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## Evaluation of the Psychometric Properties of the Managerial Behaviour Instrument for the Brazilian Sport Organizations

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**Abstract:** The present study aimed to evaluate the psychometric properties of the Managerial Behaviour Instrument, Portuguese version, for the Brazilian sport federations. The sample was composed of 263 members of federations, including managerial (39.5%), technical (35.1%), executive (20.6%) bodies and others (4.9%). The study used descriptive, reliability and confirmatory factor analyses. Values of internal consistency for the sub-factors ranged from 0.83 to 0.92, correlation between 0.37 and 0.79, and adequate values for six indices ( $\chi^2$ ,  $\chi^2/df$ , CFI, NNFI, SRMR, RMSEA) of the global adjustment of the measurement model. Thus, the Portuguese version of the Managerial Behaviour Instrument has acceptable values for its psychometric properties that allow researchers to use it to study leadership competencies of sports managers.

**Keywords:** Competing Values Model, Leadership competencies, Psychometric properties, Sport federation, Sport manager.

### INTRODUCTION

The transformation of sport and growth of the global demand for sport have required high levels of professionalism in management of sports organizations. Especially in Brazil, these requirements have increased in the called Decade of Sport with the hosting of important international events such as the 2007 Pan American Games as well as World Games of different modalities, especially the 2014 football World Cup and the 2016 Paralympics Games.

In the organizational structure of Brazilian sport, the sports federations are characterized as entities of sports administration at State levels assuming a relevant role since they are the primarily responsible for the administration and promotion of educational sport, of participation and performance [1 - 3].

The international context and the Decade of Sport have required effective work from sports managers. Therefore, much research about functions and competencies has been carried out like in Europe and United States with the aim of analysing and contributing to the advancement of management in sports organizations [4 - 9], but, in the Brazilian context there has been little research. Another aspect is Brazilian sport federations all being managed by volunteer professionals, most of whom have other jobs, which might be a critical factor in the process of professionalization and development of leadership competencies within the scope of these organizations [10 - 13].

Being the most investigated function of Organizational Science [14], leadership is one of the most important at the sport managers work [5, 15 - 18]. According to the literature, management and leadership complement each other in action and frequently overlap within a single individual [19, 20]. Investigations on managerial leadership competencies of sports managers have been focussed on recreational sport [4, 21], sports clubs [5, 22], fitness centres [23], sports

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events [24], and sports federations (5). The number of the investigations in this field is increasing, however, more research is needed on sport management to contribute to this area and the respective curriculum definition [22, 25].

In these researches, competency has been commonly defined in the literature from three perspectives: behavioural, functional and holistic. The behavioural perspective, which emerged in the 1970s in the United States, considers competency as the attributes and behaviours of an individual that contribute to a superior performance [26]. The other two perspectives, which originated from Europe, have a different focus. The functional perspective, which originated from the United Kingdom in the 1980s, describes competency as the individual performance as judged by the requirements of the professional occupation [27]. The holistic perspective, developed in France in the 1990s, considers competency as a combination of knowledge, ability and attitudes [28, 29]. In this study, the concept adopted is associated with the holistic perspective because the concept considers the managerial leadership competency related to the ability of managers to apply effectively through their behaviours their knowledge in the performance of the tasks of management [30, 31]. Thus, Quinn *et al.* [30] describe competency as the knowledge dominated by individuals responsible for managing and with ability demonstrated to use this knowledge to respond to the different situational demands.

This concept is related to the Competing Values Model (CVM) developed by Quinn and Rohrbaugh [32], which emerged from investigations performed to understand organizational effectiveness. The central idea of CVM is the understanding that organizations are effective when they satisfy multiple performance criteria, which are grouped in four factors based on theoretical management categories (Human Relations, Open System, Internal Process and Rational Goals). This model has been used as the foundation for studies in various fields of management, in particular with leadership competencies [33 - 38]. The studies support the central idea of the model and indicate that the most effective leaders present a greater variety of leadership competencies than the less effective leaders. This model allows managers to identify their competencies more effectively and expand their management perspectives [30].

In order to assess competency, some research instruments have been developed. In the North American research about sports management, two instruments have been highlighted: i) the Recreational Sports Competency Analysis (RSCA) developed by Jamieson (1980) for sport managers in military, municipal and educational settings; and ii) the Competencies of Sport Managers (COSM) developed by Toh (1997) in the context of private sports clubs, the Association of Young Christians, and parks and recreation agencies. These instruments involve a list of 119 and 96 competencies, respectively. Another instrument called the Managerial Behaviour Instrument (MBI) developed by Lawrence *et al.* [31] has been highlighted, because it focuses on functions of the leaders and can be used at all kind of organizations.

Although there is some empirical research on leadership competencies, Lawrence *et al.* considered that a more robust instrument to evaluate the diversity of competencies could contribute to advances in this area of research [31]. The MBI is supported by two axes (1. focus –internal and external and 2. Structure – flexibility and control) and consists of four dimensions (Collaborate, Create, Compete and Control), which have 12 competencies and 36 behaviours evenly distributed. The competencies associated with the Collaborate dimension, with emphasis on internal focus and flexibility, show the way leaders can be more effective in their interactions with people by being able to promote involvement and commitment of members of the organization [30, 31, 33]. The core competencies of Create, with emphasis on external focus and control, tend to focus on implementation of changes, the needs of members who are involved in the organization and the members' motivation [30, 31]. In the Control dimension, with emphasis on internal focus and control, managers must monitor the implementation of tasks, as well as control the organization's projects and clarify the institutional policies so that all members can agree and perform according to the orientation [31]. The Compete dimension, with emphasis on external focus and control, gathers together the competencies that emphasize the focus on competition, effort and commitment of managers, and the speed at which managers perform tasks and solve the problems that arise [30, 31].

Since its conception, the MBI has been chosen by researchers to analyse leadership competencies in different organizational contexts and assess their impact on the effectiveness of the team and the implementation of projects [35, 39 - 41]. It is important to highlight that within these investigations, one researcher in Taiwan has already proceeded to the evaluation of the instrument in another country, indicating good psychometric properties of internal consistency and confirmatory factor analysis [41]. However, the MBI has been used predominantly in investigations developed in the North American context, justifying the advancement and expansion of the applicability of this robust instrument in distinct organizational context and culture. In this sense, it will be possible to contribute to the promotion of scientific research and, consequently, the increase of knowledge in this area in Brazil and in other Portuguese speaking countries.

Furthermore, considering the previous issue, research about competencies using the MBI in the Brazilian context of sports organizations is non-existent. However, sport management is a growing area where sport managers play an important role in the achievement of institutional goals.

Based on the above, the MBI is characterized as a promising instrument in the field of management to evaluate a set of competencies that integrates and the possibilities of leadership behaviours of managers. With reference to the MBI, managers have the possibility of increasing the leadership effectiveness according to day-to-day managerial situations, employing competencies required in each situation [30]. To expand this research to the culture and context of Brazil, it was possible to make available an instrument with renowned quality to Portuguese speaking researchers, enabling the development of further investigation in this area, as well as contributing to the experimentation of the conceptual model proposed by Lawrence *et al.* [31] that it supports. In line with this, this study aims to evaluate the psychometric properties of the Managerial Behaviour Instrument, Portuguese version, for the Brazilian sport federations.

**MATERIALS AND METHODS**

**Sample**

The sample of this study was composed of 263 members of Brazilian sport federations including managerial (39.5%), technical (35.1%), executive (20.6%) bodies and others (4.9%). This sample is based on literature recommendations for the ratio between sample and variables analysed [42]. The average age of the participants was 41 years, with most (52,1%) being between 31 and 50 years. The large majority (83%) were male, which reflects the prevalence of male managers in Brazilian sports organizations [43 - 45] and male athletes participating in the Olympic Games [46 - 48] and others sport contexts.

**Instrument**

The Managerial Behaviour Instrument (MBI) consists of 36 items (behaviours) divided into 12 sub-factors (competencies) and four factors (dimensions) (see Table 1). The items must be answered on the basis of a 5-point Likert-type scale, in which the response alternatives are accompanied by the following words: Strongly agree (5), Agree (4), Neither agree nor disagree (3), Disagree (2) and Strongly disagree (1).

**Table 1. Managerial behaviour instrument - Brazilian version.**

<b>Collaborate</b>	<b>Create</b>
1. Facilitator – Encouraging participation	4. Visionary - Anticipating associations and/or clubs needs
MBIbr01 Making it legitimate to contribute opinions	MBIbr10 Meeting with associations and/or clubs to discuss their needs
MBIbr02 Employing participative decision making	MBIbr11 Identifying the changing needs of the associations and/or clubs
MBIbr03 Maintaining an open climate for discussion	MBIbr12 Anticipating the next desire of associations and/or clubs
2. Mentor - Developing people	5. Innovator - Initiating significant change
MBIbr04 Encouraging career development	MBIbr13 Initiating relevant projects
MBIbr05 Ensuring that all employees have a development plan	MBIbr14 Starting ambitious projects
MBIbr06 Coaching people on career issues	MBIbr15 Launching important new efforts
3. Empathizer - Acknowledging personal needs	6. Motivator - Inspiring people to exceed expectation
MBIbr07 Being aware of when people are burning out	MBIbr16 Inspiring direct reports to be creative
MBIbr08 Encouraging people to have work/life balance	MBIbr17 Encouraging direct reports to try new things
MBIbr09 Recognizing the importance of respecting people's feelings	MBIbr18 Getting unit members to exceed traditional performance patterns
<b>Control</b>	<b>Compete</b>
7. Regulator - Clarifying policies	10. Competitor - Focusing on competition
MBIbr19 Seeing that corporate procedures are understood	MBIbr28 Emphasizing the need to compete
MBIbr20 Insuring that company policies are known	MBIbr29 Developing a competitive focus
MBIbr21 Making sure formal guidelines are clear to people	MBIbr30 Insisting on beating outside competitors
8. Monitor - Expecting accurate work	11. Producer - Showing a hard work ethic
MBIbr22 Emphasizing the need for accuracy in work efforts	MBIbr31 Showing an appetite for hard work
MBIbr23 Expecting people to get the details of their work right	MBIbr32 Modelling an intense work effort
MBIbr24 Emphasizing accuracy in work efforts	MBIbr33 Demonstrating full exertion on the job
9. Coordinator - Controlling projects	12. Driver - Emphasizing speed
MBIbr25 Providing tight project management	MBIbr34 Getting work done quicker in the unit

(Table 3) contd.....

Collaborate	Create
MBIbr26 Keeping projects under control	MBIbr35 Producing faster unit outcomes
MBIbr27 Closely managing projects	MBIbr36 Providing fast responses to emerging issues

Source: Adapt from Lawrence *et al.* [31].

## DATA COLLECTION PROCEDURE

The research data were obtained through the members of Brazilian sports federations using the MBI between August 2012 and November 2014, conducted digitally (Software Application Google Docs). The online instrument included an invitation to participate in this study, clarification of the purposes of research, ethical care and importance of the research, consent to participation and research issues. The researcher's contacts detail (email and telephone) were made available so that participants could clarify any aspect of the questionnaire that was not clear and of the participation in the research. All procedures were conducted in accordance with the norms established by the resolution of the National Health Council (466/2012) and by the Declaration of Helsinki (1996) for research conducted with humans. The research was approved by the Ethics Committee of the university for which the investigation unit responsible for this work is situated.

## DATA ANALYSIS PROCEDURE

The cross-cultural translation and adaptation for the Portuguese language was done using translation and back translation process. The original version of the MBI was translated from the English to the Portuguese language by a bilingual specialist, and the resulting version, denominated the MBIbr, was submitted to a jury of three experts<sup>1</sup> all of whom had expertise in the two languages and knowledge in the field of sports psychology and sports management [49]. These experts compared the versions and verified the existence of semantic equivalence and content. The back-translation procedure of the version in Portuguese to English was done by three other experts also with such expertise, confirming the original version.

Then, there were four sessions of reflective conversation with members of sports federations, in order to determine their understanding and the inter-contextual uniformity of the instrument. From the analysis of this stage, five modifications were made to refine the content of the questions to the reality and the managerial terms used within the sports federations in Brazil (for example "Meeting with customers to discuss their needs" was modified to "Meeting with associations and/or clubs to discuss their needs").

Statistical analysis was performed using the SPSS software (Statistical Package for Social Science) for Windows<sup>®</sup> version 20.0 and LISREL 8.80 for Windows<sup>®</sup>. Initially, the descriptive statistics were applied to analyse each one of the 36 items from the MBIbr, and subsequently Cronbach's alpha coefficient and inter-item, inter-subfactor and item-total correlation matrices were applied to assess the internal consistency. Confirmatory factor analysis was used to examine the factorial structure of the MBIbr, which included the following indicators:  $\chi^2$  (Chi square), ratio of the  $\chi^2$  and the degrees of freedom ( $\chi^2/df$ ), Standardized Root Mean Square Residual (SRMR), Root Mean Square Error of Approximation (RMSEA), Non-Normed Fit Index (NNFI) and Comparative Fit Index (CFI).

## RESULTS

The results of this study are presented according to the statistical analysis selected to evaluate the psychometric properties of the MBI: the descriptive, the reliability and the confirmatory factor analysis.

In the statistical analyses performed in this study, a descriptive analysis was initially performed. The analysis reveals that for all items the minimum and maximum assessed by the participants coincided with the extremes of the scale (1 to 5). The average values of the items ranged from 3.62 to 4.62 and standard deviations ranged between 0.74 and 1.10. Most of the items showed averages greater than 4, with the exception of five items in which averages were between 3.97 and 3.62 (MBIbr18, MBIbr28, MBIbr29, MBIbr30, MBIbr32).

It can be seen from the data in Table 2 that all correlations are higher than 0.51, which indicate the strong relationship between items. The inter-item correlation ranged from 0.51 to 0.88, at Motivator and Driver competencies, respectively. The item-subfactor correlation ranged from 0.75 to 0.93, at Visionary with both extremes and Driver competencies also with the highest value. The item-total correlation ranged from 0.57 to 0.89, at Motivator and Coordinator, respectively. The reliability of the instrument was estimated by Cronbach's alpha coefficient which values

<sup>1</sup> Person who brings together in-depth practical and theoretical knowledge about a modality being recognized by their peers [49].

ranged from 0.83 to 0.92, indicating the reliability of MBIbr. The sub-factor Regulator showed the highest reliability (0.92), and the sub-factor Motivator showed the lowest (0.83).

**Table 2. Values of the inter-item, item-sub-factor and item-total correlations and Cronbach’s Alpha.**

	Inter-item	Item-subfactor	Item-total	Alpha
1. Facilitator				0.91
MBIbr01	0.73-0.76	0.83	0.79	
MBIbr02	0.76-0.80	0.88	0.84	
MBIbr03	0.73-0.80	0.81	0.82	
2. Mentor				0.87
MBIbr04	0.65-0.70	0.81	0.76	
MBIbr05	0.70-0.76	0.87	0.80	
MBIbr06	0.65-0.70	0.87	0.72	
3. Emphatizer				0.91
MBIbr07	0.74-0.77	0.90	0.80	
MBIbr08	0.77-0.79	0.91	0.83	
MBIbr09	0.74-0.79	0.89	0.82	
4. Visionary				0.86
MBIbr10	0.61-0.86	0.75	0.79	
MBIbr11	0.66-0.86	0.82	0.83	
MBIbr12	0.61-0.66	0.93	0.66	
5. Innovator				0.89
MBIbr13	0.69-0.77	0.82	0.77	
MBIbr14	0.69-0.78	0.92	0.78	
MBIbr15	0.77-0.78	0.87	0.84	
6. Motivator				0.83
MBIbr16	0.51-0.84	0.79	0.74	
MBIbr17	0.58-0.84	0.85	0.80	
MBIbr18	0.51-0.58	0.89	0.57	
7. Regulator				0.92
MBIbr19	0.74-0.80	0.91	0.80	
MBIbr20	0.80-0.84	0.91	0.88	
MBIbr21	0.74-0.84	0.90	0.84	
8. Monitor				0.90
MBIbr22	0.70-0.83	0.89	0.82	
MBIbr23	0.70-0.73	0.91	0.75	
MBIbr24	0.73-0.83	0.90	0.85	
9. Coordinator				0.90
MBIbr25	0.65-0.81	0.86	0.76	
MBIbr26	0.81-0.81	0.90	0.89	
MBIbr27	0.65-0.81	0.88	0.76	
10. Competitor				0.88
MBIbr28	0.68-0.80	0.91	0.81	
MBIbr29	0.66-0.80	0.90	0.80	
MBIbr30	0.66-0.68	0.87	0.70	
11. Producer				0.86
MBIbr31	0.72-0.74	0.89	0.82	
MBIbr32	0.58-0.74	0.92	0.72	
MBIbr33	0.58-0.72	0.79	0.69	
12. Driver				0.89
MBIbr34	0.64-0.88	0.93	0.84	
MBIbr35	0.65-0.88	0.93	0.85	
MBIbr36	0.64-0.65	0.77	0.66	

The values of inter-factors correlations ranged from 0.66 to 0.85 and factor-total ranged from 0.86 to 0.94. These

results show strong relationship, being the highest correlation between Collaborate and Create, and Collaborate and Control. The lowest correlation was between Collaborate and Compete.

As can be seen from Table 3, all inter-subfactor and subfactor-total correlations were positive with moderate or strong relationship with correlations between 0.37 and 0.79 and between 0.63 and 0.89, respectively. The correlation between the sub-factors Facilitator and Regulator had the strongest relationship ( $r = 0.79, p < 0.05$ ) among all the pairs of the competencies. In general, all the correlations presented show high values, highlighting a close relationship between each factor and between each competency.

**Table 3. Values of inter-subfactor and subfactor-total correlations.**

	01	02	03	04	05	06	07	08	09	10	11	12	Total
01 – Facilitator	1.00												0.83
02 – Mentor	0.78	1.00											0.84
03 – Empathizer	0.68	0.73	1.00										0.81
04 – Visionary	0.74	0.70	0.65	1.00									0.85
05 – Innovator	0.68	0.70	0.64	0.76	1.00								0.85
06 – Motivator	0.70	0.73	0.72	0.73	0.74	1.00							0.87
07 – Regulator	0.79	0.78	0.74	0.74	0.73	0.78	1.00						0.89
08 – Monitor	0.62	0.67	0.64	0.65	0.66	0.67	0.72	1.00					0.82
09 – Coordinator	0.68	0.67	0.66	0.68	0.69	0.65	0.76	0.69	1.00				0.84
10 – Competitor	0.37	0.39	0.37	0.42	0.49	0.48	0.42	0.46	0.50	1.00			0.63
11 – Producer	0.61	0.59	0.54	0.62	0.62	0.69	0.63	0.62	0.64	0.61	1.00		0.80
12 – Driver	0.57	0.56	0.59	0.62	0.57	0.61	0.62	0.59	0.63	0.50	0.64	1.00	0.77

The confirmatory factor analysis was performed on the 12 sub-factors of the MBibr through the maximum likelihood method. A selection of indices was used to assess the overall fit of the model to the data, such as  $\chi^2$ , CFI, NNFI, SRMR and RMSEA. The values of these fit indices are presented in Table 4, comparing the model proposed ( $M^{12}$ ) with the original model. Ideally, for a model that fits the data, the  $\chi^2$  would not be significant ( $p > 0.05$ ), the CFI and NNFI would be greater than 0.90, the SRMR would be lower than 0.08 and RMSEA would be ranging from 0.06 to 0.08. Assuming  $\chi^2$  to be sensitive to sample size, some authors recommend the calculation of the ratio between its value and the degrees of freedom ( $\chi^2/df$ ) as an indicator of ad hoc adjustment of the model, referencing values less than 3 as a result of a good model adjustment. The values obtained from the  $M^{12}$  match the parameters indicated in the literature.

**Table 4. Values of the indices of goodness of the global adjustment of the original and  $M^{12}$  models.**

Fit Index	Parameter	Original Model	$M^{12}$
$\chi^2$		1105.56 ( $df 576, p \leq 0.01$ )	1072.59 ( $df 576, p \leq 0.01$ )
$\chi^2/df$	Value lower than 3	1.92	1.86
CFI	Value higher than 0.90	0.91	0.99
NNFI	Value higher than 0.90	0.90	0.99
SRMR	Value lower than 0.08	0.07	0.06
RMSEA	Value ranging 0.06–0.08	0.05	0.07

From the analysis of the factor loadings for each item in the proposed model, it was verified values ranged from 0.57 to 0.95. All were significant at  $p < 0.05$ . Considering t values, the results point to relatively high values and also statistical significance. In this study, the datashowed relatively high values of magnitude of variance ( $R^2$ ) attributed to each sub-factor, with values between 0.32 and 0.90. The nine items related to Collaborate and Create competencies showed values of  $R^2$  that ranged from 0.45 to 0.64, with the item MBibr09 best describing Collaborate and items MBibr16 and MBibr17 best describing Create. For the Control competencies, results ranged from 0.42 to 0.61 and those of Compete competencies ranged from 0.32 to 0.90.

## DISCUSSION

The aim of this study was to evaluate the psychometric properties of the Managerial Behaviour Instrument, Portuguese version, for the Brazilian sport federations. The statistical analyses consisted of correlations, Cronbach's alpha and confirmatory factor analysis that showed acceptable psychometric properties for the Brazilian version.

The values of inter-item, item-subfactor, item-total correlations and the values of Cronbach's alpha of the sub-factors confirm those obtained in studies performed with the original version of the MBI, providing indications of the reliability of the instrument in other contexts [31, 39, 41]. The Cronbach's alpha values obtained in this study are consistent with what is recommended in the literature as the acceptable level for internal consistency, with values above 0.70 [50, 51].

In this study, all correlations between factors and subfactors were moderate or strong according to the criteria of Cohen [52]. Neighbouring factors presented higher correlation than opposing factors. So, these results corroborate the expected relationship between the factors which share the same axes (focus and structure) of the CVM model, as Collaborate and Create that share the internal focus, and in the contrary indication related to the opposite dimension, as Collaborate and Compete that do not share any axes [32, 33]. In contrast, the results of this study according to the correlation were only partially consistent with those found by Lawrence *et al.* in the original instrument validation study [31]. Lawrence's [31] research showed weak correlation (equivalent to 0.09) between the factors Collaborate and Control. However, the other correlations had values higher than 0.71, similarly to this study. Additionally, most of the values of the Lawrence's [31] study showed low degree of correlation or no correlation between sub-factors (values ranged from 0.01 to 0.29), in contrast with this study that showed moderate and strong relationships. A possible explanation for these results in Lawrence's [31] study is related to the influence of the disproportionate number of males in their study, which obtained three-quarters of the respondents. Kalliath *et al.* [53] and Buenger, Daft [54] in their research considering organizational effectiveness developed from the Competing Values Model found weak correlations between factors, with the exception between factors Create and Control. Kalliath *et al.* [53] argued that this result may have been influenced by a variety of reasons and one of the explanations is related to the time of the research, when turbulent change in the American health care industry was taken. In this situation, managers perceived that is necessary to have the balance between stability (Control) and innovative and creative problem solving (Create) [53].

Although there is previous evidence to evaluate the factor structure of the MBI using multivariate analysis, structural equation model and Bayesian circumplex model [31, 39 - 41], the current study added the confirmatory factor analysis (CFA). The respective values of fit indices of the global adjustment for the proposed model ( $\chi^2$ , CFI, NNFI, SRMR and RMSEA) correspond to all parameters suggested in the literature, resulting in an adequate fit [55 - 58]. In comparison with the original model developed by Lawrence *et al.* [31], the values are similar in five indices with the exception of the RMSEA index, which in our study corresponded to the literature suggestion. From the global adjustment of the model obtained with the confirmatory factor analyses, it can be affirmed that the leadership competencies model, in particular for sport federations, is a multidimensional construct integrating multiple criteria. Thus, the results of this study support a conceptualization of leadership competencies based on the four factors (Collaborate, Create, Control, Compete dimensions) of the competing values model with their respective 12 sub-factors (competencies) and 36 items (behaviours) [31, 59].

The squared multiple correlation ( $R^2$ ) indicates the proportion of variance in each item explained by its corresponding latent variable [60]. In this study, the values of the saturation of the items in their respective sub-factors, in which they were predicted to belong to, were high. So, these values of saturation reveal, precisely, its high identification with the construct that measure similarly to others studies that evaluate the organizational effectiveness and culture based on the competing values model [53, 61].

## CONCLUSION

The results of this study showed acceptable psychometric properties of the Brazilian version of the MBI with adequate values for internal consistency and fit indices of global adjustment of the measurement model, attesting a reliable and valid MBIBr. It is stated that the items referred to the MBIBr support a quality instrument of measurement of the leadership competencies in the context of Brazilian sports federations and it is consistent with the original model. Thus, the MBIBr can be recommended for researchers interested in investigating leadership competencies in the sport management area seeking to advance in knowledge available in respect to this subject not only in terms of its applied, but also in the conceptual plan.

It is important to highlight the need to develop further studies in the context of sports management in other cultures and with other samples to ensure the suitability of this multidimensional model. For this, the adaptation on the MBIBr may be necessary to adjust to the characteristics of the organization analysed, for example the behaviours related to Visionary competency, where in this study in federations the relationship with the external members relates to

associations and/or clubs. Therefore, further research is recommended with the application of the MBIBr in another context, segments and with samples that have different features from those presented in this study.

Future research should also consider the relationship between a person's self-evaluations and stakeholders' ratings to offer useful comparisons between the perspectives of different evaluators for those leadership competencies performed. Additionally, the MBIBr could be used to conduct cross-cultural studies in order to compare sports managers' competencies and to compare sports organizations member's perceptions of perceived and preferred leadership competencies. In this sense, these investigations in this field will contribute to the generation of wider knowledge about the competencies in the field of sport management, which can also serve as a basis for the establishment of curricula of courses more adapted to the reality of this area.

## CONFLICT OF INTEREST

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