



RESEARCH PAPER

Big Five Personality Traits and Life Satisfaction related Gender Differences in the Context of Ice Hockey Team Sports

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ABSTRACT

This research seeks to examine the differences in big five personality traits and life satisfaction between male and female ice hockey players in GBC. A cross-sectional design was employed for the study. A total N = 211 ice hockey players (out of which 114 were male and 97 were female players) were included. The participants included were having an age range of 18 – 25 years (M = 19.84, SD = 2.12). BFI and SWLS questionnaires along with demographics were utilized to assess personality traits and life satisfaction. Statistical analysis included t-test to compare gender differences. The analysis indicated that male players reported higher life satisfaction scores and scored higher on extraversion and agreeableness. Female players surprisingly exhibited higher conscientiousness and neuroticism levels. Openness did not show significant gender differences. Through reliable strategies, ice-hockey teams might be able to create a supportive environment that acknowledges gender differences in personality traits.

KEYWORDS Big Five Personality Traits, Chitral, Gender Differences, Gilgit Baltistan, Ice Hockey, Life Satisfaction

Introduction

The behavior of an individual isn't solely dependent on external stimuli rather it is also influenced by several internal attributes (Skinner, 2022). These attributes are of immense significance as they play an influential role in the prediction of psychological factors. However, these attributes when combined together form a distinct identity of an individual which is known as personality (Anglim, Horwood, Smillie, Marrero, & Wood, 2020). Personality of an individual also portrays how he interacts or is perceived by people in a social environment (Bergner, 2020). However, it is very crucial to comprehend personality for a variety of reasons. Firstly, to better manage relationships and personal development, it aids people in obtaining understanding of their own ideas and feelings. Secondly, people might take better decisions and establish more achievable targets by being aware of their strengths and weaknesses (Bleidorn et al., 2022). Furthermore, individuals might also develop the ability to socialize more successfully in professional circumstances by being aware of the personality characteristics and instincts of others.

However, whenever the necessity arises to assess an individual with respect to his personality, only five major factors are opted as standard approach for this examination. This Five Factor Model (FFM) also known as Big Five personality traits is a well-known tool in the field of psychology that provides with a relevant framework to assess and understand human personality (Nikčević, Marino, Kolubinski, Leach, & Spada, 2021). These traits involve five major dimensions that portray multiple

components of personality distinction among individuals. These factors or dimensions include Openness, Conscientiousness, Extraversion, Agreeableness and Neuroticism that are frequently alluded as the acronym of OCEAN (Mammadov, 2022). Each of these attributes represent a spectrum of personality in which individuals place themselves according to each trait (Zell & Lesick, 2022). Additionally, in the realm of sports psychology, these factors play a vital and crucial role to better understand the personality and character of an athlete.

These big five personality traits aid in athlete's adaptation to the demands of their respective sports and might also influence their interactions with teammates, coaches, and opponents. For instance, extraversion may facilitate teamwork and social integration, while neuroticism might influence responses to stress and challenges (Kerr, Kerr, & Xu, 2018). Notably, disparities consistently exist in neuroticism and agreeableness (Kajonius & Johnson, 2018). However, it is essential to acknowledge that societal stereotypes can exert an influence on certain responses, complicating the interpretation of these personality traits (Simms, Zelazny, Williams, & Bernstein, 2019). For instance, men may be more inclined to endorse the statement from the BFI-10, "I see myself as someone who is relaxed and handles stress well," compared to women, even if their underlying emotional stability (neuroticism) is similar. Such responses may be influenced by societal expectations associated with men's emotional control.

On the other hand, life satisfaction is a subjective assessment of one's well-being and contentment with life circumstances. It is intricately tied to athletes overall experience (Poalses, 2022). Apart from some external factors such as materialistic possessions or wealth, life satisfaction is also dependent on several internal factors including resilience and self-esteem (Khodabakhsh, 2022). Life satisfaction is of utmost importance as it helps in the betterment of overall quality of life (Kim et al., 2021). Furthermore, a person's sense of accomplishment and belonging is strengthened by life satisfaction, as those who are pleased with their professional and personal lives are more likely to build significant connections and feel accomplished in life (Berggren & Bjørnskov, 2020). Additionally, elevated life satisfaction is associated with improved mental health, enhanced performance and increased commitment to sport (Antaramian, 2017).

However, athletes' general well-being, performance, and their professional lives are all strongly affected by their extent of life satisfaction (Ari et al., 2020). When an athlete is satisfied with their life, they have a higher capacity to be inspired, driven, and persistent when training and competing. This might result in better performance results and long-term success of an athlete (Shander & Petrie, 2021). Athletes' psychological resilience and emotional well-being are also improved by life satisfaction, which helps them become psychologically capable of and able to handle the demands of competitive sports (Mehrsafar et al., 2021). However, female athletes encounter distinct challenges and sources of satisfaction compared to their male counterparts, due to societal norms, role expectations, and individual aspirations.

Therefore, in the realm of sports, exploring gender differences is of paramount importance when investigating the characteristics that influence athlete's experiences and psychological well-being (Borgonovi & Han, 2021). These differences encompass various factors such as muscle composition, skeletal structure and hormonal influences, are potentially effecting athletic performance (Walton, Gwyther, Gao, Purcell, & Rice, 2022). It is well-documented that males typically exhibiting greater muscle mass and physical strength are attributed to the effects of testosterone (Apicella, Carré, & Dreber, 2015; Dooley et al., 2022). In addition, disparities in engagement are boosted by

misconceptions about gender, which frequently support the idea that some sports are more appropriate or fit for one gender than another.

Hence, various studies have been conducted to assess the performance comparison of male and female athletes to figure out any advantage that male athletes may possess as compared to their female counterparts (Bartolomei, Grillone, Di Michele, & Cortesi, 2021). However, ice hockey stands out as a less explored and infrequently assessed sport due to its popularity at hilly or mountainous areas where accessibility is significantly difficult (Gill, Williams, & Reifsteck, 2017). It is a very high-speed and physically demanding sport that allows for direct physical contact between opposing players (Cordingley, Sirant, MacDonald, & Leiter, 2019). It is widely celebrated not only for its competitive nature but also for its potential impact on individual psychological well-being (Eather, Wade, Pankowiak, & Eime, 2023). The intensity bursts require the ice hockey players to develop muscle strength, power and aerobic endurance (Toivonen, 2023). However, due to lack of relevant studies and proper evidence, the exploration of gender-based differences in the personality traits and life satisfaction of ice hockey players is of utmost importance.

Because this study is being undertaken in Pakistan, it focuses on the Gilgit Baltistan and Chitral (GBC) regions, where ice hockey is most popular and routinely played. Hence, this research aims to provide insights into how participating in ice hockey impacts the big five personality traits and life satisfaction of both female and male players in GBC. By delving into these gender-based differences, especially within the distinctive cultural environment of GBC, we might gain critical insights into the complex interplay between personality traits, life satisfaction and the specific condition in which these athletes participate. This research not only contributes to the evolving field of sports psychology but also holds practical implications for optimizing coaching and support strategies for ice hockey players in these regions, ultimately fostering gender equality and inclusivity in the sports.

Literature review

Previously, several studies have been conducted on various sports disciplines to assess gender disparities in big five personality traits and life satisfaction of those athletes. Many of these studies suggested that variations in personality traits between genders were observed globally. It was discovered that female athletes often exhibit higher level of agreeableness and neuroticism, while male athletes tend to score higher in traits to dominance and competitiveness (Singh, Kumar, & Phagwara, 2023). Furthermore, life satisfaction was also observed to have a substantial influence on the life and performance of these athletes.

Personality traits can profoundly influences athletes approaches to competition, motivation and overall well-being (Piepiora, 2021). Compared to other athletes, champions had a lower score of neuroticism and elevated scores of extraversion and openness to new experiences (Steinmetz, Assman, Hubert, & Saul, 2022). The study also demonstrated that the distribution level of personality traits varies depending on the sport discipline. Therefore, mental conditioning strategies that enhance emotional balance, working together, and strategic ability to think should be given significant priority (Rist, Clarke, Glynn, & Pearce, 2023). One of the widely used model of assessing personality traits is big five personality model (Ramesh, 2016). A research carried out to examine the personality attributes of athletes indicated that individual sport players fared substantially better on conscientiousness and autonomy than the general population (Nia & Besharat, 2010).

Research suggests that individual with specific personality traits may be drawn to certain types of sports. For example, extraverted individuals are often inclined towards team sports due to their sociable and outgoing nature Mark S. Allen and Laborde (2014), while conscientiousness individual may excel in sports that require discipline and precision (Rogowska, 2020). In a similar realm, a study conducted by Piepiora (2021), on players from 10 different team sports in Poland (N = 300), aged between age of 20 and 29 found significant variations in four personality traits, including neuroticism, extraversion, agreeableness and conscientiousness between team sports.

However, gender disparities extend beyond the physical realm. Prior research has highlighted variations in personality traits between genders, where in female often show higher level of agreeableness and neuroticism, while males tend to score higher in traits related to dominance and competitiveness (Schmitt et al., 2017). A review conducted by Schmitt et al. (2017), explored differences in men's and women's personalities across various aspects. Social role theories suggested that these disparities stem primarily from perceived gender role and social structural power imbalance. According to these theories, smaller gender differences in personality are anticipated in cultures with greater gender egalitarianism.

Furthermore, life satisfaction is a crucial aspect of overall well-being and has been linked to personality traits. Neuroticism characterized by emotional instability and negative effect, has been linked with decreased life satisfaction Røysamb, Nes, Czajkowski, and Vassend (2018). In contrast, individuals that are high in extraversion, often report higher life satisfaction (Batista et al., 2019). Similarly, to examine the relation between personality traits, sports satisfaction and life satisfaction, a study was conducted. It portrayed a strong correlation between all three of these variables. Given that the dimensions offered no prediction at all, stepwise regression analysis revealed that neuroticism and extraversion was the best predictor of life and sport pleasure. These findings also suggest that a more accurate facet-based personality assessment greatly improved the predication of life happiness (Mark S. Allen & Laborde, 2014).

Material and Methods

Study's Design

To examine the relationship between personality traits and life satisfaction among male ice hockey players and female ice hockey payers, cross-sectional design of study was opted.

Population and sample

The population of interest was female and male players of ice hockey sport in the region of Gilgit Baltistan and Chitral (GBC). The sample size used was 211 participants, consisting of 114 male ice hockey players and 97 female ice hockey players.

Sample allocation

The sample allocation for this study involved collecting data from three districts, Gilgit Baltistan, Ghizer and Chitral, encompassing students from various study programs. These districts were chosen depending upon their association with the research topic and availability of ice hockey players in those regions.

Participant's Characteristics

A total of $n = 211$ players of ice hockey sport (out of which 114 were male and 97 were female players) were included in the study. The participants included were having an age range of 18 – 25 years ($M = 19.84$, $SD = 2.12$). Participants profile encompassed their educational background, as indicated by name of their university or college, and their districts of residence. Level of education and semester they were currently enrolled in was also noted in academic standing. Additionally, some important personal details including age, gender, and marital status, years of ice hockey experience and their level of competitiveness were also collected from participants. Most of these included participants were experienced ice hockey players having a minimum of 1 year and a maximum of 5 years of experience ($M = 2.37$, $SD = 1.25$).

Instruments

Big Five personality Traits (BFI-10)

In order to assess five major dimensions of personality traits, a shortened version of BFI that consisted of 10 items was utilized. This BFI-10 was developed by Rammstedt and John (2007) and has since been widely recognized as a reasonably valid self-reported questionnaire. The Cronbach alpha's scores of individual coefficients of BFI-10 were recorded as neuroticism = 0.55, conscientiousness = 0.62, extraversion = 0.45, openness = 0.36 and agreeableness = 0.24. However, the overall Cronbach alpha's score of this tool was 0.713 due to which it was considered as significantly valid and reliable means of assessing personality traits.

Satisfaction with life scale (SWLS)

In a similar vein, to assess life satisfaction of individuals, a widely adopted questionnaire, SWLS was opted. It was developed by Diener, Emmons, Larsen, and Griffin (1985) and has been designed to estimate an individual's overall state of mind and life satisfaction. Additionally, it has also exhibited high validity and reliability as the Cronbach alpha's score for this tool were 0.83.

Procedure

The data collection process involved personally administering the questionnaire to the participants. The researcher approached male and female ice hockey players from three different districts. The study's goal was clearly explained to the participants and they were assured of confidentiality of the given data. Throughout the research procedure, ethical rules were strictly adhered to. Furthermore, all participants provided informed consent to ensure their voluntary involvement. Individuals who demonstrated an eagerness to be part of the study were requested to obtain informed approval. Following the consent process, the questionnaires were filled out in a quiet and comfortable environment to minimize distraction and ensure accurate responses. The researcher was present to clarify any doubts or questions that participants had while completing the questionnaire.

Analysis

For the purpose of statistically analyzing the gathered data, a specified version of (SPSS) software (version 22) was opted (IBM Crop 2017). The mean difference between the study's groups was analyzed using the independent t-test. Additionally, t-test further compared the scores of male and female ice hockey players on variables such as life satisfaction and big five personality components including agreeableness, neuroticism,

openness, extraversion and conscientiousness. The t-test allowed for the examination of statistically notable variations between the groups, providing insights into variations in the variables of interest among male and female ice hockey players.

Results and Discussion

t-test result of satisfaction with life scale

The result of the mean comparison (t test) of big five personality traits and life satisfaction among male ice hockey players and female ice hockey player in Gilgit Baltistan and Chitral (GBC) are presented in Table 1 (4.1). Global scoring revealed significant mean difference on global scoring with $t(209) = 2.513, p < .05$. Findings show that male ice hockey player exhibited higher score on global score of satisfaction with life scale ($M = 23.61, SD = 3.28$ compared to female ice hockey players ($M = 22.52, SD = 2.95$). The value of Cohen's d was 0.348 (< 0.50) which indicate medium effect size.

Table 1
Mean Comparison of Life Satisfaction among Male Ice Hockey Players and Female Ice Hockey Player in Gilgit Baltistan and Chitral GBC

Variables	Male		Female		T(209)	P	Cohen's d
	M	SD	M	SD			
Global score satisfaction	23.61	3.28	22.52	2.95	2.513	.013	0.348
With life scale							

Extraversion revealed significance mean difference on extraversion scoring $t(209) = 12.660, p < .05$ (Table 2). Findings revealed that male ice hockey players exhibited higher score on extraversion ($M = 3.46, SD = .775$ compared to female ice hockey players ($M = 2.27, SD = .559$) the value of Cohen's d was 1.761 (> 0.50) which indicate large effect size.

Agreeableness revealed significance mean difference on agreeableness scoring $t(209) = 10.395, p < .05$ findings indicate that male ice hockey players exhibited higher score on agreeableness ($M = 3.43, SD = .667$ compared to female ice hockey players ($M = 2.85, SD = .502$) the value of Cohen's d was 1.439 (> 0.50) which indicate large effect size.

Table 2
Mean Comparison of Big Five Personality Traits among Male Ice Hockey Players and Female Ice Hockey Player in Gilgit Baltistan and Chitral GBC

Variables	Male		Female		T(209)	P	Cohen's d
	M	SD	M	SD			
Extraversion	3.46	.775	2.27	.559	12.660	.000	1.761
Agreeableness	3.43	.667	2.85	.502	10.395	.000	1.439
Conscientiousness	3.71	.606	4.07	.443	-4.745	.000	0.678
Neuroticism	2.08	.749	3.55	.852	-13.314	.000	1.832
Openness	3.52	.521	3.44	.420	1.192	.234	0.169

Conscientiousness revealed significance mean difference on conscientiousness scoring $t(209) = -4.745, p < .05$ findings show that female ice hockey players exhibited higher score on conscientiousness ($M = 4.07, SD = .443$ compared to male ice hockey players ($M = 3.71, SD = .606$) the value of Cohen's d was 0.678 (> 0.50) which indicate large size.

Neuroticism revealed significance mean difference neuroticism scoring $t(209) = -13.314, p < .05$ findings indicated that female ice hockey players exhibited higher score on

neuroticism ($M=3.55$, $SD=.852$ compared to male ice hockey players ($M=2.08$, $SD=.749$) the value of Cohen's d was 1.832 (>0.50) which indicate large size.

Discussion

To provide insights into how participating in ice hockey impacts the big five personality traits and life satisfaction of both female and male players in GBC was the fundamental objective of this study. The findings of the study indicated that male ice hockey players exhibited higher prevalence of life satisfaction as compared to female counterparts. Furthermore, male ice hockey players indicated higher scores of extraversion and agreeableness as compared to their female counterparts. However, female ice hockey players were demonstrated to have elevated scores of conscientiousness and neuroticism than male players of ice hockey. These findings indicate that there are significant mean differences in personality traits and level of satisfaction of life among athletes of both genders.

Additionally, the results of the final analysis revealed that male ice hockey players were having exceptionally higher scores of life satisfaction than female players. This finding aligns with previous research that was conducted to assess gender-based differences in life satisfaction among athletes. Results of the above-mentioned study suggested that athletes may be more satisfied with their lives as compared to general population. Furthermore, these findings also indicated an improved psychological health and commitment to the sport among these athletes (Proctor, Linley, Maltby, & Port, 2017). In addition, another study that was conducted by sport psychologists to examine the athletes' overall life satisfaction levels also reported similar findings. It also reported that an athlete's total happiness in life and performance in sports are significantly correlated (Shander & Petrie, 2021).

Furthermore, ice hockey players possess distinct mindset due to ice hockey being played at higher altitude areas. This unique and distinct mindset might be shaped due to the surrounding conditions of the environment (Jia, Lim, Ismail, & Tan, 2021). As these regions are present at high altitudes, therefore, they offer clean air, low traffic levels and less polluted atmosphere. Furthermore, these players mostly possess lower prevalence of psychological disorders as they are frequently exposed to healthy surroundings (Gao et al., 2023). Additionally, these players have improved cognitive functioning due to being continuously exposed to enhanced oxygen intake. This further distinguishes them from other sports' athletes who lack such oxygen rich environment (Seo, Bahk, Jun, & Chae, 2007). However, it is also very vital to better understand how these variables interact with each other to influence life satisfaction.

The findings of this study also demonstrated that ice hockey players of both genders portray significant differences in specific personality traits. Male players were observed to have higher agreeableness and extraversion scores as compared to female players. It was also discovered that those men who play ice hockey may be better able to collaborate with other teammates due to greater levels of extraversion (Mark S Allen, Mison, Robson, & Laborde, 2021). Furthermore, they were also socially more active than normal men around them. However, the increased agreeableness in male players may contribute to a more pleasant team environment. This may further lead to effective management of conflicts and stronger bonds among players of teams (Nia & Besharat, 2010). Simultaneously, it can be concluded that differences in the environment may impact the overall well-being of athletes of both genders.

The study also revealed a significant difference in neuroticism, with female ice hockey players scoring higher than males. This distinction suggests that female athletes may experience greater emotional fluctuations and higher levels of stress within the competitive nature of ice hockey. Notably, there were no significant variations in openness between athletes who were male and female. This finding is consistent with other researches that have not found consistent gender differences in openness (Feingold, 1994). The stability in openness between male and female players suggests that both genders may have similar levels of curiosity to new experiences.

Conclusion

The findings of the study indicated that male ice hockey players exhibited higher prevalence of life satisfaction as compared to female counterparts. Furthermore, male ice hockey players indicated higher scores of extraversion and agreeableness whereas, female ice hockey players portrayed elevated scores of conscientiousness and neuroticism. Hence this study aids in expanding our knowledge of the psychological characteristics of both male and female ice hockey players in GBC. It also provides useful information for enhancing coaching and supportive networks in the specific area. This in turn may support in promoting gender equality and creating a more supportive sports culture in GBC.

Recommendations

In order to properly accommodate both male and female players, coaches and team management should create an atmosphere in the training room that values transparency and promotes innovation. Through reliable strategies, ice-hockey teams might be able to create a supportive environment that acknowledges gender differences in personality traits.

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