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Psychometric properties of the Child Sports Cohesion Questionnaire to Brazilian Portuguese

Rodrigo de Vasconcellos Pieri[I]

Alberto Filgueiras[II]

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ABSTRACT

Sport cohesion is a dynamic process that influences the tendency of team members to remain together until they achieve a goal. To measure task and social sport cohesion among children, the Child Spots Cohesion Questionnaire was developed by Martin et al. in 2012. The present study aimed to assess the psychometric properties of the Brazilian-adapted version of this instrument. Reliability, validity and factorability were assessed in a sample of 280 children. Reliability was measured by Cronbach's alpha and ranged between 0.80 and 0.87. Convergent validity showed high correlation between the instrument and a visual analogue scale that measured sport cohesion. Latent structure analysis revealed that a bifactor latent structure with a general factor and two independent factors had the best fit of the empirical data. Results support that the Brazilian-adapted version of the Child Spots Cohesion Questionnaire is a good instrument to assess sport cohesion in Brazilian children.

Keywords: Sport Cohesion; Group Dynamics; Psychometrics; Cross-Cultural; Validity.

Propriedades psicométricas do Questionário de Coesão Infantil no Esporte para o português do Brasil

RESUMO

Coesão no esporte é um processo dinâmico que influencia a tendência de membros de um mesmo time em permanecerem unidos até atingirem o seu objetivo. Para mensurar coesão social e de tarefa entre crianças, o Questionário de Coesão Infantil no Esporte foi desenvolvido por Martin et al. em 2012. O presente estudo visou avaliar as propriedades psicométricas da versão adaptada para o Brasil deste instrumento. Fidedignidade, validade e fatorabilidade foram testadas em uma amostra de 280 crianças. A fidedignidade foi medida pelo alfa de Cronbach e variou entre 0,80 e 0,87. A validade convergente mostrou uma alta correlação entre o instrumento e uma escala visual analógica desenvolvida para medir coesão no esporte. A análise de estrutura latente revelou que a estrutura bifatorial com um fator geral e dois fatores

independentes teve melhor ajuste aos dados empíricos. Os resultados apoiam a ideia de que o Questionário de Coesão Infantil no Esporte é um bom instrumento para testar coesão esportiva em crianças brasileiras.

Palavras-chave: Coesão Esportiva; Dinâmica de Grupos; Psicometria; Transcultural; Validade.

Propiedades psicométricas del Cuestionario de Cohesión Deportiva Infantil al Portugués Brasileño

RESUMEN

La cohesión deportiva es un proceso dinámico que influye en la tendencia de los miembros de un equipo a permanecer juntos hasta lograr un objetivo. Para medir la cohesión social y deportiva entre los niños, el Cuestionario de Cohesión Child Spots fue desarrollado por Martin et al., en 2012. El presente estudio tuvo como objetivo evaluar las propiedades psicométricas de la versión adaptada a Brasil de este instrumento. Se evaluó la confiabilidad, validez y factorabilidad en una muestra de 280 niños. La confiabilidad fue medida por el alfa de Cronbach y osciló entre 0,80 y 0,87. La validez convergente mostró una alta correlación entre el instrumento y una escala analógica visual que medía la cohesión deportiva. El análisis de estructura latente reveló que una estructura latente bifactorial con un factor general y dos factores independientes tenía el mejor ajuste de los datos empíricos. Los resultados respaldan que la versión adaptada a Brasil del Cuestionario de Cohesión Deportiva Infantil es un buen instrumento para evaluar la cohesión deportiva en niños brasileños.

Palabras clave: Cohesión Deportiva; Dinámica de Grupo; Psicometría; Transcultural; Validez.

Sports cohesion is defined as a dynamic process that reflects on group members' tendency to be and remain together in order to achieve a specific goal or affective satisfaction. The concept's roots originated long before it became consensus in the scientific literature (Carron, Widmeyer & Brawley, 1985; Martin, Carron, Eys & Loughead, 2013). Cohesion is a psychological construct studied by researchers with experience in different fields of psychology over the last four decades (e.g., Drescher, Burlingame & Fuhriman, 1985; Carron & Hausenblas 1998; Heuze & Fontayne, 2002; Leo, Gonzalez-Ponce, Sanchez-Oliva, Pulido & Garcia-Calvo, 2015). However, the last two decades had a higher concentration of research based on sports rather than other human activities (Donkers, Martin, Paradis & Anderson, 2015; Pescosolido & Saavedra, 2012).

Pescosolido and Saavedra (2012) suggest that sports teams and groups seem to be more influenced by cohesion than other groups. That is thus a more valuable source of information in Sports Sciences if compared with other areas. That is the reason why so many instruments have been developed to assess cohesion in sports groups with different ages and stages of life: *Group Environment Questionnaire* (GEQ) (Carron, Brawley & Widmeyer, 1988); *Physical Activity Group Environment Questionnaire* (PAGEQ) (Estabrooks & Carron, 2000); *Youth Sport Environment Questionnaire*

(YSEQ) (Eys, Loughead, Bray & Carron, 2009); *Child Sport Cohesion Questionnaire* (CSCQ) (Martin, Carron, Eys & Loughead, 2012; Martin et al., 2013).

Group cohesion, as proposed by Carron, Brawley and Widmeyer (1998), is the most adopted model in the context of sports groups because it takes into account individual perspectives (i.e., individual interests towards groups' goals and affective relationships within groups) and group perspectives (i.e., perception of group members of group integration and intersocial relationships). Both individual and collective attraction and affection are central under this perspective (Eys, Martin, Ohlert, Wolf, Van Bussel & Steins, 2015). Thus, the reasons why groups remain together would be both individual and collective (Martin et al., 2013).

Group cohesion shows bidirectional correlation with teams' achievements, regarding sports performance (Eys et al., 2015). Winning leads to higher levels of group cohesion, whereas group cohesion enhances the chances of winning. High levels of cohesion also seem to directly affect the probability of an athlete to remain on the team, as well reduce competition anxiety and increase collective self-efficiency (Eys et al., 2015).

Dimensions of cohesion vary across ages (Bosselut, McLaren, Eys & Heuzé, 2012). Four factors can be identified among adults: Group Integration-Social (GI-S), Group Integration-Task (GI-T), Individual Attractions to the Group-Social (ATG-S), and Individual Attraction to the Group-Task (ATG-T). Among children, the four factors are grouped in two dimensions: social and task cohesion (Martin, Carron, Eys & Loughead, 2011).

In child sports, task cohesion entails the athletes' perception of what is necessary for the group to achieve their goals (Bosselut et al., 2012). On the other hand, social cohesion refers to how important in-group relationships are for an athlete. For example, cohesion is affected when players are friends and meet each other outside practice (Bruner, Boardley & Côté, 2014). Instrument measures to assess sports cohesion among children are useful for practitioners to understand and intervene to improve group performance thus creating a positive practice environment.

The Child Sports Cohesion Questionnaire-Brazil (CSCQ-BR)

The CSCQ-BR was adapted to Brazil by Pieri, Pires, Filgueiras and Oliva (2016) based on the original CSCQ by Martin et al. (2012; 2013). The instrument measures child sports cohesion within a two-dimension framework: task and social cohesion. Although it was recently adapted to the Brazilian culture, the present study focused on semantic adaptation. So far, no study has addressed CSCQ psychometric properties.

The original CSCQ was developed to quantitatively assess sports cohesion among 9 to 12 year-old children through 16 items with a 5-point Likert scale each. Among the items, 7 affirmatives assess social cohesion, as in: "*I invite my teammates to do things with me*", in which respondents need to check the degree of agreement towards each item, ranging from "1-Strongly disagree" to "5-Strongly agree". Regarding the task cohesion factor, 7 items are presented to the respondent, such as: "*My team gives me the chance to improve my skills*". The answering procedure is the same as for the social cohesion factor. Two items designed to understand whether children answered focused on the task or not, such as "*I do not get along with my teammates*", were considered spurious negative. Negative answers to spurious items are actually positive, and *vice-versa*; this procedure is used to detect biased participants (Martin et al., 2012).

There are few studies of the psychometric properties and cross-cultural adaptation of the CSCQ, probably because it is a novel instrument. According to Filgueiras et al. (2015), cross-cultural adaptations of instruments are fundamental to the advance of international research for it allows researchers to assess the same construct with the same measurement system in other contexts. Nevertheless, although there are cross-cultural adaptations for other sports cohesion instruments, such as the GEQ (Carron et al., 1985; 1998; Carron & Brawley, 2012; Dion, 2000; Donkers et al., 2015; Dunlop, Falk & Beauchamp, 2012; Filho, Dobersek, Gershgoren, Becker & Tenenbaum, 2014; Heuzé & Fontayne, 2002; Iturbide, Elosua & Yanes, 2010; Ohlert, Kleinknecht & Kleinert, 2015), measures that respect children-related specificities of cohesion are rare in the literature (Carron & Brawley, 2012; Eys, Carron, Bray & Brawley, 2007; Eys et al., 2009; Martin et al., 2012; 2013). Carron and Brawley (2012) highlight the importance of different measures to assess sports cohesion, since evidence suggests that it is an age-dependent construct.

Even though GEQ has a Spanish-adapted version (Iturbide et al., 2010; Leo et al., 2015) and a Brazilian-adapted version (Nascimento, Vieira, Rosado & Serpa, 2012), there had been no Brazilian-adapted instruments to assess sports cohesion among children until Pieri et al.'s (2016) first study. According to Borsa, Damásio and Bandeira (2012), the cross-cultural adaption of an instrument allows cultural comparisons. However, adaptations must consider several aspects, such as linguistics, cultural environment, construct conceptualization and possible demographic variables that may affect results. In order to respect all the variables that directly or indirectly influence cross-cultural adaptations, four basic steps are recommended by the International Test Commission - ITC (2005) and Borsa et al. (2012): (1) translation to target language by two independent translators, (2) synthesis of translated versions, (3) judge or expert assessment of the adaptation, (4) back-translation by a native speaker and discussion of the results with the original author. After these four steps, a final version is produced.

Pieri et al. (2016) adopted the above-mentioned procedure and used the Content Validity Coefficient (CVC) to measure the level of adequacy of items as well as the agreement of five practitioners towards the quality of cross-cultural adaptation of the final version of the CSCQ to Brazil. They found that items Task 2 (i.e., "*We all have the same beliefs.*") and Social 3 (i.e., "*We get together with each other a lot.*") presented CVC below the 0.80 criteria (Filgueiras et al., 2015). This means that, regarding cross-cultural adaptation, those items lack the ability to be completely understood by children within 9-to-12 years of age, according to practitioners. Nonetheless, the cross-cultural adaptation to Brazil was considered a success (Pieri et al., 2016).

Although Pieri et al. (2016) succeeded to adapt the CSCQ to Brazil, the psychometric properties were not assessed. An important part of test adaptation to use on psychological assessment is validation through psychometric analyses (ITC, 2005). The comparison between original psychometric properties and its adapted version is essential to ensure the success of an adaptation. For example, Kashani and Gholizade (2015) provided evidence of adequate cross-cultural adaptation, because reliability (measured by Cronbach's alpha), inter-temporal validity (measured by intra-class correlation), and factorial validity (assessed by Confirmatory Factor Analysis) showed similar results to the original instrument (Martin et al., 2012; 2013), even though there were no statistical measures for temporal stability in the original studies.

In fact, the original version of the CSCQ (Martin et al., 2013) has very interesting psychometric properties. Regarding reliability, Crobach's alpha of the 7-item task cohesion subscale was 0.90, the same value of the social cohesion subscale's alpha. Convergent validity showed moderate correlation between satisfaction, self-efficacy, and social cohesion, whereas task cohesion showed moderate correlation with satisfaction and high correlation with self-efficacy. Divergent validity showed moderate

negative correlation of both task and social cohesion with somatic and cognitive anxiety, which means that the higher the cohesion (either social or task), the lower the anxiety (either cognitive or somatic).

Regarding known-group differences validity, children who practiced sports within the same group (i.e., the same teammates) for 2 years showed higher task and social cohesion when compared to those who were in the same group for 1 year only. Additionally, children who took part in individual sports showed less group cohesion when compared to those who practiced collective sports (Martin et al., 2013).

One major result of Martin et al.'s study (2013) was factorial validity. They tested the model of two correlated factors, task and social cohesion, with 7 items per subscale. Results showed fit indexes (Comparative Fit Index [CFI] and Tucker-and-Lewis Index [TLI]) above 0.90, and error indexes (Root Mean Square Error Approximation [RMSEA] and Standardized Root Mean Square Residual [SRMR]) below 0.10, which suggests good fit of the model to the empirical data. Inter-factor correlation was 0.59, which reveals moderate-to-high correlation between factors.

Based on Martin et al.'s (2012; 2013) findings, instruments cross-culturally adapted must show similar psychometric properties. The objective of the present study is to assess the psychometric properties of the Brazilian-adapted version of the CSCQ (Pieri et al., 2016) in a Brazilian sample and compare the obtained results to the findings of Martin et al. (2013).

Methods

Participants

The present study recruited 280 children (70% boys) based on Pasquali's (1999) suggestion of, at least, 10 participants for each factor analysis. Because the present study intended to conduct Exploratory and Confirmatory Factor Analysis (EFA and CFA; respectively), then the rule of 10 participants was adopted for both analyses. Mean age of the sample was 10.59 years old (Standard Deviation [S.D.]=1.07). Children from seven types of sports participated (football=37.2%; indoor football=27.2%; volleyball=11.4%; basketball=6.4%; rhythm gymnastics=6.4%; rugby=6.4%; and baseball=5.0%).

Inclusion criteria was: (i) children must have ages between 9 and 12 years-old, (ii) they all needed to practice a group sports, and (iii) to be engaged in the same group for at least three months. That would be because, according to Nascimento Jr. et al. (2012), this is the least possible period needed to develop group cohesion. Exclusion criteria were: (i) children from individual sports, (ii) children with less than three months of practice in the same group, and (iii) children whose parents did not sign the Term of Consent.

Procedure

The first step of the present study was to achieve approval of the Rio de Janeiro State University Ethical Committee. After the first step, the first author recruited participants through personal and professional connections, and social media. Colleagues and practitioners from other institutions helped to collect paper-and-pencil data. After the participants' parents signed the Term of Consent, children filled a simple demographic form inquiring type of sports, time of practice, age, and sex. Then, the Brazilian version of the CSCQ (CSCQ-BR) was filled by participants with a Visual Analogic Scale (VAS) ranging from 0 to 10 centimeters with five questions regarding cohesion of the group the child was part of. The five questions of the VAS were: "1. How much do you like your teammates?", "2. How much do you support your teammates?", "3. How much do you consider your teammates your true friends?", "4. How much do

you feel included in your team?", "5. How much joy do you feel for being part of this team?". Answers were measured with a ruler and compass in centimeters by the same person (the first author) and were summed to generate a single VAS score.

Instruments
Term of Consent: A consent form explaining study's objectives and purposes. The form was delivered to parents and they had to sign it after reading.

Demographic questionnaire: Questionnaire used to collect information on sex, age, type of sport, and time of practice.

Cohesion Visual Analogic Scale (VAS): A five-question instrument using VAS to answer from 0 to 10 centimeters about how much engaged in the group the participant was. Answers for each question were summed to generate a single VAS score that ranges from 0 to 50 centimeters.

Child Sports Cohesion Questionnaire-Brazil (CSCQ-BR): A 16-item questionnaire that assesses sports cohesion among children. It is divided in 2 subscales – task and cohesion – with 7 items each. The instrument has another 2 items (spurious scale) to assess whether respondents are paying attention to questionnaire completion. Answers are provided in a 5-point Likert-type scale ranging from "1-Strongly disagree" to "5-Strongly agree".

Statistical Analyses
Average (X) and Standard Deviation (S.D.) were calculated to provide descriptive statistics for task cohesion, social cohesion, and VAS. Level of association between VAS and CSCQ-BR total score was assessed by Spearman's correlation as a measure of construct validity. All descriptive analyses were performed based on the best model found in the CFA presented below. Reliability of task and cohesion subscales were measured by Cronbach's alpha and the criteria adopted was $\alpha > .70$ (Pasquali, 1995; Formiga, Duarte, Neves, Machado & Machado, 2015). Factorial validity was performed in three steps. First, participants were randomly divided in two samples using the sample division tool of the adopted *software*. Secondly, Exploratory Factor Analysis (EFA) was conducted using the polychoric correlation matrix, the Parallel Analysis method for factor extraction, the Unweighted Least Squares as retention method and Direct Oblimin rotation (Formiga, Fleury & Souza, 2014; Leal & Albertin, 2015).

Thirdly and finally, CFA indexes were calculated based on comparative, incremental, parsimony, and error indexes as suggested by Formiga et al. (2015): the Incremental Fit Index (IFI), the Parsimony Comparative Fit Index (PCFI), and TLI should present values above 0.90, whereas RMSEA should be below 0.10. The Aikake Incremental Criterion (AIC) and chi-square divided by degree of freedom (CMIN/DF) were also used to choose the best model among tested models: the lower the value, the better the model. Additionally, the p-value was adopted to compare the empirical model to the null-hypothesis. Even though the p-value is expected to present values below 0.05 (significant) due to high variability of responses (Leal & Albertini, 2015), in rare cases it is possible to reach non-significant results. That attests the adequacy of the tested model with the empirical data (Formiga et al., 2014). All analyses were performed using R-*software* and its respective plugins.

Results

Task cohesion items showed arithmetic mean of 4.04 (S.D.=.89), social cohesion had a mean of 3.84 (S.D.=.94), and VAS had a mean score of 40.51 (S.D.=9.07).

To measure convergent validity, correlation between task cohesion and VAS was *r*=.89, and social cohesion and VAS were *r*=.95. Reliability of task cohesion was acceptable (α=.87), whereas social cohesion also showed adequate internal consistency (α=.80). Correlation between task and social cohesion was *r*=.31.

EFA presented two factors as expected. Kayser-Meyer-Olkin test (KMO) was 0.831 and Bartlett's sphericity test was 488, with 91 degrees of freedom and p-value below *p*=.001, which suggests adequacy of the sample size and variance. Although results seemed to be as expected, item 7 (equivalent to item Social-3 in Martin et al., 2013 and Kashani & Gholizade, 2015) loaded in the task factor rather than the social cohesion dimension. Also, items 4, 8, and 13 (equivalent to Social 1, 2 and 7 in Martin et al., 2013 and Kashani & Gholizade, 2015) presented cross-loading, even though their factor loading was higher in the social factor when compared to the task dimension. CSCQ-BR should consequently have 8 items on the task cohesion factor, whereas the social cohesion dimension only should have 6 items. The complete factor loadings table, with total variance explained by each factor and Cronbach's alpha of each dimension, is presented in Table 1.

Table 1. Factor loadings of the EFA solution with two factors, total variance explained by each dimension in percentage, and Cronbach's alpha of each factor

Item-Order of presentation	Factor 1 Task	Factor 2 Social
Task1-CSCQ1	0.507	
Task2-CSCQ3	0.401	
Task3-CSCQ5	0.743	
Social3-CSCQ7	0.414	
Task4-CSCQ10	0.737	
Task5-CSCQ14	0.581	
Task6-CSCQ15	0.706	
Task7-CSCQ16	0.589	
Social1-CSCQ2		0.500
Social2-CSCQ4	0.452	0.530
Social4-CSCQ8	0.441	0.805
Social5-CSCQ9		0.840
Social6-CSCQ11		0.544
Social7-CSCQ13	0.488	0.513
Percentage of Ex-plained Variance	43.8%	9.7%
Cronbach's alpha	0.87	0.80

CFA was performed using four different models: (i) Martin et al.'s (2013) model with item *Social-3* (item 7 in presentation order: CSCQ7) in the social cohesion factor, (ii) a one-level model with the two correlated factors with item *Social-3* among task cohesion items, (iii) a hierarchical model, and (iv) a bifactor model. It is important to remember that the CFA was performed with a different sample from the EFA (they were randomly divided by the *software* during factor analyses). Table 2 depicts TLI, IFI, PCFI, RMSEA, AIC, CMIN/DF, and p-value for the 4 tested models.

Table 2. CFA indexes and coefficients for the tested models

Models	TLI	IFI	PCFI	RMSEA	AIC	CMIN/DF	p-value
Martin et al. (2013)	.59	.64	.54	.10	283.29	1.65	p<.01
Two correlated factors	.59	.67	.55	.10	275.44	1.63	p<.01
Hierarchical	.89	.89	.62	.07	233.80	1.81	p<.05
Bifactor	.97	.92	.72	.05	208.06	1.32	p=.016

Results suggested the bifactor as the best possible solution to explain the variance of the other half of total sample. In fact, this model was non-significant. Thus, there is not enough evidence to distinguish empirical data from the hypothesized model. The bifactor model was also the only to show TLI and IFI above the criteria of 0.90. This model, alongside the hierarchical model, had RMSEA below 0.10, whereas no models showed PCFI above 0.90. Figure presents standardized regression estimates for the bifactor model.

Bifactor model entails two non-related factors and a general factor not linked to the first two dimensions. Interestingly, the item that showed highest association according to estimates with task cohesion factor was CSCQ7 (equivalent to item Social-3 in Martin et al., 2013 and Kashani & Gholizade, 2015), whereas the item with the lowest estimate in comparison with task cohesion was CSCQ5 (equivalent to Task-3 in Martin et al., 2013 and Kashani & Gholizade, 2015). Regarding social cohesion, the item with the highest estimate of association with the factor was CSCQ9 (equivalent to item Social-5 in Martin et al., 2013 and Kashani & Gholizade, 2015), whereas the lowest regression estimate was between the social cohesion factor and item CSCQ8 (equivalent to item Social-4 in Martin et al., 2013 and Kashani & Gholizade, 2015).

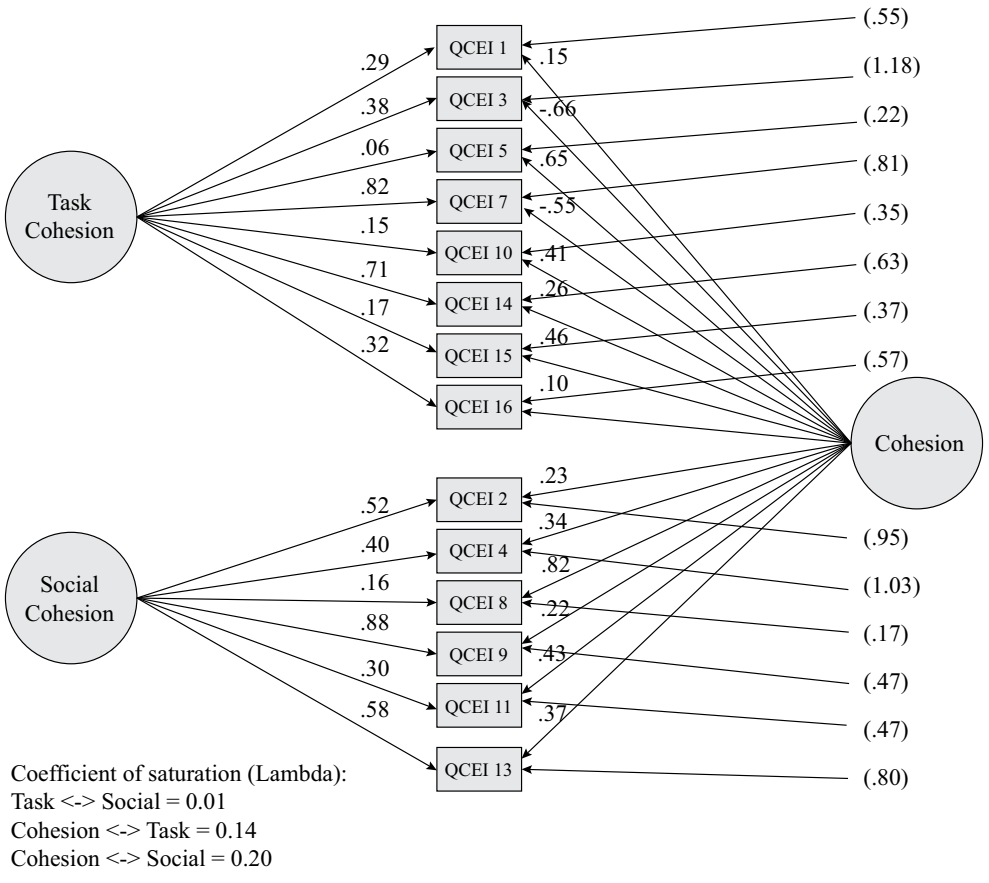

Figure. CFA factor-loadings for the Bifactor model, which is the best model to explain Brazilian empirical data of the CSCQ-BR

A general factor appeared to be pivotal to explain variance beyond task and social cohesion among Brazilian children. This general factor had the highest association with item CSCQ8. On the other hand, three items in the task cohesion factor showed negative estimates. They have, therefore, an inverse influence on the general factor, even though they were positive toward their respective dimension items – CSCQ3 (Task-2), CSCQ7 (Social-3), and CSCQ14 (Task-5). The level of covariation as measured by regression estimates (λ) between factors showed that social and task cohesion did not covariate (λ=.01). The same occurred with the general factor and task cohesion (λ=.14) as well as with the general factor and social cohesion (λ=.20), although the presence of a general factor is able to explain the loss of association between social and task cohesion within this model.

Discussion

Results yielded by the present research showed high correlations between task cohesion and a VAS to assess cohesion, as well as social cohesion and the same psychophysics measure. These findings were expected because CSCQ tend to show significant association in convergent validity studies (Martin et al., 2012; 2013; Kashani & Ghozilade, 2015). Reliability was also high in both dimensions, although it was lower than in other studies (Martin et al., 2012; 2013). Internal consistency when measured by Cronbach's alpha is influenced by sample size, number of items, and variance of items (Formiga et al., 2015). Other results such as KMO and Bartlett's test suggest that sample size is adequate at least to perform EFA. So, number of items and variance seem the most possible explanation to lower alphas. In fact, due to EFA results, the number of items in social cohesion was reduced from 7 to 6 items, whereas task cohesion increased from 7 to 8. Therefore, the difference in Cronbach's alpha (Δα=.07) may be explained by the differences in the number of items.

The EFA brought to focus a distinct latent structure when compared to the original (Martin et al., 2013) and the Persian (Kashani & Ghozilade, 2015) versions. Because data is ordinal (i.e., collected by a 5-point Likert-type scale) and factors are moderately correlated, which entails an obliquus rotation (Formiga et al., 2015; Leal & Albertini, 2015), studies from both simulated and empirical data suggests Parallel Analysis as number of factors extraction method and Unweighted Least Squares as retention method. The EFA was not done before in CSCQ studies, because other researchers opted to test directly the correlated task and social cohesion model using CFA. In fact, all studies done before this one showed high fit of empirical data to the model in the CFA but significant differences when the null-hypothesis was tested, which is common for large samples (Formiga et al., 2015; Leal & Albertini, 2015; Martin et al., 2012; 2013). Deeper studies of the latent structure of the CSCQ were probably not done before because of this phenomenon. The results of the present Brazilian study show that item CSCQ7 (i.e., "We get together with each other a lot") actually loaded in the task cohesion factor rather than in the social cohesion one. That does not corroborate previous factorial organization (Martin et al., 2012; 2013; Kashani & Gholizade, 2015). Two findings probably need to be taken into account to understand why this item loaded differently: (i) possible general factor influence in the Brazilian sample and (ii) cultural differences in sports practices.

The first variable that needs to be considered is the presence of a general factor to explain variance in the present study's empirical data. First, the EFA revealed cross-loading for three other items in the social cohesion factor (i.e., items 4, 8 and 13); then, the CFA showed a non-significant bifactor model that was able to explain variance of empirical data better than other models. Altogether, those findings showed that, at least in Brazil, children tend to see cohesion as a single general

construct, rather than divided into two factors. However, they also understand that sometimes there are differences between the cohesion demanded to have success on a task (e.g., game or competition), and the cohesion related to social activities other than the aimed task.

The hypothesis of the general factor in Brazil leads to a second hypothesis: the cultural context of sports practices. Martin et al. (2012) highlight that children engage in sports in their own schools. Thus, children tend to be friends outside the sports environment. The same explanation appears to be truth in Iran, according to Kashani and Gholizade (2015). Carron and Brawley (2012) depict the fact that sports initiation tends to happen in school, so practice of group sports is shared by classmates who become teammates.

The cultural context of Brazil is different. Pieri et al. (2016) depicts the importance of the club in the life of young Brazilian athletes. The main institutions involved in sports initiation and competition among athletes in younger ages are clubs, whereas schools only take advantage of already trained athletes to compete in small and non-relevant competitions. The most important tournaments in Brazil are led by clubs with children from different schools. In fact, it is rare to find children who attend the same classroom in the same team (Pieri et al., 2016). In this distinct reality, it may be difficult for the child to see his/her teammates as friends outside sport environment. Probably due to this cultural aspect of sports activities general cohesion makes more sense to explain children variance of response rather than the separation of task and social cohesion. It is almost as if all things related to sports lead to task cohesion.

Although differences between CSCQ-BR (Pieri et al., 2016) and its original (Martin et al., 2013) and Persian-adapted versions (Kashani & Gholizade, 2015) are clear, all in all, the adaptation seems to be successful. Reliability, correlation between factors, convergent validity, and bidimensionality were found in the present study, which corroborates previous literature (Martin et al., 2012; 2013; Kashani & Ghozilade, 2015). Cultural differences are common in test adaptations (ITC, 2005). Those differences should be depicted by the scientific literature in order to provide practitioners with enough information regarding the procedures to properly measure a psychological construct (Borsa et al., 2012; Filgueiras et al., 2015). The specificity of the Brazilian sports context towards group cohesion should be taken into account whenever a researcher uses CSCQ-BR. Future cross-cultural studies can further explain why latent structure is different and consider aspects of the environmental and individual differences on sports cohesion.

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Addresses:

Rodrigo de Vasconcellos Pieri
rodrigo.pieri@gmail.com

Alberto Filgueiras
albertofilgueiras@gmail.com

I. Universidade Santa Úrsula. Rio de Janeiro. State of Rio de Janeiro. Brazil.
https://orcid.org/0000-0001-6615-4481

II. Universidade do Estado do Rio de Janeiro (UERJ). Rio de Janeiro. State of Rio de Janeiro. Brazil.
https://orcid.org/0000-0002-6668-0606