THE STUDY OF PERSONALITY BETWEEN SENIOR, JUNIOR AND SUB-JUNIOR LEVEL FEMALE HOCKEY PLAYERS

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Abstract

For this purpose, forty-seven (N=47) Hockey Players of 12-25 years of age group were selected to act as subjects. They were divided into three groups which includes: Group-A: (n_1=12; Senior Level); Group-B: (n_2=15; Junior Level); Group-C: (n_3=20; Sub-Junior Level). 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. The Statistical Package for the Social Sciences (SPSS) version 14.0 was used for all analyses. The differences in the mean of each group for selected variable were tested for the significance of difference by One-way Analysis of Variance (ANOVA). For testing the hypotheses, the level of significance was set at 0.05. **Neuroticism (N):** The test statistic F equals 0.0882627, is in the 95% critical value accepted range: [-∞: 3.2093]. **Extraversion (E):** The test statistic F equals 0.0502663, is in the 95% critical value accepted range: [-∞: 3.2093]. **Openness to experience (O):** The test statistic F equals 0.424289, is in the 95% critical value accepted range: [-∞: 3.2093]. **Agreeableness (A):** The test statistic F equals 0.341937, is in the 95% critical value accepted range: [-∞: 3.2093]. **Conscientiousness (C):** The test statistic F equals 0.358169, is in the 95% critical value accepted range: [-∞: 3.2093]. **Personality Traits:** The test statistic F equals 0.628867, is in the 95% critical value accepted range: [-∞: 3.2093].

Keywords: Senior, Junior, Sub-Junior**,** Hockey Players, Neuroticism (N), Extraversion (E), Openness to experience (O), Agreeableness (A), Conscientiousness (C), Personality Traits.

Introduction

According to Olson and Hergenhahn (2001), it is based on behavior of an individual which may varies according to situation. Personality varies from person to person because the characteristics of individual as well as demands of the environment also varies. The personality traits possessed by an individual are commonly considered as the individual personalities characteristics that enables them to react within specific situations (Anshel, 2011). These individuals' traits serve as a predictor of an athlete's personality in future events. These assessment traits of personality are measured with the help of standardized tools of psychology (Teshome et al., 2015). One of the most widely used conceptual framework in personality is the Five Factor Model (FFM) of personality and it conceptualizes the personality with the help of five global constructs: e.g., conscientiousness, agreeableness, neuroticism, extraversion, and openness. All of these traits lie under the concept of Big five model of personality (Costa, Jr, & McCrae, 1992; Costa, & McCrae, 2008). Agreeableness is a fourth dimension based on humanity or, in more precise way is based on soft-heartiness, openness of an individual. It also relies on the individual creativity and flexibility of ideas (Mirzaei, Nikbakhsh, & Sharififar, 2013). More significantly, assessment of personality is also examined within the sports settings as it narrated by successful outcomes. For instance, with the efforts of Tran (2012), the effects of personality traits on the performance of football players which is measured by the Big Five dimensions of conscientiousness and neuroticism as a significant predictor of sports performance. Piedmont (1997) also revealed through regression analysis that conscientiousness as well as neuroticism explained 23% of the variance the coach ratings such as work ethic and athletic ability and conscientiousness with the 8% variance serves as a predictor of game statistics such as in shots and scores. According to Kovacs (2008) neuroticism as well as conscientiousness having a direct impac on sports performance. Aidman and Schofield (2004) also identified that openness as well as agreeableness are not linked with the athletic performance. Also, Piedmont et al. (1999) explained that the ratings done by coaches on their games as well as found that Neuroticism and Conscientiousness dimensions of personality were more significantly related with women soccer players in the college.

Subjects: -

For this purpose, forty-seven (N=47) Hockey Players of 12-25 years of age group were selected to act as subjects. They were divided into three groups which includes: Group-A: (n_1=12; Senior Level); Group-B: (n_2=15; Junior Level) and Group-C: (n_3=20; Sub-Junior Level). 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.

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

Statistical Application

The Statistical Package for the Social Sciences (SPSS) version 14.0 was used for all analyses. The differences in the mean of each group for selected variable were tested for the significance of difference by One-way Analysis of Variance (ANOVA). For testing the hypotheses, the level of significance was set at 0.05.

Results

Neuroticism (N)

Source	DF	Sum of Square	Mean Square	F Statistic	P-value
Groups (between groups)	2	4.784040	2.392020	0.0882627	0.915682
Error (within groups)	44	1192.450128	27.101139		
Total	46	1197.234169	26.026830		

1. **H0 hypothesis:** Since p-value > α, H0 is accepted. The averages of all groups considered to be equal. In other words, the difference between the averages of all groups is not big enough to be statistically significant.

2. **P-value:** p-value equals 0.915682, [p (x ≤ F) = 0.0843180]. This means that if we would reject H0, the chance of type1 error (rejecting a correct H0) would be too high: 0.9157 (91.57%) The bigger the p-value the stronger it supports H0.
3. **The statistics:** The test statistic F equals 0.0882627, is in the 95% critical value accepted range: [-∞: 3.2093].
4. **Effect size:** The observed effect size f is small (0.063). That indicates that the magnitude of the difference between the averages is small. The η2 equals 0.0040. It means that the group explains 0.4% of the variance from the average (similar to R2 in the linear regression).

Extraversion (E)

Source	DF	Sum of Square	Mean Square	F Statistic	P-value
Groups (between groups)	2	1.118083	0.559042	0.0502663	0.951031
Error (within groups)	44	489.349993	11.121591		
Total	46	490.468076	10.662349		

1. **H0 hypothesis** Since p-value > α, H0 is accepted. The averages of all groups considered to be equal. In other words, the difference between the averages of all groups is not big enough to be statistically significant.
2. **P-value** p-value equals 0.951031, [p (x ≤ F) = 0.0489694]. This means that if we would reject H0, the chance of type1 error (rejecting a correct H0) would be too high: 0.9510 (95.10%) The bigger the p-value the stronger it supports H0.
3. **The statistics** The test statistic F equals 0.0502663, is in the 95% critical value accepted range: [-∞: 3.2093].
4. **Effect size** The observed effect size f is small (0.048). That indicates that the magnitude of the difference between the averages is small. The η2 equals 0.0023. It means that the group explains 0.2% of the variance from the average (similar to R2 in the linear regression).

Openness to experience (O)

Source	DF	Sum of Square	Mean Square	F Statistic	P-value
Groups (between groups)	2	12.449994	6.224997	0.424289	0.656883
Error (within groups)	44	645.550021	14.671591		
Total	46	658.000015	14.304348		

1. **H0 hypothesis:** Since p-value > α, H0 is accepted. The averages of all groups considered to be equal. In other words, the difference between the averages of all groups is not big enough to be statistically significant.
2. **P-value:** p-value equals 0.656883, [p (x ≤ F) = 0.343117]. This means that if we would reject H0, the chance of type1 error (rejecting a correct H0) would be too high: 0.6569 (65.69%) The bigger the p-value the stronger it supports H0
3. **The statistics:** The test statistic F equals 0.424289, is in the 95% critical value accepted range: [-∞ : 3.2093]
4. **Effect size:** The observed effect size f is small (0.14). That indicates that the magnitude of the difference between the averages is small. The η2 equals 0.019. It means that the group explains 1.9% of the variance from the average (similar to R2 in the linear regression)

Agreeableness (A)

Source	DF	Sum of Square	Mean Square	F Statistic	P-value
Groups (between groups)	2	13.126249	6.563124	0.341937	0.712264
Error (within groups)	44	844.533341	19.193940		
Total	46	857.659590	18.644774		

1. **H0 hypothesis:** Since p-value > α, H0 is accepted. The averages of all groups considered to be equal. In other words, the difference between the averages of all groups is not big enough to be statistically significant.
2. **P-value:** p-value equals 0.712264, [p (x ≤ F) = 0.287736]. This means that if we would reject H0, the chance of type1 error (rejecting a correct H0) would be too high: 0.7123 (71.23%) The bigger the p-value the stronger it supports H0:

3. **The statistics:** The test statistic F equals 0.341937, is in the 95% critical value accepted range: [-∞: 3.2093]
4. **Effect size:** The observed effect size f is small (0.12). That indicates that the magnitude of the difference between the averages is small. The η2 equals 0.015. It means that the group explains 1.5% of the variance from the average (similar to R2 in the linear regression)

Conscientiousness (C)

Source	DF	Sum of Square	Mean Square	F Statistic	P-value
Groups (between groups)	2	8.902133	4.451067	0.358169	0.700974
Error (within groups)	44	546.800004	12.427273		
Total	46	555.702137	12.080481		

1. **H0 hypothesis:** Since p-value > α, H0 is accepted. The averages of all groups considered to be equal. In other words, the difference between the averages of all groups is not big enough to be statistically significant.
2. **P-value:** p-value equals 0.700974, [p (x ≤ F) = 0.299026]. This means that if we would reject H0, the chance of type1 error (rejecting a correct H0) would be too high: 0.7010 (70.10%) The bigger the p-value the stronger it supports H0
3. **The statistics:** The test statistic F equals 0.358169, is in the 95% critical value accepted range: [-∞: 3.2093]
4. **Effect size:** The observed effect size f is small (0.13). That indicates that the magnitude of the difference between the averages is small. The η2 equals 0.016. It means that the group explains 1.6% of the variance from the average (similar to R2 in the linear regression)

Personality Traits

Source	DF	Sum of Square	Mean Square	F Statistic	P-value
Groups (between groups)	2	142.604240	71.302120	0.628867	0.537919
Error (within groups)	44	4988.800131	113.381821		
Total	46	5131.404371	111.552269		

1. **H0 hypothesis:** Since p-value > α, H0 is accepted. The averages of all groups considered to be equal. In other words, the difference between the averages of all groups is not big enough to be statistically significant.
2. **P-value:** p-value equals 0.537919, [p (x ≤ F) = 0.462081]. This means that if we would reject H0, the chance of type1 error (rejecting a correct H0) would be too high: 0.5379 (53.79%) The bigger the p-value the stronger it supports H0
3. **The statistics:** The test statistic F equals 0.628867, is in the 95% critical value accepted range: [-∞: 3.2093]
4. **Effect sizes:** The observed effect size f is small (0.17). That indicates that the magnitude of the difference between the averages is small. The η2 equals 0.028. It means that the group explains 2.8% of the variance from the average (similar to R2 in the linear regression)

Conclusions

- **Neuroticism (N):** The test statistic F equals 0.0882627, is in the 95% critical value accepted range: [-∞: 3.2093].
- **Extraversion (E):** The test statistic F equals 0.0502663, is in the 95% critical value accepted range: [-∞: 3.2093].
- **Openness to experience (O):** The test statistic F equals 0.424289, is in the 95% critical value accepted range: [-∞: 3.2093].
- **Agreeableness (A):** The test statistic F equals 0.341937, is in the 95% critical value accepted range: [-∞: 3.2093].
- **Conscientiousness (C):** The test statistic F equals 0.358169, is in the 95% critical value accepted range: [-∞: 3.2093].
- **Personality Traits:** The test statistic F equals 0.628867, is in the 95% critical value accepted range: [-∞: 3.2093].

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