

Investigation of Personality Traits in Rugby and Soccer Teams

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Abstract

Among the topics of great interest in high-performance sporting context is the understanding of the athlete's personality. There are few personality instruments adapted to the Brazilian population in sport; however, specific measures to the sporting context can assist with greater specificity and applicability results to sports teams. This study aimed to assess the use of a personality test for the sporting context and also to analyze the personality traits shown by professional athletes of different modalities, a Rugby team and a Soccer team. The instrument used was the Personality Factorial Inventory, which covers the Five-Factor Model of Personality. The results indicate the need for further comparative studies including standardization samples in characteristic groups of sport, considering the existence of facets that have peculiarities when it comes to the sporting context.

Keywords: Personality, Psychological Assessment, Sport psychology, Big Five, Tests

The world of Sports Sciences shows a wide range of research possibilities and needs, both in relation to the study of skilled movements and sports physical activities such as free-time practices and non-regulated and institutionalized activities. According to Rubio (2010), the term sport has been used to refer not only to high-performance professional sport, but also to physical activity in a broader and more comprehensive manner.

Given this wide range of specificities of the sporting context, involving issues related to the characteristics of modalities, whether of contact or non-contact, collective or individual, competing with an opponent, a team, an indication or the record, the professionals working in Sports Psychology should have a broad look on the characteristics involving skills, motivations, strengths, behaviors etc., in the psychological environment of a sportsman. According to Rubio (2010), in addition to the specific knowledge brought by psychology such as the use of scales and instruments as a complement to reach a diagnostic and intervention models, this professionals should have a broad notion of issues related to the sporting universe, from aspects of the athlete's point of view, such as notions of anatomy and physiology and biomechanics, until the specific of sport, such as sports modalities, rules and team dynamics. This set of knowledge and skills is required to the extent that Sport Psychology implicates individuals and groups who are involved in a situation determined by the competitive environment, training, competitions, and interactions with periods of isolation, concentration etc.

Sport activities emerge when human factors become favorable to the practice of this kind of interaction. For this activity to reach a professional level, it is necessary for all those involved to work together in order to produce the required social, economic, human and cultural tools. From the first moment a given sport modality is practiced, its history is already being built.

However, according to McIntosh (1975), from the earliest times, man and society have always played games, either for fun in the community or as a religious ritual. Such practices are aspects of various cultures around the world. According to Rubio (2000), Sport Psychology has been regarded as one of the emerging areas of psychology in Brazil in early XXI century.

This could suggest a youth to which it is no longer involved, after all, although records point to the beginning of the activity as a product of the 80s, Sport Psychology has its history written from the early twentieth-century in Russia and the United States and, more precisely in Brazil, from the 1958 World Cup with psychologist JoãoCarvalhaes at S.P.F.C. and in the Brazilian national soccer team.

It is no coincidence that Sport Psychology emerged in Brazil through activity considered most popular among brazilians, Soccer. According to Leonhardt (2010), Soccer is the most popular sport in Brazil. Although Soccer is a cultural practice as significant as theater, cinema, visual arts, none of these manifestations can mobilize so many people at the same time, influencing so strongly and widely with passions, desires and feelings.

According to De Lima (2002), Soccer is understood as modern sport because it was created in England in the nineteenth century. However, the ball game, both performed with feet and hands has been practiced well before the nineteenth century. Soccer possibly originated from a "sport" practiced in medieval Italy. By the way, this "sport" still exists today and is practiced annually in the city of Florence, named Calcio. This sport is a game between two teams that, in a field of land, the player has to carry the ball over the opponent's goal line. The game can be characterized as very violent, because physical contacts between players from both teams are constant and allowed.

De Lima (2002) reported that Italians believe that soccer originated from Calcio so much that, in Italy, soccer as known today is called GiocoCalcio. Similarly to Calcio, in England, a game was practiced since about the year 1300: Hurling. This game had characteristics very similar to Calcio and was also very violent. Calcio has characteristics closely resembling a sport that emerged in England at the same time as Soccer: Rugby. Indeed, it could be said that Soccer and Rugby have a common root, as they are very similar, and split in the middle of the nineteenth century in England due to disagreements related to rules among participants. Unlike Soccer that is played with feet, Rugby can be played with both hands and feet. These games did not have a defined name and varied from region to region of Britain, Europe and the World. England was the birthplace of Soccer called modern, with games played by the lower classes that had been practicing these cultural activities for generations. Maybe, they were not equal to Soccer to Rugby, but had a cultural goal of fun and friendship among community members.

According to Del Priore and Melo (2009), Soccer is the most popular sport in Brazil and most practiced in the world. Its name comes from English Football: foot + ball. Known as "the sport of crowds", as it is practiced by 200 million people in approximately 191 countries, and despite Brazil is called "the soccer country" it was not its creator. Despite the controversy regarding its origin, soccer organization was due to England. But it was in the early nineteenth century that Soccer began to be treated in a more organized manner. However, it was in 1894 that Charles Miller, who was from São Paulo, brought two balls from England, where he studied, so that brazilians could play constantly. Charles Miller brought also clothes, shoes and appropriate socks for the practice of the sport. In Brazil, Soccer became very popular and began to be practiced by different social classes and age groups. Currently, Brazil is the only country five times World Champion and ranks in third in the Americas Cups.

History tells that the aristocracy did not practice this game, probably because they thought them as acts of barbarism committed by people without culture, besides being very violent. The aristocracy would rather play other games such as horseback riding, hunting and fencing. These games were called in England of the eighteenth and nineteenth century as sports, and sports as we know today, or something like them, were called hobby. These popular games in the nineteenth century began to be practiced by students of schools of the English aristocracy and gentry in their free time. The Rugby College is perhaps the most famous of these schools, because it made the rules of Rugby. Rugby and Soccer were practiced by the students of this college, making principals to prohibit the practice of these activities due to the fact that they are popular, violent and "barbaric". Prohibition did not work, as the students continued practicing these sports. As prohibition did not work, the issues had to be resolved otherwise. As students would not stop practiced these sports, the best way would be to regulated them. Then, the rules of Soccer and Rugby began to be created, as well as those of other games (ELIAS; DUNNING, 1992).

However, such games were regulated only in schools of the English gentry. It was also necessary to regulate these games among the "lower" classes of English society. The early nineteenth century was the period of the apex of the first Industrial Revolution in England. The working class was practically consolidated and began to take its class consciousness. The English working class also practiced these games, especially in the free times that were gained in the process of class awareness and union labor movement.

Although, these games were very violent and sometimes were practiced without any rules, the violence of these sports caused the production of workers to decrease due to injuries and fatigues, thus undermining the profits of big bosses of the industrial bourgeoisie. It was necessary, as was done in schools, to regulate these games to make them less violent and bring them within the sphere of state control. Such Soccer legislation was expanded with the help of the State, for the whole English society. The industrial bourgeoisie triumphed, and its sporting regulations became popular and made soccer into a mass sport (MCINTOSH, 1975).

Thus, the origin of Rugby and its history in more traditional countries were more widespread and just like Soccer, has similar historical origins. According to Duarte (2000), the modern history of Rugby has approximately 190 years, though there are indications of similar games practiced 2000 years ago by Roman troops. There are also records of games characterized by kicking and pushes in order to get a ball from one village to another in the Middle Ages. The classic and most widespread story of how Rugby emerged is that in 1823, when becoming frustrated during a Soccer game that was being held in the city of Rugby, England, at the Rugby School, goalkeeper William Web Ellis picked up the ball with his hands and ran towards the opponent's goal line in an attempt to make the score. Players of the opposing team, seeing this action, tried to hold him to prevent his progress, resulting in the sport known as Rugby.

According to Elias and Dunning (1992) in countries colonized by the British, Rugby was first introduced in Australia in 1864, then in Canada in 1868 in New Zealand, in 1870, in the United States in 1874 and in South Africa in 1875. In other countries of Europe, it was introduced in France in 1872, Italy in 1911, Romania in 1915, Portugal in 1920 and Spain in 1921. In America South, there are records that the first Rugby clubs emerged in 1861 in Uruguay, and 1873 in Argentina. Then, it is introduced in Chile, Paraguay, Peru, Venezuela and Colombia.

According to the Brazilian Rugby Confederation - CBRu (2013), Rugby was introduced in Brazil also in the nineteenth century. In 1875, the first sports club was founded in Rio de Janeiro, the Paissandu Cricket Club, in which that are records of practices related to Soccer and Rugby. The second team also created in Rio de Janeiro in 1891, the Brazilian Rugby and Soccer Club, was the first to cultivate Rugby in Brazil. In 1895, Charles Miller organized the first Brazilian Rugby team in Sao Paulo. In 1925, Rugby began to be played on a regular basis and new teams emerged in Santos and Rio de Janeiro. In 1926, the first game of a series of interstate sporting competitions between São Paulo and Rio de Janeiro was organized. Between 1926 and 1940, every year, one or two matches between teams from São Paulo and Rio de Janeiro were performed, and international matches against the Springboks (South Africa's national team) in 1932 and against the British team in 1936 were also performed.

During the period of World War II between 1926 and 1946, Rugby ceased to be played due to the recruitment of foreigners resident in Brazil and Brazilian supporters of Rugby. In 1947, Rugby was again practiced. In the 60s, players that were members of the SPAC (São Paulo Athletic Club) began to play representing the club, creating the Aliança Rugby Football Club formed by French, British, Argentineans and a few Brazilians. The São Paulo Rugby Football Club, created by Japanese colony, also emerged in this decade. At that moment, came the need for creating an entity to organize the sport, and on October 6, 1963 the URB (Brazilian Rugby Union) was founded by Harry Donovan in São Paulo. From the creation of URB, major championships such as the III South American Rugby Championship were organized, where Brazil was vice champion. With the sport development in late 60s and early 70s, children's, youth and university categories were stimulated. Matches were held between teams from Liceu Pasteur School, São Paulo Athletic Club and Bertioga Rugby Club in the children's and youth category, and between teams from the Faculty of Medicine, University of São Paulo and the School of Engineering at Mackenzie University in the university category, respectively, in years 1964 and 1966. During the same period, Rugby returned to be played regularly in Rio de Janeiro.

On December 20, 1972, URB was replaced by ABR, the Brazilian Association of Rugby, recognized by the National Sports Council, marking a new phase of Brazilian rugby. In order to get financial support from government entities and in accordance with current sports law in Brazil at that time, ABR, after three decades, structured and spread the sport, reaching the current level. On January 15, 2010, ABR became CBRu (Brazilian Rugby Confederation) to suit the structure of the Brazilian sports management (demand of new sports legislation in Brazil) with the emergence of various Rugby federations. Moreover, the choice of Rugby Sevens as an Olympic sport already at the 2016 Rio de Janeiro Olympic Games encouraged such change (CBRU 2013).

Currently, several competitions in the adult, female, youth and university categories are held in the country according to CBRu (2013). The main competitions are Super 10 (First-Division Brazilian Rugby League), the Brazil Cup (Second-Division Brazilian Championship), the Brazilian Seven's Championship, the São Paulo State Championship and the Inner São Paulo State Championship. The South Rugby League, the state of Paraná Championship and state of Rio de Janeiro Championship for adults are also being played. At the moment, fourteen states (Amazonas, Bahia, Distrito Federal, Goiás, Mato Grosso, Mato Grosso do Sul, Minas Gerais, Paraná, Pernambuco, Rio de Janeiro, Rio Grande do Norte, Rio Grande do Sul, Santa Catarina and São Paulo) have Rugby teams, taking part in various categories and of these, seven states have associations. The Brazilian National Rugby Team XV is affiliated to IRB (International Rugby Board), currently ranked among the top 30 teams in the world, according to the world entity ranking.

Regarding issues related to the objectives of this research, from the brief contextualization of both sport modalities in which our characters are inserted, it is important to highlight and clarify regarding the use of psychological assessment tools in sports. It is also necessary to highlight advances in psychology in the sporting context, especially over the past two decades, when considering the effects that social variables have on behavior, observing subject-environment variables and the interaction between them as the basis for the formation and structuring of personality. Thus, it is important to search for psychological assessment tools applied to the specific context of sports, considering these characteristics of the sport environment.

Among the different types of psychological tests aimed at investigating personality, scales and inventories stand out. International studies have shown that such tools are among the most used for personality assessment in collective situations, as they point out important elements to clinical practice (PIOTROWSKI, 2000). Furthermore, personality assessment tests through questionnaires often provide benefits over unstructured tests, since items are empirically selected (MEEHL, 2000).

In search for similar points between existing theories and models about personality, the Five-Factor Model of Personality (CGF) is composed of Neuroticism, Extroversion, Agreeableness, Conscientiousness and Openness to experience factors. The model is also understood as an updated version of the Theory of Traces, and its basic assumption is based on the understanding that people have varied behavioral predispositions to respond in certain situations. In this theory, the probability of a person to behave, feel or think, also called trend, is what would define a trace (PERVIN; JOHN, 2004; HALL; LINDZEY; CAMPBELL, 2000; CLONINGER, 1999).

Researchers of the CGF theory argue that the model factors can be found in virtually all personality tests. It is emphasized that the identifications among such factors is not coincidence, since consistent results have been observed in different studies (COSTA; MCCRAE, 1995; DIGMAN, 1990). Thus, the CGF model could mean a conceptual and empirical progress in the field of personality and seeks to describe essential human domains in a consistent and repeatable manner (HUTZ; NUNES; SILVEIRA; SERRA; ANTON; WIECZOREK, 1998).

The model emerged empirically through analyses of existing personality tests such as the 16PF, the Comrey personality scales, MMPI, the Murray's scale of needs, among others, in which factorial solutions have demonstrated the existence of the same five factors, despite the multiplicity in terms of theoretical foundation. With the growing prestige of the CGF theory, instruments specially designed for personality assessment according to the assumptions of this model began to be applied.

The Neuroticism Factorial Scale (NFS), which assesses one of the five dimensions of the model (HUTZ; NUNES, 2001), followed by Extroversion Factorial Scale (EFS) and Agreeableness Factorial Scale (AFS), both authored by Nunes and Hutz (2007a, 2007b) are among the major scales used for this measure. Subsequently and from the construction of these first scales, the Personality Factorial Inventory (BFP) was developed by Nunes, Hutz and Nunes (2010).

However, although the scales have already been applied in various contexts, this study is justified by the fact that they are scarce in the sporting context and personality instruments adapted to this reality in the Brazilian population are almost inexistent. General scales provide useful information about personality characteristics, but measures specific to the sport situation may provide the personality particularities in the sporting context with greater specificity, since they consider the subject's personality in a specific situation and how subjects respond to the given situation.

According to Gould and Weinberg (2008), until recently, measures of personality trait and state in sport psychology were obtained from general psychological inventories, without specific reference to the sport. However, specific tests provide more reliable and valid measures of the athlete's personality since they take into account the personality and the variations of reactions in sporting environments.

Thus, this study aimed to assess the use of a personality test for the sport context and also to analyze the personality traits shown by professional athletes of different modalities, a Rugby team and a Soccer team.

Overall, 46 high-performance athletes, 21 subjects (45.7%) of a Rugby team consisting of 18 male athletes and only 3 female athletes contributed to the development of the study. The second group consisted of 25 subjects (54.3%) of a Soccer team, composed only of male athletes. The schooling in both groups ranged from elementary school to higher education, with higher proportion of athletes with high school level. Athletes participate in high-performance teams, and each team was from a different city in the inner state of São Paulo. The age of participants ranged from 18 to 35 years, with mean of 22.10, median of 21 and standard deviation of 4.74 for the Rugby group, and 20-36 years, mean of 29.3 years, median of 30 years and standard deviation of 4.72 for the Soccer group.

The psychology test used was the Personality Factorial Inventory, in portuguese "Bateria Fatorial de Personalidade (BFP)" by Nunes, Hutz e Nunes (2010), which is an instrument that objectively assesses personality traits based on the Five-Factor Model of Personality (CGF). It covers factors that make up the CGF theory that includes Neuroticism (NEU), Extroversion (EXT), Agreeableness (AGR), Conscientiousness (CON) and Openness to experience (OPE). The BFP is composed of 126 items that describe feelings, opinions and attitudes. Responses are recorded on a 7-point Likert scale (1-7), according to how much the individual identifies with each sentence. The normative study of the scale included a sample of 6,599 people, mostly university students or high school students from 11 Brazilian states.

Data collections were performed by different applicators in each group of sport modality in varying days, but both performed from April to June 2013. Application scheduling occurred through contact with technicians in charge of athletes, being collected only after prior authorization by signing the Informed Consent Form (ICF). Before application, the participants were informed about the objectives of the research instrument. Subsequently, the BFP instrument was collectively applied. For data analysis, SPSS software version 17.0 was used.

Regarding the objectives already described about the present study, the following information refers to the results obtained from data collection using the Personality Factorial Inventory (BFP) in these groups of athletes. With regard to the overall scale reliability considered from the analysis of the accuracy of 126 items (full scale) in the overall sample composed of both groups of athletes, a Cronbach's alpha coefficient of 0.89 was found. Similar results were also found for the total scale for each modality, obtaining Cronbach alpha coefficient for the Rugby team of 0.91, and for the Soccer team of 0.86. The factors that compose the BFP also showed Cronbach's alpha coefficients, as can be seen in Table 1.

Table 1: Accuracy by the Cronbach's Alpha for the Five Major Factors

FACTOR	Rugby	Soccer	General sample	BFP Manual
Neuroticism	0.91	0.84	0.89	0.89
Extroversion	0.76	0.74	0.74	0.84
Agreeableness	0.75	0.65	0.69	0.85
Conscientiousness	0.80	0.78	0.81	0.83
Openness to experience	0.40	0.67	0.56	0.74

According to Table 1, most Cronbach's alpha coefficients are satisfactory, that is, greater than 0.70, which allows inferring that the test has good accuracy level, and is considered a reliable instrument for measuring the respective construct analyzed in this group. It is noteworthy that the Openness to experience factor showed lower Cronbach's alpha coefficients, requiring data from this factor to be analyzed more carefully, suggesting further studies to verify data consistency for sports teams as regards the openness to new ideas, liberalism, novelty seeking, facets that make up this scale factor.

It was also observed that the Rugby team showed lower levels of internal consistency of the Openness to experience factor, suggesting that there is more measurement error for this population, which may be related to the type of language or contextualization related to issues arising from sports in items that make up this factor in the BFP manual.

According to the authors of the BFP manual, differences related to internal consistency are most noticeable in facets that have items that may involve greater social desirability, in which people show a tendency to respond in a more socially appropriate manner, which can generate a problem of little consistency among responses (NUNES; HUTZ; NUNES, 2010). In addition, it could also be inferred that some items may be considered little applicable to the reality of this group, because it has no items specific to the context, which can generate ambiguous interpretation in relation to that submitted to the scale.

After checking the consistency of data from the application of the BFP to the group of sportsman, the scores of athletes in their specific modalities were analyzed and the normative data of the instrument manual were presented for further comparison. Such findings can be seen in Table 2.

Table 2: Description of the Total Score for the Overall Manual Sample and Sample of this Research in the Sporting Context

FACTOR / FACET	Rugby		Soccer		Overall sample		BFP Manual	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD
NEUROTICISM (NEU)	3.59	0.87	2.90	0.82	3.21	3.21	3.19	1.00
N1. Vulnerability	3.86	1.14	2.96	0.98	3.37	1.14	3.49	1.23
N2. Instability	3.53	1.19	3.00	1.07	3.24	1.15	3.68	1.42
N3. Passivity	4.28	0.98	3.36	1.15	3.78	1.16	3.45	1.24
N4. Depression	2.66	1.05	2.30	1.12	2.46	1.09	2.33	1.11
EXTROVERSION (EXT)	4.31	0.66	4.54	0.79	4.43	0.73	4.34	0.87
E1. Communication Level	4.01	0.85	4.53	1.11	4.29	1.02	4.28	1.28
E2. Pride	3.59	1.15	3.55	1.07	3.57	1.09	3.67	1.07
E3. Dynamism	4.61	0.91	5.00	0.91	4.82	0.92	4.79	1.03
E4. Social interactions	4.98	0.79	5.06	0.95	5.03	0.87	4.82	1.11
AGREEABLENESS (AGR)	4.92	0.62	5.25	0.40	5.10	0.53	5.30	0.75
S1. Agreeableness	5.42	0.73	5.75	0.70	5.60	0.73	5.59	0.93
S2. Pro-sociability	4.88	0.94	5.72	0.57	5.33	0.87	5.59	1.01
S3. Trust in people	4.45	0.99	4.28	0.75	4.36	0.86	4.73	1.01
CONSCIENTIOUSNESS (CON)	4.75	0.58	5.23	0.63	5.01	0.64	4.96	0.82
R1. Competence	4.90	0.70	5.64	0.84	5.30	0.86	5.17	0.93
R2. Wisdom	4.79	0.76	5.21	0.88	5.02	0.85	4.92	1.20
R3. Commitment	4.56	0.78	4.84	0.84	4.71	0.81	4.78	1.07
OPENNESS TO EXPERIENCE (OPE)	4.38	0.52	4.17	0.51	4.26	0.52	4.68	0.72
A1. Openness to ideas	4.01	0.98	4.05	0.86	4.03	0.90	4.58	1.02
A2. Liberalism	4.43	0.89	4.10	0.74	4.25	0.82	4.84	1.01
A3. Search for novelty	4.70	0.79	4.35	0.92	4.50	0.87	4.61	1.03

To study the difference in mean scores of athletes in this test, regarding the respective modalities and in relation to normative data from of the instrument manual, a comparison of means was performed using the Student's t-Test. The results of this analysis are shown in Table 3.

Table 3: Comparison between Means Using the Student's t-Test

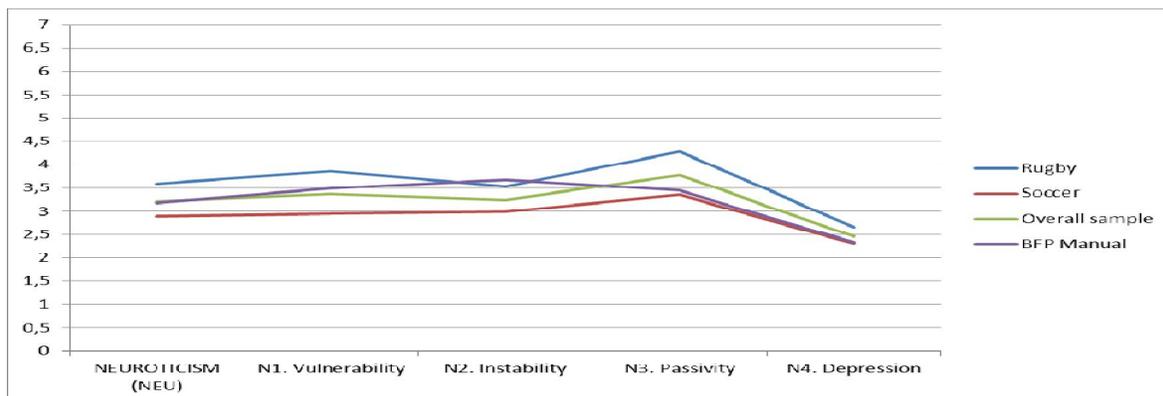
Origin of data	Significant difference of means in factors and facets
Rugby x Soccer	N1, N3, S2, R1, NEU, AGR and CON
Total Sport Sample x BFP Manual	N2, S2, S3, A1, A2, AGR and OPE
Rugby x BFP Manual	N3, S2, A1, A2, NEU, AGR and OPE
Soccer x BFP Manual	N1, N2, S3, R1, A1, A2, REA and OPE

(*) $p < 0.05$ and $t > 2.0$

Table 2 shows that the groups had different mean scores between modalities investigated and also in relation to the BFP samples in factors and facets.

However, it was observed by analyzing the comparison between means (Table 3) that the difference of means was only statistically significant in some factors and facets when comparing sports modalities, or even in relation to the results of team sports compared to sample of subjects who participated in the test standardization.

Regarding Vulnerability to suffering (N1) factor, it was observed that Rugby had higher means in relation to Soccer, and when comparing the mean score in both modalities, while Rugby showed percentile 60 in this facet, Soccer showed percentile 40. Although the instrument manual classifies both percentiles as "within the mean", this difference was statistically significant between modalities. Curve 1 shows the mean scores according to the sample group. These results allow inferring that the group of Rugby athletes demonstrated tends to experience a little more intensity of emotional distress, anxiety, greater difficulty in tolerating frustration caused by non-fulfillment of desires and maladaptive coping responses compared with the group of Soccer athletes.



Curve 1: Comparison of Mean among Scores of the Neuroticism Factor of Teams and the Mean of the Instrument Manual

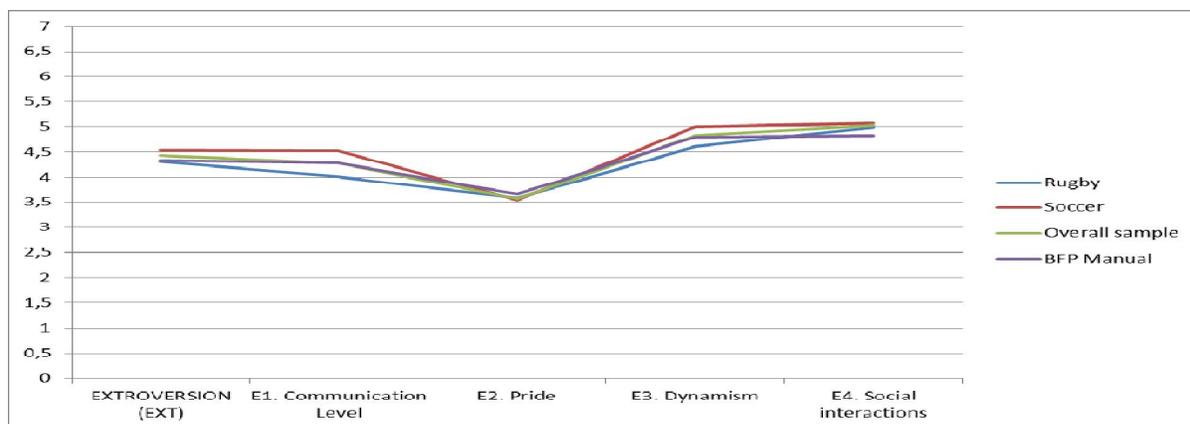
It was also found that Vulnerability to suffering (N1) facet showed a small decrease in the mean score of the group of Soccer athletes compared to the overall sample of the BFP manual. Although the result between manual and this modality only represents a variation of 10 percentile points, it allows inferring that this group of athletes tends to experience a little lower emotional distress intensity. Still in relation to variable N1, it was observed that lowered classification patterns may also indicate greater emotional independence and reduced concern for the opinions of others.

In relation to Emotional Instability factor (N2), it was observed that the group of athletes (both modalities) showed a little lower results in this facet regarding the BFP standardization sample. Results below the mean in this facet indicate people who have few mood variations, who usually do not make decisions impulsively and have high tolerance for frustration. However, it is noteworthy that the difference in percentile was only 10 points and the classification of athletes remains within the level considered "within the mean", therefore denoting greater flexibility, since in some situations the person can demonstrate certain characteristic more intensely and in others not.

Another facet with statistically significant differences between groups was Passivity / Lack of Energy (N3). While Soccer team presented results within the mean, very close to the overall manual sample, Rugby team showed higher results. According to the authors of the BFP manual, higher scores on this facet tend to exhibit behavior of procrastination, with difficulty initiating tasks, which could even show difficulty in maintaining motivation in long or difficult tasks, tending to abandon them before conclusion. The authors also reported that people with high profile need external stimulation to carry out their plans and often refrain from taking decisions even about subjects of their interest. The average percentile of the Rugby team was equal to 70, still considered by the authors within the mean; however, since it is close to a high percentile, data in this facet should be considered with caution.

Still on the Neuroticism factor, it was also found that the Soccer team presented means close of the general manual sample, while the Rugby team had higher mean score, remaining within the mean classification, but near high ranking. According to the authors of the test, people with higher neuroticism levels tend to experience more intense psychological distress, emotional instability and vulnerability, and reported having intense experiences of negative events, giving little emphasis on the positive aspects of facts (NUNES; HUTZ, NUNES, 2010).

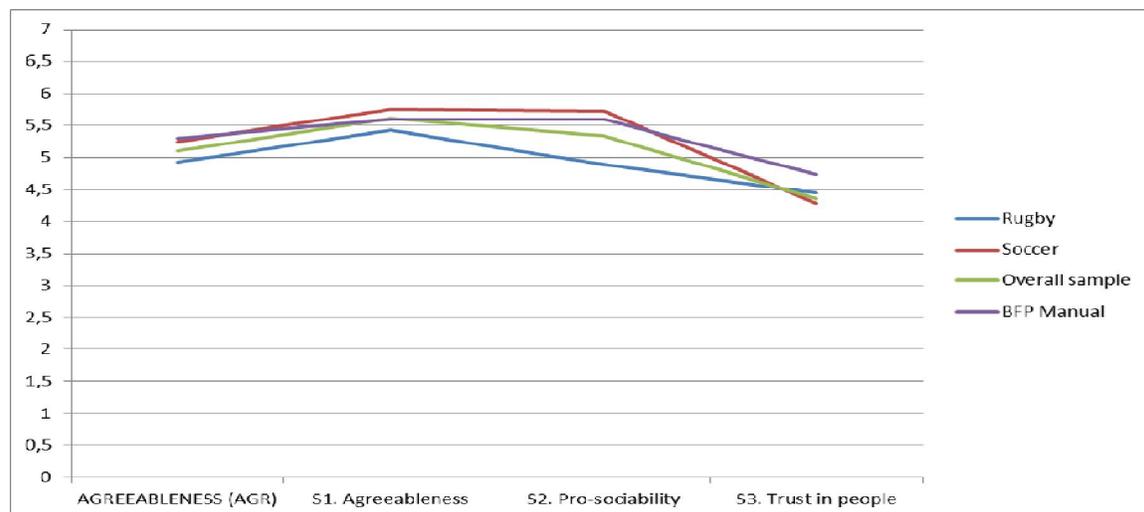
Regarding Extroversion factor and its facets, although some variations of mean between groups and also in relation to the manual sample were observed, no statistically significant differences were found. Such results can corroborate the lack of need to establish specific standards for sport groups, since the results of this particular context did not seem to show peculiarities in relation to the general manual sample. Curve 2 below elucidates the mean scores according to the sampling group.



Curve 2: Comparison of Mean among Scores of the Extroversion Factor of Teams and the Mean of the Instrument Manual

It is noteworthy that this is an unrepresentative sport sample due to the low number of subjects, and that further studies specifically with the Extroversion factor should be performed to verify no need for peculiar rules, considering research in differentiated sports modalities, since the samples in this study, although of different modalities, are still within the same profile when considering that these modalities are collective and with contact among other common characteristics of Rugby and Soccer.

In relation to the Agreeableness factor, statistically significant differences were observed in the Pro-sociability facet (S2), most notably in relation to the Rugby team, either in the difference with the other modality as in relation to the manual sample, which was very lowered, as can be seen in curve 3. According to the BFP manual, people with low scores in pro-sociability facet tend to get involved in situations that may put them or other persons in danger for showing little concern about laws and social rules, which may have a vision that minimizes, ignores or discredits their importance. Individuals with low Pro-sociability scores can be manipulative, strongly acting on other people to do what they want. They may present a hostile pattern of interaction with others, treating them disrespectfully. The Soccer modality showed results very close to the overall mean manual sample.

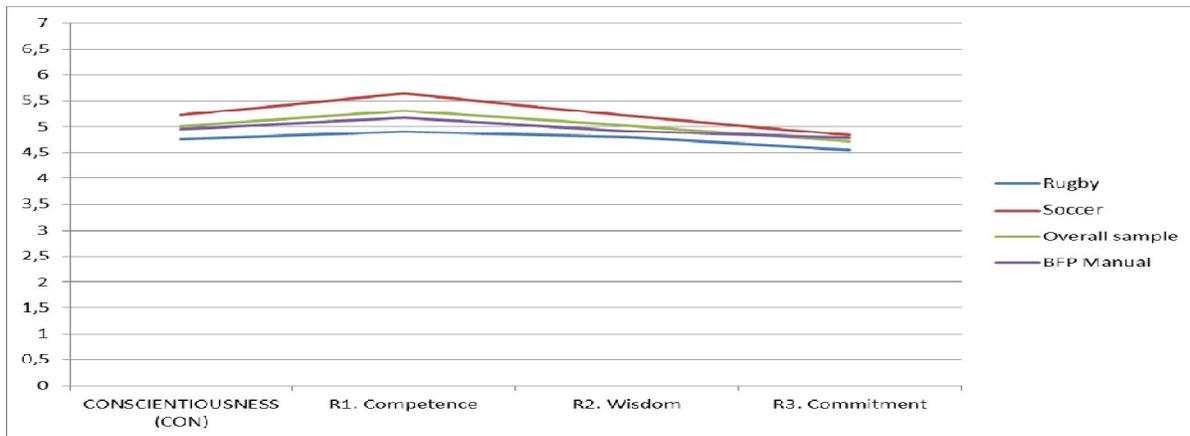


Graph 3: Comparison of Mean among Scores of the Agreeableness Factor of Teams and the Mean of the Instrument Manual

Trust in people facet showed significant differences of mean between Soccer team and the BFP manual sample and similar result was also observed, considering the total sample of the sporting context. According to descriptions of the BFP manual, individuals with lowered scores on this scale that can report a perception that people may try to harm them in different contexts, tend to be more jealous with regard to romantic relationships and show some difficulty in developing intimacy with others. The Rugby team also showed result a little below the mean, but this difference was not statistically significant.

Finally, in relation to the Agreeableness factor, statistically significant differences of means between Rugby and Soccer and the general manual sample and also between the general sport sample and the general BFP manual sample were observed. Due to lowered percentiles between 30 and 35, such results indicated a tendency for individuals to be more hostile with the others, including having a manipulative posture on behalf of their own benefit. As a result, there is a greater tendency to mistrust others. People with low Agreeableness scores report having few friends or significant people. They may show higher consumption of psychoactive substances, as well as break of laws and social rules, recurrent infidelity and other behaviors associated with antisocial disorder when very lowered.

Another data investigated was the Conscientiousness factor in which among its facets, only one related to Competence (R1) showed statistically significant differences of means between Rugby and Soccer, in which the mean of the Ruby team was more lowered in relation to Soccer team and also a significant difference between results of Soccer modality and the rules of the general BFP sample, with higher scores for the Soccer context. Similar levels of significance were observed between Rugby and Soccer, and between the latter and the general sample of the BFP manual for the Conscientiousness factor. Curve 4 shows the mean scores according to the sampling group.

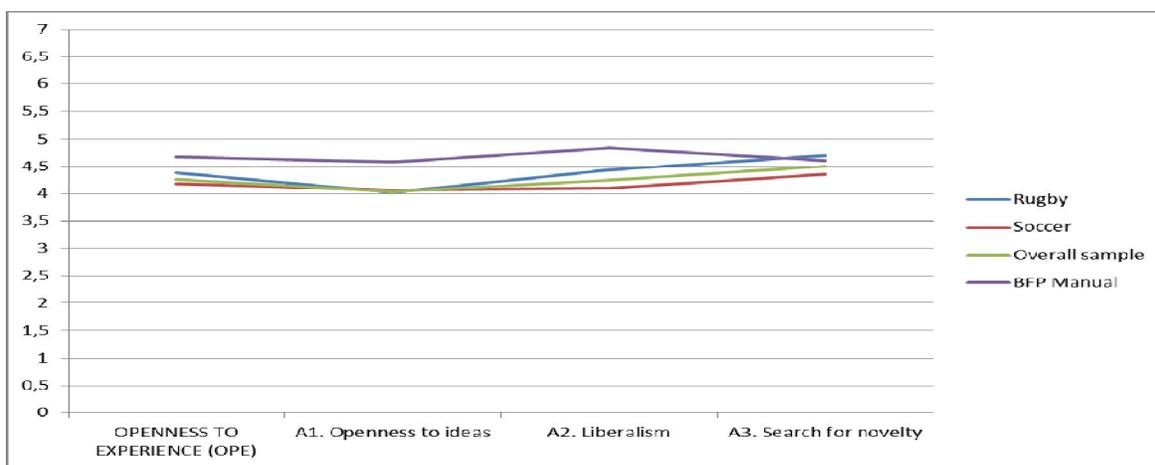


Curve 4: Comparison of Mean among Scores of the Conscientiousness Factor of Teams and the Mean of the Instrument Manual

As can be observed in the BFP manual, Competence facet is related to how people seek to achieve their goals and objectives, and predispositions to make personal sacrifices. This facet also relates to the perception that people have about themselves and their ability to perform challenging and important actions. Thus, it could be inferred that the Soccer team showed a greater tendency to believe in their own potential to perform multiple tasks at the same time, to like complex and challenging activities and to have clarity about their life goals, in relation the group of Rugby team in this sample and in relation to the general BFP sample. It is noteworthy that the Rugby modality still showed a more lowered mean compared to the general BFP sample, but this difference was not statistically significant, but may be an outcome to be investigated more thoroughly. The Conscientiousness factor shows personality traits that relate to motivation to success, perseverance, planning capacity, level of organization and punctuality.

Finally, with respect to Openness to experience factor and its facets, it was observed that both modalities showed no statistically significant differences between their means; however, they showed differences with much lowered results, Rugby with percentile 35 and Soccer with percentile 25, when compared to the general BFP sample.

This may indicate a need for further studies with this factor and its facets within the sporting context, especially analyzing what such content represents when investigated by the items of this factor, since in addition to the fact that the results of mean scores have been lowered, it appears that the accuracy of this subscale shows low reliability and could represent confusion among respondents regarding the items, as already emphasized about the issue of precision results in the Openness to experience factor.



Curve 5: Comparison of Mean among Scores of the Openness to Experience Factor of Teams and the Mean of the Instrument Manual

Anyway, the Openness to experience factor relates to the search for new experiences, and to how individuals are curious, imaginative, creative, and have fun with new ideas and unconventional values. According to the test manual, low ratings in this dimension tend to suggest the behavior of conventional people in their beliefs and attitudes, conservative in their preferences, dogmatic and rigid (COSTA; WIDIGER, 2002; NUNES; HUTZ; NUNES, 2010).

Regarding its facets, both in relation to the Opening to ideas (A1) as for Liberalism (A2), subjects showed means with statistically significant differences that corroborate paragraph previously described on the Opening factor, with means lowered to both modalities in the sporting context in relation to the test manual. According to the authors of the BFP manual, individuals with low scores tend to be little curious to learn new things, to be more conservative and faithful to their artistic tastes and have rigid posture in relation to concepts. Lowered Liberalism (A2) scores may indicate that people do not tend to relativize values and social concepts, being more dogmatic. They usually support the idea that the adopted values should not be changed over time.

These findings may indicate the need for further comparative studies including samples of standardization of instruments in specific groups in the sporting context, as it is observed that there are facets that have different characteristics when the context is changed, and this may relate to the specific traits of athletes as their way of facing challenges, their interaction with people around them, either cooperatively or competitively, and different aspects such as perceived effort, overcoming limitations, among other characteristics that differ athletes from subjects that compose the samples of standardization of instruments, which are generally not composed of athletes and practitioners of high-performance training programs.

In conclusion, considering the objectives of the present study, which were to compare the mean profile of athletes and also to analyze the adaptation of the personality test used for this research applied in the analysis of high-performance athletes in relation to the scale reliability, satisfactory coefficients in the general scale (126 items) were found. Satisfactory levels of accuracy in most factors and facets that make up the scale were also found, indicating that the instrument is reliable for the measurement of the respective construct in the group analyzed. However, it was observed that the Rugby and Soccer teams showed levels of internal consistency in the Openness to experience factor lower than satisfactory, suggesting the need for further studies with items composing this BFP factor within the sporting context.

It was observed that the group of athletes had a mean score close to the BFP manual sample in most factors and their dimensions.

In general, comparing the means of the BFP manual sample with the total sport sample (Rugby + Soccer), Agreeableness and Openness to experience factors were those showing means a little more lowered in the sporting context as well as Emotional instability, Pro-sociality, Trust in people, Openness to ideas and Liberalism facets, also with means considered statistically significant and more lowered than the mean of the BFP manual.

However, there are statistically significant differences when athletes of different modalities were compared, showing higher means for the Rugby team in relation to the Neuroticism factor and its facets, and also higher mean in Trust in people facet, as well as the Openness to experience factor and its facets. Soccer modality had higher means in Extroversion, Agreeableness and Conscientiousness factors with their respective facets when compared with the mean of the BFP manual sample.

The Openness to experience factor and its facets also showed differences in scores when compared with samples of the instrument manual, being a little more lowered in the group of athletes from both modalities in a statistically significant way. According to the instrument manual, low ratings on this dimension tend to suggest behavior of conventional people in their beliefs and attitudes, conservative in their preferences, dogmatic and rigid. However, it was emphasized that the Soccer team had the highest mean in relation to novelty seeking, but this difference showed no considerable level of significance.

In conclusion, these findings propose to indicate the need for further comparative studies including standardization samples in characteristic groups of the sporting context, considering the existence of facets that have different characteristics when the context is changed.

Some differences between the mean profile in the factors and facets of the instrument in relation to the sport modality also suggest greater need for investigation of the sport modality influence, perhaps the positioning of athletes on the field, competition style, among other external variables that may show profile differences. It was also emphasized that psychological assessment is a dynamic process in which the use of psychology tests is only part of the entire evaluation process, and that the choice of the technique to be used is critical to assessment with quality, responsibility and ethics.

References

- CARRAVETTA, E. O jogador de futebol. Técnicas, Treinamento e Rendimento. Porto Alegre: Mercado Aberto, 2001.
- CLONINGER, S.C. *Teorias da Personalidade*. São Paulo: Martins Fontes, 1999.
- CONFEDERAÇÃO BRASILEIRA DE RUGBY. Disponível em: <http://www.brasilrugby.com.br/>. Acesso em: 10 jul 2013.
- COSTA, P. T. JR.; MCCRAE, R. R. Primary traits of Eysenck's P-E-N system: Three and five factor solutions. *Journal of Personality and Social Psychology*, n. 69, p.308-317. 1995.
- COSTA, P. T., JR.; WIDIGER, T. A. Introduction. In P. T. COSTA; T. A. WIDIGER (Eds.), *Personality Disorders and the Five-Factor Model of Personality* (2 ed., p. 3-16). Washington, DC: American Psychological Association, 2002.
- DE LIMA, M. A. As origens do futebol na Inglaterra e no Brasil. *Klepsidra: Revista virtual de historia*, n. 14, p. 5, 2002.
- DEL PRIORE, M.; MELO, V. A. História do esporte no Brasil: do império aos dias atuais. São Paulo: Editora Unesp, 2009.
- DIGMAN, J.M. Personality structure: the emergence of the Five-factor model. *Annual Review of Psychology*, n.41, p.417-440. 1990.
- DUARTE, O. História dos esportes. São Paulo: MAKRON Books, 2000.
- ELIAS, N.; DUNNING, E. A busca da excitação. Lisboa: Difel, 1992.
- GOULD, D.; WEINBERG, R. Fundamentos da psicologia do esporte e do exercício (trad. Cristina Monteiro, 4 ed.) Porto Alegre: Artmed, 2008.
- HALL, C.S., LINDZEY, G., & CAMPBELL, J.B. (2000). *Teorias da Personalidade*. 4 ed. Porto Alegre: Artes Médicas.
- HUTZ, C.S.; NUNES, C.H.; SILVEIRA, A.D.; SERRA, J.; ANTON, M.; WIECZOREK, L.S. O desenvolvimento de marcadores para a avaliação da personalidade no modelo dos cinco grandes fatores. *Psicologia: Reflexão e Crítica*, n.11, p.395-411, 1998.
- HUTZ, C.S.; NUNES, C.H.S.S. Escala fatorial de ajustamento emocional/ neuroticismo - EFN. São Paulo: Casa do Psicólogo, 2001.
- LEONHARDT, L. O Psicólogo auxiliando na qualificação do Treinador: Potencializando Talentos no cotidiano de um clube de futebol. p. 141-154. In RUBIO, K. (org). *Psicologia do esporte aplicada*. 2 ed. São Paulo: Casa do Psicólogo, 2010.
- MCINTOSH, P. C. O desporto na sociedade. Lisboa: Prelo, 1975.
- MEEHL, P. E. The dynamics of "structured" personality tests. *Journal of Clinical Psychology*, n.56, p.367-373, 2000.
- NUNES, C.H.S.S., HUTZ, C.S.; NUNES, M.F.O. Bateria Fatorial de Personalidade – BFP. *Manual*. São Paulo: Casa do Psicólogo, 2010.
- NUNES, C.H.S.S.; HUTZ, C.S. Escala Fatorial de Extroversão (EFEx). São Paulo: Casa do Psicólogo, 2007(a).
- NUNES, C.H.S.S.; HUTZ, C.S. Escala Fatorial de Socialização (EFS). São Paulo: Casa do Psicólogo, 2007(b).
- PERVIN, L.A.; JOHN, O.P. *Personalidade: teoria e pesquisa*. 8 ed. Porto Alegre: Artmed, 2004.
- PIOTROWSKI, C. (2000). How popular is the Personality Assessment Inventory in practices and training. *Psychological Reports*, n.86, p.65-66, 2000.
- RUBIO, K. (org). *Psicologia do esporte aplicada*. 2 ed. São Paulo: Casa do Psicólogo, 2010.
- RUBIO, K. O trajeto da Psicologia do Esporte e a formação de um campo profissional. In: K. RUBIO (org.), *Psicologia do Esporte: Interfaces, pesquisa e intervenção*. São Paulo: Casa do Psicólogo, 2000.