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An Analysis of the Components of Personality Traits among Badminton Players

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Abstract:

The current research design is intended to provide an appropriate framework for a study with the objective to compare the Personality Traits of Badminton Players. In total, sixty (N=60) badminton players (mean ± SD; age, 22.69 ± 1.31yrs; height 164.74 ± 6.69 cm; weight, 59.42 ± 7.06 kg) were selected for this study. A minimum sample size of 60 subjects was obtained, and was derived from Inter-College Level Badminton Player (n_1= 20), Inter-University Level Badminton Player (n_2= 20) and National Level Badminton Player (n_3 = 20). The purposive sampling technique was used to attain the objectives of the study. All the subjects, after having been informed about the objective and protocol of the study, gave their consent and volunteered to participate in this study. One-way Analysis of Variance (ANOVA) was employed to find out the intra-group differences. Where F values were found significant, LSD (Least Significant Difference) Post-hoc test was applied to find out the direction and degree of difference. For testing the hypotheses, the level of significance was set at 0.05. In a nutshell it can be said that from the findings that insignificant differences were found among badminton players on the sub-variables of Neuroticism, Extraversion, Openness to Experience and Agreeableness. Concludingly from the above findings that significant differences were present among badminton players on the sub-variables of Conscientiousness and Personality Traits (Total).

Keywords: Personality Traits, Badminton Players.

INTRODUCTION

To enhance performance and maximize the health benefits of combat sports athletes, psychological issues play a critical role. Empirical evidence shows that simply participating in sports and martial arts can be a psychological asset and can also be beneficial in later lifelong activities, regardless of whether participation was competition-oriented. (Matsumoto & Konno, 2005). The influence of psychology on sports performance has been known for a long time, but an increasing number of psychologists and sports scientists working in different research fields aim to look more broadly and deeply into the hidden factors behind success and failure in sports. One of their goals is to face psychological differences between athletes in various sports, so that they can intervene in a timely manner. Openability to externality, acceptance, consciousness, neurosis, and experience is Bolsanic et al. 2019). Athletes in certain sports must have certain mental skills to achieve outstanding performance (Znazen et al. (2017).

To put it simply, a personality trait is a focalized and generalized neuropsychic system that may originate and direct consistent forms of expressive and adaptive behavior as well as make various stimuli functionally comparable (Pyszkowska 2020 & Roberts & Mroczek 2008). A tendency to think and act in a certain way is a personality attribute. Does a person's personality attribute have a significant impact on how they react to a stimulus? As a result, whether an athlete succeeds or fails, their accomplishments are a culmination of their experiences and personality qualities. According to a number of study findings, high-achieving athletes possess psychological traits like discipline, perseverance, and achievement-orientedness that successfully support their accomplishments (Martin & Gill, 2016). For instance, athletes with persistent traits are tenacious throughout competition as well as during training.

In today's sports world, physical activity is no longer considered the sole determinant of success. Sport is an environment that requires individuals to push themselves and strive for long-term goals through rigorous training (Laborde, Dosseville, & Allen, 2016) (Korobeynikov, Korobeinikova, & Shatskih, 2013). Personality research in sports is highly popular as it aids in understanding the psychological makeup of individual athletes. Through personality diagnosis, one can define the desirable, desired, strong, and weak traits of a particular athlete (Sheard, Michael, & Jim Golby, 2010). Engaging in physical activity enables individuals to direct their life objectives and foster ambition. Additionally, studies have shown that professional athletes exhibit higher levels of extraversion and conscientiousness, along with lower levels of neuroticism, compared to physically active and non-training individuals.

Just as the physical determinants of athletic achievement are divided into four categories, the mental determinants of eudaimonia in competition can include personality traits, temperamental components, agitation control, self-confidence, mental resilience, attention, relaxation, and others. However, according to Kang, Bennett, and Peachey (2014), personality is assigned the highest weight. According to the standpoint of neuro-psychology, human behavior and personality traits have a neural foundation in the anatomy of the brain. However, as people grow and develop, their surroundings have an impact on their personality qualities. Both have an impact on how an athlete develops their personality, particularly when they reach great success (Papalia et al., 2007 & Santrock, 2017). Since personality is defined by the athletes' life circumstances and is greatly influenced by the sports discipline they have trained in, it is very challenging to identify and characterize the most advantageous personality type among athletes (Allen et al. 2020). Researchers have currently begun to investigate connections between personality qualities and distinct sports actions in order to better understand the processes linking personality traits to athletic success.

SELECTION OF SUBJECTS

In total, sixty (N=60) badminton players (mean ± SD; age, 22.69 ± 1.31yrs; height 164.74 ± 6.69 cm; weight, 59.42 ± 7.06 kg) were selected for this study. A minimum sample size of 60 subjects was obtained, and was derived from Inter-College Level Badminton Player (n_1= 20), Inter-University Level Badminton Player (n_2= 20) and National Level Badminton Player (n_3 = 20). The purposive sampling technique was used to attain the objectives of the study. All the subjects, after having been informed

about the objective and protocol of the study, gave their consent and volunteered to participate in this study.

PROCEDURES

- To measure the level of Personality Traits of the subjects, the Big Five Personality Questionnaire (BFPI) (Arun Kumar Singh and Ashok Kumar (2014) was administered.

DESIGN OF THE STUDY

This is an exploratory study that has employed method of data collection and analysis quantitatively. The purpose of the study was to find out the significant difference of Personality Traits among badminton players. The purposive sampling technique was used to attain the objectives of the study.

STATISTICAL TECHNIQUE EMPLOYED

One-way Analysis of Variance (ANOVA) was employed to find out the intra-group differences. Where F values were found significant, LSD (Least Significant Difference) Post-hoc test was applied to find out the direction and degree of difference. For testing the hypotheses, the level of significance was set at 0.05.

RESULTS

Table-1: ANOVA results concerning Neuroticism among Inter-College, Inter-University and National Level Badminton Players.

Source	DF	Sum of Square	Mean Square	F Statistic	P-value
Between Groups	2	404.575	202.287		
Within Groups	57	2148.408	34.101	5.789	0.456
Total	59	2552.984	39.276		

Significant at 0.05, $F_{0.05}$ (2, 57)

It is evident from Table 1 that the results of Analysis of Variance (ANOVA) among three groups with regard to the sub-variables Neuroticism of Personality Traits were found to be statistically significant (P>0.05). Since the obtained “F” ratio .456 was found statistically insignificant, therefore, no need to apply post hoc test.

Table-2: ANOVA results concerning Extraversion among Inter-College, Inter-University and National Level Badminton Players.

Source	DF	Sum of Square	Mean Square	F Statistic	P-value
Between Groups	2	105.575	52.787		
Within Groups	57	1577.590	25.041	2.987	0.134
Total	59	1683.166	25.894		

Significant at 0.05, $F_{0.05}$ (2, 57)

It is evident from Table 2 that the results of Analysis of Variance (ANOVA) among three groups with regard to the sub-variables Extraversion of Personality Traits were found to be statistically significant (P>0.05). Since the obtained "F" ratio .134 was found statistically insignificant, therefore, no need to apply post hoc test.

Table-3: ANOVA results concerning Openness to Experience among Inter-College, Inter-University and National Level Badminton Players.

Source	DF	Sum of Square	Mean Square	F Statistic	P-value
Between Groups	2	3.545	1.772		
Within Groups	57	1538.454	24.419	0.849	0.123
Total	59	1541.999	23.723		

Significant at 0.05, $F_{0.05}$ (2, 57)

It is evident from Table 3 that the results of Analysis of Variance (ANOVA) among three groups with regard to the sub-variables Openness to Experience of Personality Traits were found to be statistically significant (P>0.05). Since the obtained "F" ratio .123 was found statistically insignificant, therefore, no need to apply post hoc test.

Table-4: ANOVA results concerning Agreeableness among Inter-College, Inter-University and National Level Badminton Players.

Source	DF	Sum of Square	Mean Square	F Statistic	P-value
Between Groups	2	209.000	104.500		
Within Groups	57	1322.090	20.985	4.934	0.679
Total	59	1531.090	23.555		

Significant at 0.05, $F_{0.05}$ (2, 57)

It is evident from Table 4 that the results of Analysis of Variance (ANOVA) among three groups with regard to the sub-variables Agreeableness of Personality Traits were found to be statistically significant (P>0.05). Since the obtained "F" ratio .679 was found statistically insignificant, therefore, no need to apply post hoc test.

Table-5: ANOVA results concerning Conscientiousness among Inter-College, Inter-University and National Level Badminton Players.

Source	DF	Sum of Square	Mean Square	F Statistic	P-value
Between Groups	2	272.818	136.409		

Within Groups	57	2329.545	36.976	2.934	0.03*
Total	59	1531.090	23.555		

Significant at 0.05, $F_{0.05}$ (2, 57)

It is evident from Table 5 that the results of Analysis of Variance (ANOVA) among three groups with regard to the sub-variables Conscientiousness of Personality Traits were found to be statistically significant (P<0.05). Since the obtained "F" ratio 2.934 was found statistically significant, therefore, Post Hoc test (LSD) was applied to determine the degree and direction of difference between the paired means among the groups with regard to the sub- variables Conscientiousness. The results of post-hoc test have been presented in Table-6 below.

Table-6: Analysis of Least Significant Difference (LSD) post hoc test among Inter-College, Inter-University and National Level Badminton Players with regard to Conscientiousness.

Group (A)	Group (B)	Mean Difference (A-B)	Sig.
Inter-College	Inter-University	3.64	.084
(Mean= 64.37)	National	5.36*	.007
Inter-University	Inter-College	3.64	.084
(Mean= 60.73)	National	1.72	.294
National	Inter-College	5.36*	.007
(Mean= 59.01)	Inter-University	1.72	.294

*Significant at 0.05 level

- A glance at Table 6 showed that the mean value of Inter-College Level Badminton Players was 64.37 whereas Inter-University Level Badminton Players had mean value as 29.23 and the mean difference between both the groups was found 3.64. The p-value sig .084 shows that the Inter-College Level Badminton Players had demonstrated better on compassion than their counterpart's Inter-University Level Badminton Players though not significantly.
- The mean difference between Inter-University Level Badminton Players and National Level Badminton Players was found 1.72. The p-value sig .294 showed that the Inter-University Level Badminton Players had demonstrated better on compassion than their counterpart's National Level Badminton Players though not significantly.
- The mean difference between Inter-College Level Badminton Players and National Level Badminton Players was found 5.36. The p-value sig .007 shows that the National Level Badminton Players had demonstrated significantly better on compassion than their counterpart's Inter-College Level Badminton Players. The graphical representation of responses has been exhibited in Figure 1.

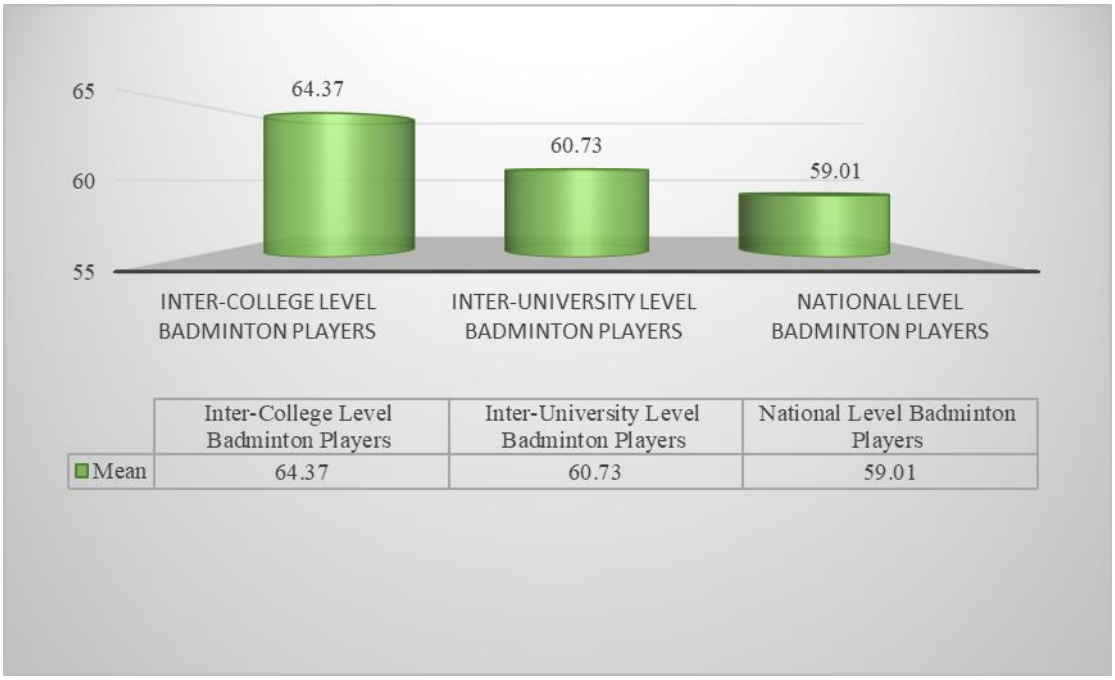

Figure-1: Graphical Representation of Mean Scores among Inter-College, Inter-University and National Level Badminton Players with regard to Conscientiousness.

Table-7: ANOVA results concerning Personality Traits (Total) among Inter-College, Inter-University and National Level Badminton Players.

Source	DF	Sum of Square	Mean Square	F Statistic	P-value
Between Groups	2	2804.363	1352.181	4.057	0.002*
Within Groups	57	12656.378	225.509		
Total	59	14345.234	273.868		

***Significant at 0.05, F0.05 (2, 57)**

It is evident from Table 7 that the results of Analysis of Variance (ANOVA) among three groups with regard to the variable Personality Traits (Total) were found to be statistically significant ($P<0.05$). Since the obtained "F" ratio 4.057 was found statistically significant, therefore, Post Hoc test (LSD) was applied to determine the degree and direction of difference between the paired means among the groups with regard to the variable Personality Traits (Total). The results of post-hoc test have been presented in Table-8 below.

Table-8: Analysis of Least Significant Difference (LSD) post hoc test among Inter-College, Inter-University and National Level Badminton Players with regard to Personality Traits (Total).

Group (A)	Group (B)	Mean Difference	Sig.

		(A-B)	
Inter-College	Inter-University	15.78*	0.002*
(Mean= 296.78)	National	4.4	0.050
Inter-University	Inter-College	15.78*	0.002*
(Mean= 312.56)	National	11.38	0.504
National	Inter-College	4.4	0.050
(Mean= 301.18)	Inter-University	11.38	0.504

*Significant at 0.05 level

- A glance at Table 8 showed that the mean value of Inter-College Level Badminton Players was 296.90 whereas Inter-University Level Badminton Players had mean value as 312.81 and the mean difference between both the groups was found 15.78. The p-value sig .002 shows that the Inter-University Level Badminton Players had demonstrated better on Personality Traits (Total) than their counterpart's Inter- College Level Badminton Players though not significantly.
- The mean difference between Inter-University Level Badminton Players and National Level Badminton Players was found 11.38. The p-value sig 0.0504 showed that the Inter-University Level Badminton Players had demonstrated better on Personality Traits (Total) than their counterpart's National Level Badminton Players though not significantly.
- The mean difference between Inter-College Level Badminton Players and National Level Badminton Players was found 4.4. The p-value sig 0.050 shows that the National Level Badminton Players had demonstrated significantly better on compassion than their counterpart's Inter-College Level Badminton Players. The graphical representation of responses has been exhibited in Figure 2.

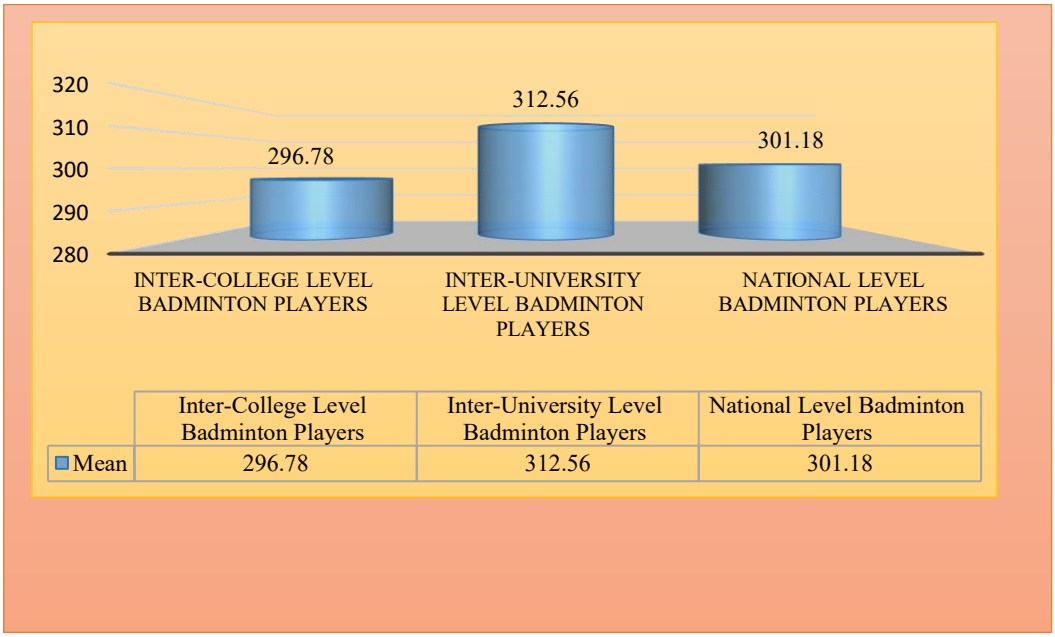

Figure-2: Graphical Representation of Mean Scores among Inter-College, Inter-University and National Level Badminton Players with regard to Personality Traits (Total).

CONCLUSIONS

Our study's objective was to compare the personality traits among Inter-College, Inter-University and National Level Badminton Players on the outcomes of our research has assisted in the understanding of individual differences among players of Inter-College, Inter-University and National Level Badminton Players. Summarizing from the above findings we can say that insignificant differences were found among badminton players on the sub-variables of Neuroticism, Extraversion, Openness to Experience and Agreeableness. Concludingly from the above findings that significant differences were present among badminton players on the sub-variables of Conscientiousness and Personality Traits (Total).

PRACTICAL APPLICATION

The study will be very useful in understanding Senior Level badminton players towards Personality Traits variables. The results of this study will be useful to sports psychologists and coaches who work in these fields, and they may start incorporating Personality Traits variables into their training plans at start of the training right away.

CONSENT

Informed consent was obtained from all individual participants included in the study

FUNDING

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CONFLICT OF INTERESTS

The authors declare no conflict of interest.

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