Pooled Standard Deviation		5.4347
Standard Error		1.8563
95% CI of difference		-5.4600 to 2.0933
Test statistic t		-0.907
Degrees of Freedom (DF)		33
Two-tailed probability		P = 0.3711

Accept null hypothesis: means not significantly different at 0.05 level of significance.

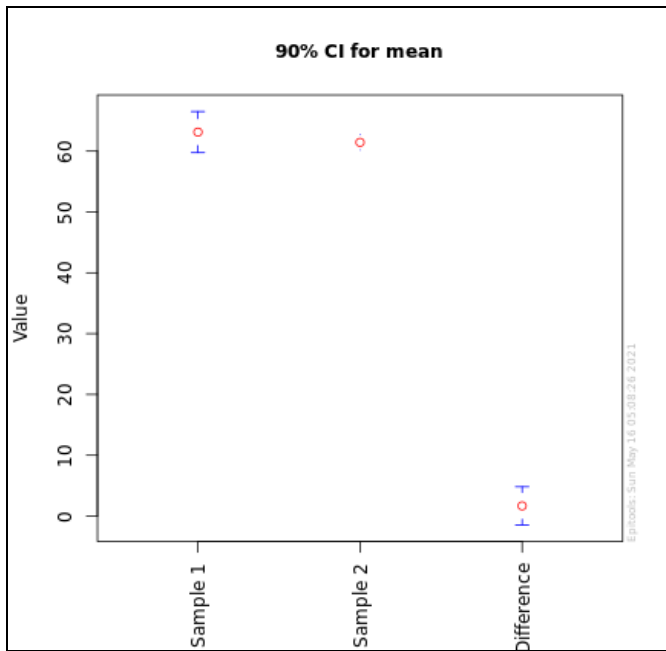


Fig 4: Graphical representation of Senior National Level and All India Inter-university Level Hockey players for the variable Agreeableness (A).

Table 5: Comparison matrix of Senior National Level and All India Inter-university Level Hockey players for the variable Conscientiousness (C).

	Senior National Level	All India Inter-university Level
Sample size	15	20
Arithmetic mean	64.1333	64.0500
95% CI for the mean	61.3893 to 66.8773	62.6298 to 65.4702
Variance	24.5524	9.2079
Standard deviation	4.9550	3.0345
Standard error of the mean	1.2794	0.6785
F-test for equal variances	P = 0.048	
Difference	-0.08333	
Pooled Standard Deviation	3.9646	
Standard Error	1.3542	
95% CI of difference	-2.8384 to 2.6717	
Test statistic t	-0.0615	
Degrees of Freedom (DF)	33	
Two-tailed probability	P = 0.9513	

Accept null hypothesis: means not significantly different at 0.05 level of significance.

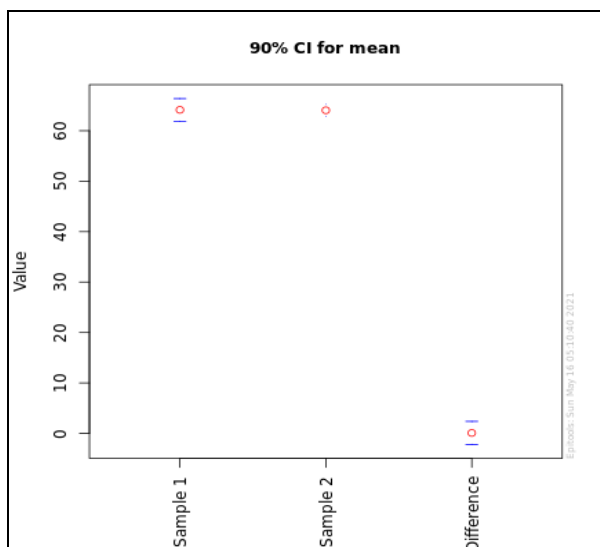


Fig 5: Graphical representation of Senior National Level and All India Inter-university Level Hockey players for the variable Conscientiousness (C).

Table 6: Comparison matrix of Senior National Level and All India Inter-university Level Hockey players for the variable Personality Traits

	Senior National Level	All India Inter-university Level
Sample size	15	20
Arithmetic mean	314.0000	308.3500
95% CI for the mean	306.0683 to 321.9317	303.2541 to 313.4459
Variance	205.1429	118.5553
Standard deviation	14.3228	10.8883
Standard error of the mean	3.6981	2.4347
F-test for equal variances	P = 0.264	
Difference	-5.6500	
Pooled Standard Deviation	12.4615	
Standard Error	4.2564	
95% CI of difference	-14.3097 to 3.0097	
Test statistic t	-1.327	
Degrees of Freedom (DF)	33	
Two-tailed probability	P = 0.1935	

Accept null hypothesis: means not significantly different at 0.05 level of significance.

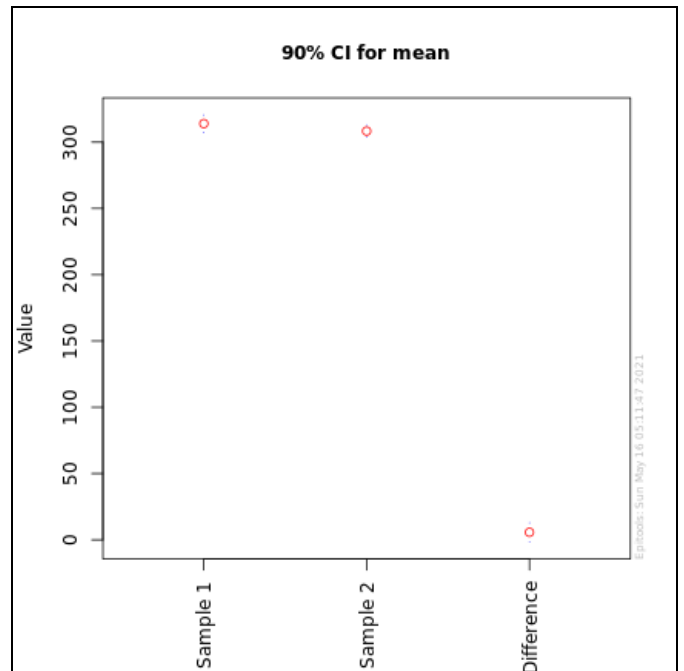


Fig 6: Graphical representation of Senior National Level and All India Inter-university Level Hockey players for the variable Personality Traits.

Conclusions

- **Neuroticism (N):** Accept null hypothesis: means not significantly different at 0.05 level of significance.
- **Extraversion (E):** Accept null hypothesis: means not significantly different at 0.05 level of significance.
- **Openness to experience (O):** Accept null hypothesis: means not significantly different at 0.05 level of significance.
- **Agreeableness (A):** Accept null hypothesis: means not significantly different at 0.05 level of significance.
- **Conscientiousness (C):** Accept null hypothesis: means not significantly different at 0.05 level of significance.
- **Personality Traits:** Accept null hypothesis: means not significantly different at 0.05 level of significance.

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Conflict of interests

- The authors declare no conflict of interest.

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