# TRANSLATION, ADAPTATION, AND EVIDENCE OF CONTENT VALIDITY AND INTERNAL STRUCTURE OF THE BRAZILIAN VERSION OF THE CONTEST ORIENTATION SCALE

# TRADUÇÃO, ADAPTAÇÃO E EVIDÊNCIAS DE VALIDADE DE CONTEÚDO E DE ESTRUTURA INTERNA DA VERSÃO BRASILEIRA DA CONTEST ORIENTATION SCALE

Gabriel Henrique Treter Gonçalves<sup>1</sup>, Roberto Tierling Klering<sup>2</sup>, Hannah Aires<sup>3</sup>, Marcos Alencar Abaide Balbinotti<sup>4</sup>, and Carlos Adelar Abaide Balbinotti<sup>3</sup>

<sup>1</sup> Santa Catarina State University, Florianópolis-SC, Brazil.
<sup>2</sup> Federal Institute of Education, Science and Technology Sul-rio-grandense, Sapucaia do Sul-RS, Brazil.
<sup>3</sup> Federal University of Rio Grande do Sul, Porto Alegre-RS, Brazil.
<sup>4</sup> University of Québec à Trois-Rivières, Trois-Rivières-QC, Canada.

#### **RESUMO**

O objetivo do estudo foi traduzir, adaptar e apresentar as primeiras evidências de validade de conteúdo e de estrutura interna da versão brasileira da Contest Orientation Scale. Para tanto, foram realizados três estudos. No primeiro estudo, a tradução dos itens da escala e adaptação para o contexto esportivo brasileiro, considerando aspectos culturais e teóricos, foi realizada por quatro juízes, fluentes em ambos os idiomas (inglês e português). No segundo estudo, foi realizada a validação de conteúdo da versão traduzida. Para tanto, três juízes realizaram a avaliação da Clareza de Linguagem (CVCt<sub>CL</sub> = 0,90), Relevância Teórica (CVCt<sub>RT</sub> = 0,91) e Dimensionalidade Teórica ( $K_{Total}$  = 0,71). Os resultados variaram de bons a satisfatórios. No terceiro estudo, a escala foi aplicada a 188 atletas de ambos os sexos, com idade média de 30,6 anos. Realizou-se uma análise fatorial semi-confirmatória, que apresentou uma solução fatorial limpa, com ajuste variando de razoável a satisfatório e índices de fidedignidade satisfatórios ( $\alpha$  = 0,744). Conclui-se que a versão brasileira da escala apresenta índices favoráveis à sua aplicação na avaliação das orientações à disputa no esporte.

Palavras-chave: Competição. Esporte. Pedagogia.

#### **ABSTRACT**

This study aimed to translate, adapt, and present the first evidence of content validity and internal structure of the Brazilian version of the Contest Orientation Scale. To this end, three studies were conducted. The first study was the translation of the items of the scale and adaptation to the Brazilian sports context, considering cultural and theoretical aspects by four judges, fluent in both languages (English and Portuguese). The second study was the content validation of the translated version. To this end, three judges evaluated Language Clarity ( $CVCt_{LC}=0.90$ ), Theoretical Relevance ( $CVCt_{TR}=0.91$ ), and Theoretical Dimensionality ( $K_{Total}=0.71$ ). The results ranged from good to satisfactory. The third study applied the scale to 188 athletes of both sexes, with a mean age of 30.6 years. A semi-confirmatory factor analysis was performed, which presented a clean factorial solution, with adjustment ranging from reasonable to satisfactory and satisfactory reliability indices ( $\alpha=0.744$ ). In conclusion, the Brazilian version of the scale presents indices favorable to its application to evaluate the orientations to the dispute in the sport.

Keywords: Competition. Sport. Pedagogy.

## Introduction

The competitive process<sup>1</sup> has been studied, over the last decades, from four consecutive and related stages, namely: 1) Objective Competitive Situation, referring to the formatting of the competition composed of its rules and goal structures; 2) Subjective Competitive Situation, referring to the perception, acceptance, and evaluation of the Objective Competitive Situation by the competitor; 3) Responses (to competition), referring to what comes from (objective and subjective) competitive situations; and 4) Consequences (of responses to competition), referring to the results of interactions between (objective and subjective) competitive situations and responses to competition. Both Martens<sup>1</sup> and other authors<sup>2-4</sup> mentioned practical aspects related to these stages.

In the practical field, the Objective Competitive Situation has been rethought by sport managers of several sports federations, which have adopted new dispute systems, especially



Page 2 of 14 Gonçalves et al.

when aimed at children and adolescents<sup>5</sup>. Some studies have been developed, especially to analyze and discuss the competitive regulations for this public<sup>6,7</sup>. Others analyzed the perception of coaches regarding children's and youth competitions<sup>4,5,8</sup>. Regarding the Subjective Competitive Situation, it can be influenced by several factors, such as: the perception of ability; the motivation; and the importance of the competitive situation. In the Brazilian context, Balbinotti et al.<sup>2</sup> developed the Balbinotti Scale of Reasons for Competitiveness in Sports (*Escala Balbinotti de Motivos à Competitividade no Esporte* – EBMCE-18), which evaluates three orientations to competitiveness (Victory Orientation, Performance Orientation, and Status Orientation). These orientations may be related to the way in which the individual perceives himself in the competitive situation. Although it is a valid and reliable scale, the EBMCE-18<sup>2</sup> does not evaluate how the athlete (competitor) interprets the competitive situation. In the North American context, Shields and Bredemeier<sup>9,10</sup> focused precisely on the theme, considering two possible ways of interpreting disputes, based on conceptual metaphors, namely: Contest-is-War and Contest-is-Partnership.

Regarding Responses to competition, they can be exemplified by competitive stress and stressing negative emotions (e.g., anxiety)<sup>11</sup>, as well as by the levels of motivation for and resulting from the competition<sup>3</sup>. It is understood that, for example, an Objective Competitive Situation inadequate to the competitors' capabilities could generate negative responses, such as demotivation. Whereas a more adequate Objective Competitive Situation could generate positive responses, such as a sense of competence, contributing to selfdetermined behavior. Finally, the Consequences of responses to competition can be positive, such as improvement in physical and mental health indices or better performance. They can also be negative, such as injuries, burnout syndrome, and poor performance. For example, an athlete is placed in a situation in which physical and psychological discomfort is generated, interprets the competition as a context of war, and the response to the competitive situation is anxiety. The Consequences of response to competition resulting from the interaction between (objective and subjective) competitive situations and the Response to competition may be the reduction in sports performance. This, of course, was a hypothetical situation, simply to demonstrate the interaction between the different stages of the entire competitive process proposed by Martens<sup>1</sup>.

This study will focus precisely and solely on the second stage of the competitive process – the Subjective Competitive Situation –, considering the contributions of David Shields, Brenda Bredemeier, and Christopher Funk<sup>9,10,12,13,14,15</sup>, regarding the evaluation of how the competitor interprets the competitive context in sport. Finally, this study aimed to translate, adapt, and present the first evidence of content validity and internal structure of the Brazilian version of the Contest Orientation Scale<sup>12</sup>. The importance of evaluating with valid and reliable instruments is highlighted, considering and respecting the culture in which the athlete is inserted, as part of the translation and adaptation process.

## **Theoretical Framework**

The theoretical framework of this article is committed to approaching sports competition from two metaphorical conceptions developed by Shields and Bredemeier<sup>10</sup>. Although the authors argue that one or more metaphorical conceptions work together to provide a greater and broader understanding of a subject at hand, they focus on two conceptual metaphors to explain two of the main scenarios in which sports competition is currently viewed: the War Scenario and the Partnership Scenario.

However, before dealing with the metaphorical scenarios for sports competition, it is important to explain the reason for the use of metaphors. For the mentioned authors<sup>10</sup>, in

various spheres of life, humanity uses conceptual and linguistic metaphors to address certain subjects, such as, for example, love, which can be portrayed in a context of a nutrient or as a fire (e.g. "She is starved for affection"; or "I'm burning with love.") In sports, it is the same, but here the authors bring metaphors related to war and partnership that refer to the etymology of the word "compete." For Shields and Funk<sup>14</sup>, the term originates from Latin, meaning "to strive with" (Partnership Scenario), not "strive against" (War Scenario), even though the latter is apparently dominant in today's society.

In the case of the War Scenario, the main goal to be achieved is to demonstrate superiority over the opponent. Satisfaction is based on extrinsic rewards, obtained at the expense of opponents. Some examples cited by the authors of this metaphorical conception of competition are: "They have a lot of weapons," "She's a warrior," "They're still very much alive," and "They're marching down the field" 10. In this context, the coach is the "general," the game plan is the "strategy," and the players or their skills/capabilities are the "weapons." With this, the winner is understood as the only one to benefit from the confrontation.

Competition, however, understood as a Partnership Scenario is interpreted in the opposite way. In this sense, competitors seek performance excellence, seeking to overcome the challenge generated by their opponent. Pleasure is found in the effort to overcome one's own limits, generating benefits for both competitors, regardless of the result<sup>10</sup>. Here the metaphorical examples brought up are: "The teams brought out the best in each other," "It is a shame someone had to lose this game," "They turned the defeat into victory," "They all had fun," and "The teams swayed back and forth like dancers caught in the rhythm of the game." This scenario helps to illustrate the vision of a competition understood as a relationship in which all parties benefit from the sporting encounter.

Thus, although these are two views situated at opposite poles on the conception of what a sports competition is (see Chart 1), it shows how sport can be interpreted, conducted, and performed in different ways, not fitting only one or another vision, but a whole range of possibilities between these two conceptions, showing, even, contradictions between some actions and others on the part of the same competitor.

Page 4 of 14 Gonçalves et al.

Metaphorical Concept	Partnership	Battle/War	
Ohioatinas	Learning and mastery	Domination and conquest	
Objectives	Pursuit of personal best	Pursuit of superiority	
	Love for the game	Use of the game to win something	
Motivations	Joy of accomplishment	Be thrilled at the expense of the opponent	
Understanding of Opponent	Partner and Enabler	Enemy and Obstacle	
Understanding of Rules	Imperfect to lead to justice and well-being Partially to		
Understanding of Referee	Facilitators	Adversary	
Playing and Winning	Focus is on process	Focus is on outcome	
Emotions	Predominance of positive emotions	Predominance of negative emotions	
Emotions	Game and seriousness in balance	Seriousness overshadows play	
Whose interests are	Mutual interest	Interest of the victor	
served?	Common good	Individual good	
T1 1 2	Balanced opposition	Weaker opposition	
Ideal dispute	Tension, drama, story	Certainty of positive result	
What should we call all this?	Compete WITH	Compete AGAINST	

**Chart 1.** Implications of conceptual metaphors of competition **Source:** adapted from Shields and Bredemeier<sup>10</sup>

Thus, one can resort to what Reverdito and Scaglia<sup>16</sup> affirm, arguing that competition is neither good nor bad, but it is what we specify for its purposes. This makes the entire community involved with the sports competition (managers, coaches, athletes/players, media, etc.) responsible for the pedagogical environment and the conceptions related to the historical period experienced or even to the transformation of its conception according to what is intended to be achieved in the future, since it is created by man and must be interpreted according to its historical period.

In this way, the meaning of sports competition seems to be close to the context of partnership for authors such as Milistetd, Mesquita, Nascimento, and Souza-Sobrinho<sup>17</sup>, when they affirm that sport is constantly pointed out as one of the factors that can contribute to the formation of children and adolescents. Added to this, according to Marques<sup>18</sup> (p. 77), "competition – the game – is the most structuring element of all the youngsters' sports training and a determining aspect of their education, in their preparation for life." And finally, identifying needs for improvements regarding the understanding of the conception of sports competition, Shields and Funk<sup>14</sup> argue that competition needs to be better conceptualized in the context of children and adolescents, since many adults (coaches, teachers, and parents) still have misunderstandings about the competition (War Scenario).

## Study 1 - Translation and Cross-Cultural Adaptation

#### Method

# Participants

Four judges-evaluators participated in the study, all with PhDs and with more than 5 years (ranging from 5 to 22 years) of experience in the academic area. Even though they all work in different disciplines, they have experience in the sports field, solid knowledge of the theoretical framework inherent to the *Contest Orientation Scale* (COS)<sup>12</sup>, and are recognized for their interests in psychometrics. All of them are fluent in both languages (English – the language in which the instrument was originally constructed – and Brazilian Portuguese – the language into which the instrument will be translated) and include three men and one woman. After consulting with peers, to receive indications from researchers who worked with the competition construct, and consulting the Lattes curriculum of the researchers, to verify their academic experience, contact was made via email with the indicated researchers to present the objective of the study and how they could participate. With the final acceptance of the four judges-evaluators, the process of translation and cross-cultural adaptation continued.

# Translation procedures and cross-cultural adaptation

As recommended by Cassep-Borges, Balbinotti, and Teodoro<sup>19</sup>, the process of translation and cross-cultural adaptation was carried out in three moments. First, in possession of the COS and with the proper authorization of the authors, two of the judges-evaluators performed the translation of each of the COS items (from English to Portuguese). In a second moment, the other two judges-evaluators performed the reverse translation (from Portuguese to English). In the third moment, in committee, that is, the four judges-evaluators together, verified if there was (or not) alteration or loss of meaning on the translated items. Finally, adaptations were discussed based on the vocabulary used in Brazilian sports and to meet the theory from which the original instrument was conceived.

## Results

As mentioned, the process of translation and cross-cultural adaptation was carried out by four individuals with experience in sports and knowledge of the theoretical framework from which the original instrument was conceived<sup>12</sup>. This last characteristic becomes fundamental for properly carrying out the study, due to words possibly having different meanings and, consequently, different translations<sup>20</sup>. Still, when imbricated with a theory, great care is needed not to hurt the essence of what was originally conceived<sup>19</sup>.

A relevant example of this importance of the knowledge of the theory occurs right when translating the name of the scale: Contest Orientation Scale. Considering that it is a scale designed for application in the sports context, it could be translated as "Escala de Orientação à Competição." However, the authors consider that the term "competição" (competition) is limited to the attitudes and perceptions of only one of the two orientations contemplated by the instrument – those related to partnership – whereas attitudes and perceptions oriented according to a war scenario are decompetition – a neologism used by the authors to designate something that is not in any way competition, but the opposite of it. Therefore, the word "competition" is not, in fact, appropriate. The noun contest can be translated as "disputa," "luta," "torneio," or "debate," in addition to "competição." Thus, the best translation, adapted according to the context and considering the theory, is "Escala de

Page 6 of 14 Gonçalves et al.

*Orientação à Disputa no Esporte*" (Scale of Orientation to Dispute in Sport). Also note that the term "sport" has been added, making it clear and specifying its application.

The experience in the sports environment, on the part of the judges, is greatly relevant since specific terms must rigorously make sense in the context in which the instrument will be applied. Thus, a literal translation of the original instrument is insufficient for a better understanding of the future respondent. A clear example would be item 1 of the instrument:

- Original version: "In sport, the goal is to conquer your opponent."
- Translated version: "No esporte, a meta é conquistar seu oponente."
- Adapted version: "No esporte, o objetivo é dominar o adversário."

The terms goal, to conquer, and opponent, properly translated as "meta," "conquistar," and "oponente," respectively, despite being understandable to the vast majority of Brazilian athletes, do not reflect the language typically used in the sports context. Thus, these terms have been adapted to "objetivo," "dominar," and "adversário."

Chart 2 shows the contents of the original items (in English) and the respective adaptation for Brazilian Portuguese.

Item		Content
	Original	In sport, the goal is to conquer your opponent.
1	Adaptation	No esporte, o objetivo é dominar o adversário.
	•	
2	Original	When my opponents try hard to win, they are giving me something of value.
	Adaptation	Quando meus adversários se esforçam para vencer, eles contribuem com algo
	Adaptation	valioso para mim.
3	Original	In tight contests, I want my opponents to be at their best.
	Adaptation	Em disputas equilibradas, eu quero que meus adversários apresentem o seu
	Auaptation	melhor.
4	Original	When I compete, my opponent is my enemy.
	Adaptation	Quando eu estou competindo, meu adversário é meu inimigo.
	1	
5	Original	When opponents try to win, they are helping each other
	Adaptation	Quando adversários tentam vencer um ao outro, ambos melhoram.
	1	
6	Original	The purpose of competition is to bring out the best in everyone.
U	Adaptation	O objetivo da competição é que todos mostrem o seu melhor.
	1	
7	Original	Competition is war.
,	Adaptation	A competição é uma guerra.
	1	
	Original	When I try hard to win, I am giving something of value to my opponent.
8	Adaptation	Quando eu me esforço para vencer, eu contribuo com algo valioso para o meu
		adversário.
9	Original	Sport is a fight to see who is best.
	Adaptation	O esporte é uma luta para ver quem é o melhor.
	0	
10	Original	Sport is battling against opponents.
	Adaptation	O esporte é batalhar contra os adversários.
	0-1-1-1	To any other 121 to 2 to any other than 11 to describe the second and the second
11	Original	In sports, like in war, opponents stand between you and success.
	Adaptation	No esporte, como na guerra, os adversários estão entre você e o sucesso.
	0-:-: 1	A Company and Taratta and the same and the s
12	Original	After a narrow win, I really appreciate my opponents.
		Depois de uma vitória difícil, eu reconheço qualidades no meu adversário.

**Chart 2:** Result of the process of translation and cross-cultural adaptation of the *Escala de Orientação à Disputa no Esporte* (EODE-12)

**Source:** the authors

# **Study 2 – Content Validation**

## Method

# **Participants**

To carry out the content validation process, 3 judges-evaluators were invited to participate – all doctors, specialists in the areas of Sports Pedagogy, with studies directed to sports competitions, familiar with different sports modalities (individual and collective, invasion, net/wall, striking/fielding, and technical-combinatorial). The procedures for

Page 8 of 14 Gonçalves et al.

defining and inviting the judges-evaluators were the same as those adopted in Study 1. After the invitations were accepted, data collection processes were carried out.

## Instrument

To perform the content validation of the instrument, an online form was used, through the tool "Google Forms," containing the items duly translated and adapted, and the criteria to be evaluated – Language Clarity (LC), Theoretical Relevance (TR), and Theoretical Dimensionality (TD). The first two criteria (LC and TR) were evaluated according to a Likert scale with a five-point variation, with (1) as "very little" and (5) as "very much" clarity of language or theoretical relevance. For the TD, the evaluators should indicate to which of the orientations each item belonged: "Partnership Orientation" or "War Orientation." Finally, a space was provided for comments or suggestions from the evaluator about the item in question.

## Data collection and analysis procedures

Initially, the access link to the online form previously described was sent by email. Based on the answers obtained, the Content Validity Coefficient (CVC) was calculated for the LC and TR criteria – procedures performed according to the guidelines of Balbinotti, Benetti, and Terra<sup>21</sup> and Cassep-Borges, Balbinotti, and Teodoro<sup>19</sup>, based on the calculations suggested by Hernandez-Nieto<sup>22</sup> – and the Kappa of Fleiss for agreement between judges, for the DT criterion<sup>23,24</sup>.

#### Results

All items presented CVC considered satisfactory (CVC > 0.80), in both criteria, with the exception of two items (item 1 and item 11). Item 1, "No esporte, o objetivo é dominar o adversário," and item 11, "No esporte, como na guerra, os adversários estão entre você e o sucesso," presented CVC of 0.76 for LC and TR, respectively – an index considered acceptable, although borderline to the ideally desired. In both cases, no changes were suggested by the judges-evaluators and, considering the proximity to the desired index (CVC > 0.80), we decided to keep the items, fearing losing information or reducing the variance explained with their removal. Thus, for the full scale, indices considered satisfactory were reached, both for LC (CVCt<sub>LC</sub> = 0.90) and for TR (CVCt<sub>TR</sub> = 0.91).

To verify the agreement between the answers of the judges-evaluators, regarding the Theoretical Dimensionality (TD), the Fleiss' Kappa was calculated. When evaluating the items referring to the Partnership Orientation, they showed a "very good" agreement ( $K_{Partnership} = 0.86$ ), whereas, when evaluating the items referring to the dimension War Orientation, the agreement index was considered "good" ( $K_{War} = 0.72$ ). In general, when the full scale was evaluated, the agreement index was considered "good" ( $K_{Total} = 0.71$ )<sup>25</sup>. Precisely, only three of the 12 items showed no absolute agreement. Even so, in all cases, most of the judges-evaluators understood the items as belonging to the dimensions for which they were theoretically elaborated.

## Study 3 – Analysis of the Internal Structure and Reliability of the Instrument

#### Method

## **Participants**

To perform the analyses related to study 3, data were collected from athletes practicing different sports modalities. The sample consisted of 188 athletes, 91 female and

97 male athletes, with ages ranging from 13 to 66 years (X = 30.6; SD = 12.6). The sample had an average of 8 years of practice (SD = 7.6) in their respective modalities, which were practiced with an average frequency of 3.4 times a week (SD = 1.6). In this study, the sample was established in a non-random way, by convenience, and this was considered an adequate source of information if added to the recommendation of a participant ratio and number of variables close to or greater than 10 - in this study, this ratio was 15.7 participants per variable.

#### Instrument

The Escala de Orientação à Disputa no Esporte (EODE-12), translated version of the COS<sup>12</sup>, is an instrument that aims to identify the dispute orientations of participants of sports competitions. The items of the instrument are answered with a Likert scale ranging from one (1) to five (5) points, with (1) as strongly disagree and (5) as strongly agree. The EODE-12 is, according to the theory, composed of two orientations: Partnership Orientation and War Orientation, as described in the theoretical framework.

# Data collection and analysis procedures

With the assent of the institutions to which the athletes were linked, visits to the training sessions were scheduled for data collection. The research team presented the objective of the study and, only from the affirmative answer of the athletes, the informed consent form was sent to them by e-mail, as well as the EODE-12 for response.

Initially, considering that one dimension opposes the other, the responses of one of the dimensions were inversed, thus avoiding moderate and strong negative correlations between items. For the factor analyses, the Kaiser-Meyer-Olkin test (KMO) was previously performed, which measures the adequacy of the sample indicating the proportion of variation in its variables that may be caused by underlying factors, and the Bartlett sphericity test, which tests the hypothesis that the correlation matrix is an identity matrix. Subsequently, semi-confirmatory factor analysis was performed, based on polychoric matrices, to obtain information about the internal structure of the scale. The results will be presented according to the recommendations of Kline<sup>26</sup> and Brown<sup>27</sup>. Finally, Cronbach's alpha calculations were performed to analyze the internal consistency of the full scale, as well as of each of the dimensions. All the statistical procedures mentioned were performed with the Factor software, version 10.10.01.

This study was approved by the Research Ethics Committee of the Universidade Federal do Rio Grande do Sul under number 09797812.3.0000.5347.

### Results

In the case of factor analyses, it is first necessary to ensure an adequate interpretation of the results. To this end, the KMO coefficient, the Determinant of the Correlation Matrix, and the Bartlett's Sphericity Test were estimated. Even though the KMO coefficient (KMO = 0.644) presented a result considered "mediocre" (although acceptable for the continuation of the analyses), the result of the information redundancy measure was different from zero (|R| = 0.0061), indicating the absence of any type of repetition or linearity relations between the items. Furthermore, the Bartlett Sphericity Test (p < 0.001) indicates that the correlation matrix is not an identity matrix, and there are, therefore, some relationships between variables that are expected to be included in the analysis. All these results guarantee the relevance of factor calculations<sup>28-30</sup>.

A Robust Analysis of Diagonally Weighted Least Squares (RDWLS), followed by Robust Promin rotation, tested the exploratory factorial structure of EODE-12, considering

Page 10 of 14 Gonçalves et al.

its two factors determined *a priori*<sup>12</sup>. A pure factorial solution was evidenced – without double saturations – and with all measured items saturated in their respective factor, also according to the original scale (see Table 1). Also note that the solution presented explains 52.1% of the total variance of the construct, with the factor Partnership Orientation (PO) explaining 27.5% and the factor War Orientation (WO) explaining 24.6% of the variance – results that can be considered satisfactory.

**Table 1.** Factorial solution of the *Escala de Orientação à Disputa no Esporte* 

			<b>Exploratory factor</b>	
	Item	<b>Item Contents</b>	analysis	
			PO	WO
РО	08	Quando eu me esforço para vencer, eu contribuo com algo valioso para o meu adversário.	0.918	
	02	Quando meus adversários se esforçam para vencer, eles contribuem com algo valioso para mim.	0.848	
	05	Quando adversários tentam vencer um ao outro, ambos melhoram.	0.618	
	03	Em disputas equilibradas, eu quero que meus adversários apresentem o seu melhor.	0.559	
	12	Depois de uma vitória difícil, eu reconheço qualidades no meu adversário.	0.465	
WO	06	O objetivo da competição é que todos mostrem o seu melhor.	0.314	
	10	O esporte é batalhar contra os adversários.		0.849
	11	No esporte, como na guerra, os adversários estão entre você e o sucesso.		0.803
	09	O esporte é uma luta para ver quem é o melhor.		0.746
	07	A competição é uma guerra.		0.652
	01	No esporte, o objetivo é dominar o adversário.		0.536
	04	Quando eu estou competindo, meu adversário é meu inimigo.		0.534

**Source:** the authors

After identifying that the factorial solution is in accordance with the theoretical model, we proceeded to the second stage of semi-confirmatory factor analysis, verifying whether the suggested model fits the available data. The results show good absolute adjustment indices ( $X^2/gl = 2.31$ ; AGFI > 1.00), reasonable result of parsimonious adjustment (RMSEA = 0.08;  $P_{(RMSEA<0.05)} = 0.951$ ) and satisfactory comparative adjustment indices (CFI = 0.95; NNFI = 0.92), indicating that the data minimally fit the hypothetical model by the bias of the covariance matrices estimated and calculated<sup>26,27</sup>.

Finally, calculations were performed to verify the reliability of the scale. The calculated Cronbach's alpha coefficients demonstrate that both the full scale ( $\alpha = 0.744$ ) and the dimensions ( $\alpha_{PO} = 0.794$ ;  $\alpha_{WO} = 0.822$ ) present satisfactory internal consistency<sup>31</sup>. The results indicate that the EODE-12 is an instrument with good precision, in the sense that it evaluates what is intended to be evaluated.

#### Discussion

The validation process of an instrument should be systematic and constant, and declaring an instrument as definitively validated is imprudent. In the case of validation processes of an instrument elaborated with reference to another context, the presentation of the first evidence of validity (e.g., content and internal structure) becomes an even greater challenge. The translation procedures and the indispensable cross-cultural adaptation of an instrument must be thoroughly discussed, considering precisely the specificities for which

the instrument was originally conceived – in this case, the COS was elaborated and has been applied in High School and Higher Education athletes-students, of both sexes, of multiple ethnicities and practitioners of various sports modalities, inserted in the North American sports context<sup>12,13,32,33</sup>.

However, sports culture is not the only aspect to be considered when adapting a scale. The knowledge of the theory becomes fundamental as the authors<sup>12</sup> propose a re-signification of concepts commonly used in the sports context. This is specifically about the concept of competition. For the authors, competition only exists in the context of partnership, going back to the origin of the word (striving together). Compete with, rather than compete against. Therefore, the instrument, when evaluating the subjective competitive situation<sup>1</sup>, based on the metaphors of partnership and war, measures something that is more than "competition" – they are sports contests. The suitability of the translation to the Brazilian sports context is demonstrated by the good content validity indexes presented.

Shields, Funk and Bredemeier<sup>12</sup> describe the stages of elaboration and validation processes of the original scale. In this article, they indicate that the preliminary version of the COS had 39 items; after application and analysis, it was reduced to 23 items; and, in a third stage, it reached its final version with 12 items. The number of items is an important, but contradictory, characteristic of an instrument. Whereas having many items contributes to improve content validity levels<sup>34</sup> – after all, more edges of the variance of each dimension are contemplated –, a reduced number of items makes the instrument faster and "mentally economical" for those who answer it. The impossibility of carrying out the validation processes previously presented, with the 39 original items, is regrettable, despite the good explained variance found, especially when considering that they were elaborated by the authors and, most likely, had important theoretical relevance.

When comparing the indices related to the internal structure, presented here, with the indices obtained with the original scale ( $X^2/gl = 1.20$ ; CFI = 0.97; RMSEA = 0.047;  $\alpha_{partnership} = 0.77$ ,  $\alpha_{war} = 0.85$ )<sup>12</sup>, note that the former ones are slightly inferior in quality. This result is perfectly understandable, especially considering the aspects previously presented: 1) culture for which the instrument was designed; 2) reduction of items until finding a satisfactory factorial solution.

In the national context, Balbinotti et al.<sup>2</sup> present evidence of the validity of another instrument to measure the subjective competitive situation, this one oriented to the reasons for competitiveness – the Balbinotti Scale of Reasons for Competitiveness in Sports (EBMCE-18). In this case, the construct comprises three dimensions – Victory Orientation, Performance Orientation, and Status Orientation. Although they are instruments that evaluate different aspects of the same situation, it is understood as possible and relevant to investigate the correlations between factors of the different scales. How do the levels of the (motivational) orientations behave, according to your understanding of the competitive contexts (of war or partnership)? How much can a competitive context (of war or partnership) explain the (motivational) orientations of athletes? Or simply, what will be the predominant (motivational) orientation of individuals who understand competition as a context of war (or partnership)?

### **Conclusions and limitations**

This study aimed to translate, adapt, and present the first evidence of content validity and internal structure of the Brazilian version of the Contest Orientation Scale<sup>12</sup>. In this sense, methodological procedures suggested by the specialized literature were performed, resulting in the *Escala de Orientação à Disputa no Esporte* (EODE-12 – Scale of Orientation to

Page 12 of 14 Gonçalves et al.

Dispute in Sports). This version of the scale was presented as clear to the respondents, with theoretical relevance, and with items appropriate to the dimensions theoretically postulated, evidenced from the content validation processes. The internal structure found was also compatible with the theorized one, presenting adjustment indices ranging from moderate to satisfactory. Finally, the EODE-12 presented satisfactory reliability indices, both for the dimensions and for the full scale, indicating that it, in fact, measures what it proposes to measure with consistency. Therefore, the EODE-12 seems appropriate for use in the context of Brazilian sport and can be considered an important instrument for assessing the subjective competitive situation, regarding the identification of the perception of competition as a context of war or a context of partnership.

Despite the good results, note that some items presented limitations: a) regarding their formulations, in the sense that they do not evaluate a respondent's behavior (e.g.: "Competition is war"); and b) since they can induce a response perceived as socially desirable (e.g.: "The purpose of competition is to bring out the best in everyone"). Despite the limitations, considering that it is an instrument used internationally in research in the area, we decided to maintain the ecological structure of the scale, to allow the replication of studies and consequent comparison with other scenarios. Future studies may contribute to the elaboration of an instrument designed based on the Brazilian context, with due care with the procedures for elaborating the items.

#### References

- 1. Martens R. Social psychology and physical activity. New York: Harper and Row; 1975.
- Balbinotti MAA, Barbosa MLL, Saldanha RP, Balbinotti CAA. Estudos fatoriais e de consistência interna da Escala Balbinotti de Motivos à Competitividade no Esporte (EBMCE-18). Motriz 2011;17(2):318-327. DOI: 10.5016/1980-6574.2011v17n2p318.
- 3. Ivanova N, Korostelev A. The impact of competitive approach on students' motivation in sport. Rev Amazon investig 2019 [Citado em 10 jun 2022];8(18):483-490. Disponível em: https://amazoniainvestiga.info/index.php/amazonia/article/view/362
- Gonçalves GHT, Bulso RV, Floriano LT, Balbinotti CAA. Conteúdos pedagógicos nas competições infantojuvenis de futebol e futsal: um estudo comparativo. Motrivivência 2020;32(63):1-20. DOI: 10.5007/2175-8042.2020e71704
- 5. Gonçalves GHT, Klering RT, Aires H, Balbinotti CAA. Tennis competition's contributions to children's education and personal development. J Phys Education 2016;27:e2738. DOI: 10.4025/jphyseduc.v27i1.2738
- 6. Arena S, Böhme M. Federações esportivas e organização de competições para jovens. Rev Bras Ciênc Mov 2004 [Citado em 10 jun 2022];12(4):45-50. Disponível em: https://portalrevistas.ucb.br/index.php/RBCM/article/view/585
- 7. Milistetd M, Nascimento JV, Silveira J, Fusverki D. Análise da organização competitiva de crianças e jovens: adaptações estruturais e funcionais. Rev Bras Ciênc Esporte 2014;36(3):671-678. DOI: 0.1590/2179-325520143630012
- 8. Krahenbühl T, Souza NP, Galatti LR, Scaglia AJ, Leonardo L. Competição de base e a formação de jovens atletas na perspectiva de treinadores de elite no handebol. Pensar Prát 2019;22:53089. DOI: 10.5216/rpp.v22.53089
- 9. Shields DL, Bredemeier BL. True competition. Champaign: Human Kinetics, 2009.
- 10. Shields DL, Bredemeier BL. Contest, competition, and metaphor. J Philos Sport 2011;38(1):27-38. DOI: 10.1080/00948705.2011.9714547
- 11. Van Paridon KN, Timmis MA, Nevison CM, Bristow M. The anticipatory stress response to sport competition; a systematic review with meta-analysis of cortisol reactivity. BMJ Open Sport Exerc Med 2017;3:e000261. DOI: 10.1136/bmjsem-2017-000261
- 12. Shields DL, Funk CD, Bredemeier BL. Contesting orientations: Measure construction and the prediction of sportspersonship. Psychol Sport Exerc 2015;20:1-10. DOI: 10.1016/j.psychsport.2015.03.008
- 13. Shields DL, Funk CD, Bredemeier BL. Can contesting orientations predict grittier, more self-controlled athletes?. J Posit Psychol 2018;13(5):440-448. DOI: 10.1080/17439760.2017.1350738

- 14. Shields DL, Funk CD. Teach to compete. Strategies 2011;24(5):8-11. DOI: 10.1080/08924562.2011.10590945
- 15. Shields DL, Funk CD, Bredemeier BL. The Moral Frameworks and Foundations of Contesting Orientations. J Sport Exerc Psychol 2016;38(2):117-127. DOI: 10.1123/jsep.2015-0139
- 16. Reverdito RS, Scaglia AJ. Competições escolares: reflexão e ação em pedagogia do esporte para fazer a diferença na escola. In: Reverdito RS, Scaglia AJ, Montagner PC, organizadores. Pedagogia do esporte: aspectos conceituais da competição e estudos aplicados. São Paulo: Editora Phorte 2013:237-258.
- 17. Milistetd M, Mesquita, I, do Nascimento, JV, de Souza Sobrinho, AEP. Concepções dos treinadores acerca do papel da competição na formação desportiva de jovens jogadores de voleibol. J Phys Educ, 2008;19(2),151-158. DOI: 10.4025/reveducfis.v19i2.3324
- 18. Marques AT. Fazer da Competição dos mais Jovens um Modelo de Formação e Educação. In: Gaya A, Marques A, Tani G, organizadores. Desporto para Crianças e Jovens. Razões e Finalidades. Porto Alegre, Editora da Ufrgs 2004:75-96.
- 19. Cassepp-Borges V, Balbinotti MAA, Teodoro MLM. Tradução e validação de conteúdo: uma proposta para a adaptação de instrumentos. In: Pasquali L, organizador Instrumentação psicológica: Fundamentos e prática. Porto Alegre: Artmed; 2010, p.506-520.
- 20. Pasquali L. Escalas Psicométricas. In: Pasquali L. Instrumentação psicológica: fundamentos e práticas. Porto Alegre: Artmed; 2010, p.116-135.
- 21. Balbinotti MAA, Benetti C, Terra PRS. Translation and validation of the Graham-Harvey survey for the Brazilian context. Int J Manag Finance 2007;3(1):26-48. DOI: 10.1108/17439130710721644
- 22. Hernandez-Nieto RA. Contributions to statistical analysis. Mérida: Universidad de los Andes, 2002.
- 23. Fleiss JL. Measuring nominal scale agreement among many raters. Psychol Bull 1971;76(5):378-382. DOI: 10.1037/h0031619
- 24. Gwet KL. Handbook of Inter-Rater Reliability. Gaithersburg: Advanced Analytics; 2014.
- 25. Landis JR, Koch GG. The Measurement of Observer Agreement for Categorical Data. Biometrics 1977;33(1):159-174. DOI: 10.2307/2529310
- Kline RB. Principles and practice of structural equation modeling. New York: The Guilford Press; 2015.
- Brown TA. Confirmatory factorial analysis for applied research. New York: The Guilford Press; 2015.
- 28. Dassa C. Analyze multidimensionnelle exploratoire et confirmative. Montreal: Université de Montreal; 1999.
- 29. Balbinotti MAA. Para se avaliar o que se espera: reflexões acerca da validade dos testes psicológicos. Aletheia 2005 [Citado em 10 jun 2022];1(21):43-52. Disponível em: http://pepsic.bvsalud.org/scielo.php?script=sci arttext&pid=S1413-03942005000100005&lng=pt.
- 30. Lorenzo-Seva U, Ferrando PJ. Factor: A computer program to fit the exploratory factor analysis model. Behav Res Methods 2006;38(1):88-91. DOI: 10.3758/BF03192753
- 31. Cronbach LJ, Shavelson RJ. My current thoughts on coefficient alpha and successor procedures. Educ Psychol Meas 2004;64(3):391-418. DOI: 10.1177/0013164404266386
- 32. Shields DL, Funk CD, Bredemeier BL. Relationships among moral and contesting variables and prosocial and antisocial behavior in sport. J Moral Educ 2018;47(1):17-33. DOI: 10.1080/03057240.2017.1350149
- 33. Funk CD, Shields DL, Bredemeier BL. Contesting orientations, self-determined motivation, and sportspersonship: Further validation of the contesting orientations scale. Psychol Sport Exerc 2016;27:66-77. DOI: 10.1016/j.psychsport.2016.08.005
- 34. Anastasi A, Urbina S. Testagem Psicológica. Porto Alegre: Artes Médicas; 2000.

Page 14 of 14 Gonçalves et al.

## ORCID:

Gabriel Henrique Treter Gonçalves: https://orcid.org/0000-0001-8048-7565

Roberto Tierling Klering: https://orcid.org/0000-0003-1536-3237

Hannah Aires: https://orcid.org/0000-0001-5008-9283

Marcos Alencar Abaide Balbinotti: https://orcid.org/0000-0001-5137-1811 Carlos Adelar Abaide Balbinotti: https://orcid.org/0000-0002-6358-1848

Editor: Jorge Both. Received on Mar 08, 2022. Reviewed on Apr 17, 2023. Accepted on Aug 05, 2023.

Corresponding address: Gabriel Henrique Treter Gonçalves, Universidade do Estado de Santa Catarina, Rua Pascoal Sinome, 358, Bairro Coqueiros, Florianópolis, SC, ZIP CODE 88080-350. Email: gabriel.goncalves@udesc.br