Creative Potential Measure for Organizations: Instrument Construction and Content Validity Evidences

Escala de Potencial Criativo para Organizações: Construção de Instrumento e Evidências de Validade de Conteúdo

Potencial creativo de convocatoria de las organizaciones: construcción de instrumento y evidencia de validez de contenido

Gabriela Fabbro **Spadari**[1]
Tatiana de Cássia **Nakano**[2]
Luísa Bastos **Gomes**[3]

Abstract
The present study reports the process of developing a scale to assess creative characteristics in the organizational context, as well as the results of the search for evidence of content validity. From an interview with 10 leaders, managers, and supervisors, 18 creative characteristics valued in the organizational environment were selected to compose the items on the scale. Each characteristic gave rise to two items, with one version consisting of 36 items, which was subjected to content evaluation by five expert judges. Two evaluation rounds were conducted and indicated the adequacy of the items. Subsequently, the kappa statistic for each judge was estimated and indicated values that were considered adequate, between .85 and .97. After completing the studies reported here, further studies aimed at investigating the psychometric qualities of the scale are recommended, involving the analysis of empirical data.
Keywords: psychological assessment, test construction, test validity, creativity in organizations.

Resumo
O presente estudo teve como objetivo criar uma escala para avaliar as características da criatividade no contexto organizacional, bem como realizar estudos iniciais de exploração das suas qualidades psicométricas. Para isso, realizou-se dois estudos. O primeiro teve como objetivo construir o instrumento a partir de entrevista com 10 líderes, gerentes e supervisores, a fim de conhecer as principais características da criatividade valorizadas no ambiente organizacional. Como resultado, 18 características foram selecionadas, originando 36 itens, ou seja, dois itens para cada caraterística. O segundo estudo buscou evidências de validade de conteúdo por meio da análise de juízes de conteúdo (kappa dos 5 juízes = 0,85; 0,94; 0,91; 0,97; 0,91), apontando resultados adequados em todos os itens, ressalta-se que nove deles passaram por outra rodada de avaliação, após modificações. Sugerimos que novos estudos sejam realizados com o instrumento, considerando outros critérios, bem como aqueles que visem a investigação da precisão.
Palavras-chave: avaliação psicológica, construção de teste, validade de teste, criatividade nas organizações.

Resumen
El presente estudio informa el proceso de desarrollar una escala para evaluar las características creativas en el contexto organizacional, así como los resultados de la búsqueda de evidencia de validez de contenido. De una entrevista con 10 líderes, gerentes y supervisores, se seleccionaron 18 características creativas valoradas en el entorno organizacional para componer los ítems en la escala. Cada característica dio lugar a dos elementos, en una versión que consta de 36 elementos, que fue sometido a evaluación de contenido por cinco jueces expertos. Se realizaron dos rondas de evaluación que indicaron la adecuación de los ítems. Posteriormente, se estimó la estadística kappa para cada juez y se indicaron valores considerados adecuados, entre 0,85 y 0,97. Después de completar los estudios aquí informados, se recomiendan otros estudios destinados a investigar las cualidades psicométricas de la escala, que incluyen el análisis de datos empíricos.
Palabras clave: evaluación psicológica, construcción de prueba, validez de prueba, creatividad en las organizaciones.

[1] PhD student in Psychological Assessment, Capes Scholarship, PUC-Campinas. E-mail para correspondência: gfspadari@gmail.com
[2] PhD, Professor of post-graduate studies in Psychology, PUC-Campinas.
[3] M.S. student in Psychlogical Assessment, Cnpq Scholarship, PUC-Campinas.

Introduction

The intense global competition established currently demands the development of a culture that supports creativity (ElMelegy, Mohiuddin, Boronico, & Maasher, 2016; Lace, Buldakova, & Rumbinaite, 2015). In organizational context, the creative performance flourishes from the relationship between individual and his work, and between individuals working together (Leopoldino, González, & Júnior, 2016).

In some organizations and work environment, this construct is still not considered as an important dimension, creativity is not allowed and workers are not able to express ideas or different viewpoints and there is not a safe atmosphere to present new ideas (Keenan & Henriksen, 2017). Major constraints on creativity in organizations can be noted (Ezzat, Le Masson, & Weil, 2017). Consequently, the understanding of how organizations can become creative over the time continues underdeveloped (Fortwengel, Schuessler, & Sydow, 2017).

In the organizational context, creativity involves the creation of a valuable, useful and new product, idea, procedure or process, made by creative professionals, with the aim to pursue and achieve high quality standards in generation of ideas (Gazzaroli, Gozzoli, & Sánchez-Gardey, 2019). Individual factors (intrinsic motivation, knowledge and expertise) and social factors (group composition, characteristics, processes and social networks) interact, influencing the ability of organizational members to produce new ideas (Thompson, 2018). The role of leaders, in this sense, is to enhance employees' creativity by incentivizing the creative potential of each member (Tu, Lu, Choi, & Guo, 2018).

The most striking feature of this new age entails flexibility (Paula, 2013), as well as the search for employees who exhibit initiative, peer cooperation and managers who act as true leaders. These characteristics have been understood by authors as important individual abilities when dealing with current challenges (Gonçalves, Fleith, & Libório, 2011). The search for the development of creativity, as well as for quick, competent and creative actions (Oliveira, 2010), become requirements for getting hired and remaining at work. The search for employees whom are "adaptable, flexible and able to succeed in challenging, changing and complex contexts" is essential in the current context (Candeias, Rebelo, Silva, & Mendes, 2011, p.54).

The production of new ideas is recognized by organizations as a way to obtain a differential (Almeida Nogueira, Jesus, & Mimoso, 2013) and furthermore diversifying products, shortening demands, recruitment process and retaining good employees (Gupta & Banerjee, 2016; Torres-Oliveira, 2011), generating useful solutions for the most wide-ranging demands (ElMelegy et al., 2016).

According to Spadari (2020), the development of creative potential occurs when organizations generate incentive programs which facilitate members' ideas, with teams that praise the development of new ideas and when preparing programs to train creativity in employees.

Consequently, studies aimed at identifying factors and individual characteristics that may influence the worker's performance and, thus, the productivity of the company (Nakano et al., 2011), are essential. While it may be noticed an increase in the interest of organizational creativity, Bruno-Faria, Veiga and Macedo (2008) highlight the existence of gaps. This way, there are no doubts for the need on Brazilian studies related to creativity and working environment (Moraes & Azevedo, 2009).

This gap can be confirmed in the results presented by different research reviews on creativity, which showed that although there was an increase of scientific production on

creativity in organizations over the years, the amount of studies still remains low (Bruno-Faria, Veiga & Macedo, 2008). Creativity on organizational context occupies between 2% to 10.3% of the work on this thematic, depending on the queried database (Nakano & Wechsler, 2007; Spadari & Nakano, 2015; Wechsler & Nakano, 2003; Zanella & Titon, 2005). Even if the number of studies have widened in the international context, the Brazilian production is still in its early stages regarding this specific area (Nakano & Wechsler, 2007; Parolin, 2003; Wechsler & Nakano, 2003) and these studies have been developed mainly from the early 90's, with a remarkable increase after the year 2008 (Spadari & Nakano, 2015).

In this field, there is still limited research focused on how to measure creativity within groups and into an organizational level (Indriartiningtias & Subagyo, 2017). Little effort has been spent in order to identify aspects related to creative people in organizations (Gimenez, 1993). Only one Brazilian instrument, the "Scale of Thinking and Creative styles" (Wechsler, 2007), has been studied more intensely in this context, notably in studies involving organizational leaders and subordinates (Mundim & Wechsler, 2007), as well as professionals from different positions within a company (Nakano et al., 2011). It's important to consider that this instrument does not have the purpose of quantifying the level of creativity, but aims to display a qualitative analysis about the preferred modes of thinking and creating.

The difficulties found when assessing creativity in the organizational context, both when recruiting, selecting and periodically monitoring employees, as well as the fact that the creative organizational incentive programs are drawn in a widespread manner, ends up disregarding individual differences of personality or characteristics of the group (Correia & Dellagnelo, 2004), worsening the scenario. Therefore, considering how important studies aimed at assessing creativity in the organizational context are, as well as the recommendations of the scientific literature on the need for development of measures presenting evidence of validity specific to the populations and contexts in which they will be used, the authors have initiated the development of a creative potential scale for organizations.

It is important to note that the process of scale development involves several theoretical, methodological and statistical stages. According to Carpenter (2018), the first steps involves the selection of an appropriated conceptual definition, identification of potential dimensions and items, qualitative research to generate items and expert feedback to refine scale. These steps were included in two studies presented in this paper. The first study presents a construction proposal for a scale to assess creative characteristics presented by individuals in work context. Theoretical basis was selected to support the proposal presented by this article.

The psychometric qualities of the instrument under development need to be investigated, notably those related to evidence of validity and accuracy. In study 2, evidence of content validity was investigated through the analysis of expert judges. This type of validity is a critical and complex step during the development process of instruments, providing evidence on the degree to which items are relevant and representative of the targeted construct (Almanasreh, Moles, & Chen, 2019). According to the authors, this process involves consulting experts and their judgement about the relevance and representativeness of each item to its content domain. Most common indices have been used to quantify the expert judgements, like content validity ratio, agreement percentage and kappa coefficient. Two of them were used in this study

(agreement percentage and kappa coefficient). The methodology used in each study, as well as the results obtained are presented below.

Method

Study 1: Scale development process

Throughout the process of generating psychological instruments, one essential step includes the establishment of a theoretical basis (Pasquali, 2010), involving the definition of categories and features that will constitute the empirical representation of the latent traits and ways to operationalize them properly. According to the same author, this goal can be reached by commonly using methods involving consulting "relevant literature about the construct, experts' opinion in the field, the researcher's own experience, as well as content analysis of the construct" (p. 175). Given the possibilities, in Study 1, both methods were used.

Participants

The experts' sample was composed of 10 participants, selected by convenience, from eight different medium and large companies located in the State of São Paulo, operating from different branches (logistics, construction, marketing, footwear, automotive and publishing company). Five participants were female and five were male, including two directors, three managers (human resources, logistics and accounts), four analysts (two from exporting, one from human resources and one from accounting) and a trainee. The sample age ranged from 26 to 49 years old (M= 34,2 years; Median = 35 years).

As a criterion to their inclusion, the participants had to be working in a medium or large company, held a management or leadership position, signed the informed consent and agreed to answer questions. A minimum workplace settlement time-range was postulated so the individual could participate as part of the sample (6 months minimum).

Instrument

As means to collect data about professionals working in management positions or leadership, a semi-structured interview was elaborated containing two open questions: 'when hiring someone, what characteristics are assessed to consider the person as creative?' and 'when evaluating the employee's performance, what characteristics determine whether or not he/she is creative in the organizational environment?'. By proposing two different ways to focus on the construct, the objective was to allow the first question to assist the researchers in knowledge of the creative features that are evaluated during the selection process of the staff (usually conducted by the human resources department). In the second question, we were looking forward to encounter creative features that are usually identified in employees who are already part of the company's frame during the evaluation process. This way, researchers try to develop a scale that can identify creativity in organizational environment both at the time of hiring as when further monitoring of the professional.

Procedures

Through personal contacts or third-party indications, the researcher made contact with overall 10 companies. Of all, eight were available and were used as data collection site. A day was scheduled in which the responsible company received clarifications about

the goal of research and the conditions for the participation of its employees. In this first contact, the responsible for the company had the opportunity to read and sign the authorization letter of the institution. The research project was referred for evaluation and had its implementation approved by the Research Ethics Committee (CAAE 48865115.8.0000.5481).

Subsequently, the employees were addressed individually during their working hours. Each employee was presented the informed consent, informing the purpose of the research, as well as the issue of confidentiality. After signing the terms, all data was collected from participants who accepted to participate. The questionnaire was delivered in a printed A4 sheet, and employees were instructed to answer the questions without time limit. The researcher stayed next to the participant during the answer process, so that any questions could be answered regarding the test, without, however, seeing what was being answered, in order to avoid any kind of embarrassment or intimidation.

Results

Considering the twenty responses provided by the participants, 10 answers related to question 1 and the other 10 regarding question 2, were made available to the research group, composed of master and doctoral students, who assisted in the discussion on the relevance of the obtained answers. Such a procedure had the goal to list the main creative indicators cited by interviewed professionals and check the characteristics that were present in the scientific literature.

Thus, a total of 18 creative characteristics valued in the organizational environment had been selected to serve as a basis for the construction of the items.

It should be noted that some of the creative characteristics were cited by more than one respondent, selecting characteristics presented by the scientific literature. In this process, answers that don't involve characteristics directly related to creativity, such as commercial sales profile, punctuality, clothing (the way in which a person dresses) as well as myths (such as the ability to "think outside the box"), mistaken beliefs ("creativity doesn't happen when people do things differently from the rules" and "creativity is related to logical reasoning") or related to common sense ("how one behaves") associated with the construct were excluded.

Thus, 18 creative characteristics valued in the organizational environment had been selected to serve as a basis for the construction of the items. The researchers had defined that two items should be drawn for each characteristic, so that the scale does not became too extensive, ensuring that each characteristic would not be unexamined by means of a single item.

Bearing in mind the construction process of the items, the main researcher, her mentor, a graduate student and three doctoral students participated, making use of the brainstorm method, assisted the authors in the items' writing process, closing into two for each selected characteristic.

All ideas were noted, without any type of filter or criticism, being reread later and then evaluated by the group. Considering that, through this way, a large number of ideas were generated for the items, in a second moment, later, the same group gathered to judge each of the items in relation to its suitability and clarity. Therefore, the items that compose the first version of the instrument were decided. From this selection, a first version of the instrument with 36 items was drawn up. The selected creative characteristics and its item distribution are presented in Table 1, which includes the definitions of each one.

Table 1
Creative Characteristics, Definitions and Corresponding Items

Characteristic	Definition	Item	Example of an answer used as a base to item content
Significant changes to company	Creating a project that influenced changes to company.	7 18	Creating a project and the person's professional life has influenced significant changes to the company
Power to influence	Ability to influence the team with your ideas.	2 33	The employee easily influences colleagues
Innovation/put ideas into practice	Ability to put the ideas into practice, i.e. innovate.	5 20	Possibility of the person making ideas into reality
Problem-solving	Ability to solve various problems.	19 3	Assess the way the person solves problems that I already know, checking the solution proposed by the candidate
Originality	Ability to think in different and unusual ideas when solving problems (Wechsler, 2004).	21 30	I consider the person as creative when he/she presents different solutions to the company's problems
Efficiency	Ability to perform the work efficiently, i.e. producing effect.	4 10	Ability to solve problems, bringing efficiency to processes, solutions that bring more with less
Flexibility	Ability to look at a problem in different ways (Wechsler, 2004).	6 14	Flexible people tend not only to consider their own point of view, thus facilitating the creative process
Openness to new experiences/new possibilities	Effortlessness in joining new experiences and little resistance to change.	1 34	People open to new experiences, without addictions and with little resistance to change
Boldness and Courage	Ability to face risk when in grievous or difficult situations.	8 22	It is important that the employee is not afraid of making mistakes or taking risks
Curiosity	Presents desire to inform themselves and learn about a variety of subjects.	11 26	He must be observant and needs to be curious
Benefits/improvement (product/process/approach)	Ability to contribute to the improvement and/or growth of the company.	9 29	Contributions to the improvement of processes, work methods and even the level of interpersonal relationships
Capacity/ease communicating	Ease when wandering in various contexts.	12 23	Evaluate the ability and employee's ease when expressing problems
Sensitivity to change/adaptability	Self-perception to adapt and to change opinions when facing unforeseen situations.	13 27	Sensitivity to changes and changes that have not been planned
Making initiative	Presents ease when taking initiatives.	16 32	Employee who shows initiative, that actually does the work and is proactive
Taking advantage of opportunities	Ability to understand and adhere to various opportunities arising in the workplace.	31 35	The more the employee takes over the area, the more he feels safe and will seek other paths
Facing and seeking challenges	Feeling instigated when facing different challenges, as well as easily facing them.	24 36	I believe the main point is the evaluation of how this employee acts when facing challenges, using creativity when in challenging situations
Aversion to activities which requires repetitive behaviors	Presents low tolerance to routine activities.	15 28	Extremely creative people get demotivated and lose their focus on to routine activities. We need to supply them tasks that can take advantage of their creativity
Emotional balance	Presents emotional balance on most varied contexts.	17 25	Emotional balance when facing mistakes, losses and failures

Later, with the first version of the instrument finished, Study 2 was conducted, with the aim of assessing the items' adequacy and relevancy through judges' analysis.

Study 2: Search for evidence of content validity

According to Nunes and Primi (2010), such evidence "intents to demonstrate that the content of the items in the instrument is suitable to represent a domain of behaviors, that is, if items are comprehensive and representative samples of the domain which you want to assess with the test. In this type of study, the items' adequacy is assessed to verify if each item represents a construct, through the so-called judges' analysis, being a crucial step in the process of building instruments (Pasquali, 2010).

Participants

The sample was composed by five independent judges, one master's student and four doctoral students, all female. All judges were studying psychological assessment with knowledge on the thematic of creativity. The participants from study 2 were not the same who participated in this study 1, seeking to avoid, in this way, some bias which could influence the results of the evaluation.

Instrument

Each judge received a document containing instructions for the task, with the matching coded numbers of each of the traits evaluated and the 36 items to be judged. The document contained two tables: the first table was composed of definitions/factors for the created items and the second table contained the items and a space for the response from the judge (the number of the factor which the judge thinks the item refers to), following literature recommendations (Pasquali, 2010).

Procedures

After the judges signed the consent term, each participant had received, by email, an evaluation form, in which the goal of the survey was provided, explaining the task to be developed by each judge (involving reading each of the items that make up the scale, judging which of the six characteristics it fits into, by selecting an x into the corresponding column).

In order to prevent the items becoming grouped in accordance with the corresponding characteristic, the items were organized into a single list, randomly, followed by a blank column. This column corresponded to the location where the judge should mark the characteristic number that the judges should assessed by the item. This procedure was adopted in order to hinder onto the judges the discovery of the items by checking its disposition, so that it was not possible to identify subgroups of items by similarity or proximity.

Upon receiving the forms, the researchers carried out the survey of the categories identified by the judges for each of the items, in order to verify the percentage of agreement between them. This method is defined as an association measure used to describe and test the degree of agreement between different judges (Perroca & Gaidzinski, 2003).

As a criterion for item suitability, it was determined that those items which had obtained agreement above 80% would be selected, following the recommendation of Pasquali (2010). Those which attended such criterion continued on the scale. Others items which were below this percentage, were rewritten or relocated into other possible categories identified by the judges.

Considering that this statistical method should not be used as a single measure of agreement, since it presents limitations (Perroca & Gaidzinski, 2003), the Kappa coefficient calculation for each judge was added. The two complementary methods were added, considering that the first analyzes the quality of the items and the second the quality of the judges. The criteria adopted for the Kappa values were: above .75 excellent agreement; between .40 and .75, satisfactory agreement and below .40 unsatisfactory agreement, according to the literary foundation (Fleiss, Levin, & Paik, 2003).

Results

The first analysis sought to determine the index of judges' concordance, through percentage estimation. The results were very positive, as seventeen of 36 items, reached perfect concordance index (100%). Another ten items presented substantial agreement (80%), showing appropriateness. So, after the first round of review, it was found that 75% of the items had reached desirable values of concordance between the evaluating judges.

Other five items showed an agreement percentage of 60%, two items had reached only 40% and one item had reached 20%. We highlight the fact that, unexpectedly, an item was evaluated by the judges as belonging to the category 'aversion to activities which require repetitive behaviors' (getting 80% agreement on this category), however, the category theoretically expected would be 'openness to new experiences/new possibilities of action'. Given this fact, the item was reallocated to the category where it achieved consensus evaluation.

The eight items which presented value below than expected have been rewritten, in order to contemplate new statements, they were sent back to the judges for a second round of review. The new analysis pointed out that, of the total, five items have reached perfect agreement (100%) and three showed substantial agreement (80%). In this way, all the items presented, now, agreement level considered ideal for studies of this nature.

Later, a second analysis of the results was made crossing the judges' ratings in the 18 categories evaluated in the instrument, making use of the Kappa coefficient. For this, the ratings made by each of the judges were compared with the ideal classification established by researchers for the scale, through the creation corresponding to the column "ideal judge", that is, the category that ideally the item would belong to (according to the theoretical model and feature definition from which the items had been developed). The results are in Table 2.

For this calculation, three measures were considered: number of items classified by the judge in each area (considering the number of items that each judge assigns to each evaluated characteristic, not providing a priori, the information that there were two statements for each category), number of correct answers (considering, among the total of attributed items to a particular characteristic, how many actually were part of it) and the percentage of correct answers (calculated from dividing the number of items ranked by the judge in each characteristic, for the number of expected items).

Table 2
Kappa Coeficient Obtained by the Judges and Ideal Classification of the Instrument.

Characteristic		Judge 1	Judge 2	Judge 3	Judge 4	Judge 5	Number of Items Classified
Significant changes to company	Number of items	2	2	2	2	2	
	Correct answers	2	2	2	2	2	10
	Percentage	100	100	100	100	100	
Power to influence	Number of items	2	2	2	2	1	
	Correct answers	2	2	2	2	1	9
	Percentage	100	100	100	100	50	
Innovation/put ideas into practice	Number of items	3	2	2	2	3	
	Correct answers	2	2	2	2	2	12
	Percentage	66,6	100	100	100	66,6	
Problem-solving	Number of items	1	2	3	2	2	
	Correct answers	1	2	2	2	2	10
	Percentage	50	100	66,6	100	100	
Originality	Number of items	1	2	2	2	2	
	Correct answers	1	2	2	2	2	9
	Percentage	50	100	100	100	100	
Efficiency	Number of items	2	2	1	2	2	
	Correct answers	2	2	1	2	2	9
	Percentage	100	100	50	100	100	
Flexibility	Number of items	4	2	2	2	1	
	Correct answers	2	2	2	2	1	11
	Percentage	50	100	100	100	50	
Openness to new experiences/possibilities	Number of items	3	2	1	1	3	
	Correct answers	2	2	1	1	2	10
	Percentage	66,6	100	50	50	66,6	
Boldness and Courage	Number of items	2	1	2	2	1	
	Correct answers	2	1	2	2	1	8
	Percentage	100	50	100	100	50	
Curiosity	Number of items	1	2	3	2	2	
	Correct answers	1	2	2	2	2	10
	Percentage	50	100	66,6	100	100	
Benefits/improvement of product/process/approach	Number of items	2	2	2	2	2	
	Correct answers	2	2	2	2	2	10
	Percentage	100	100	100	100	100	
Good communication skills	Number of items	2	2	2	2	2	
	Correct answers	2	2	2	2	2	10
	Percentage	100	100	100	100	100	
Sensitivity to change/adaptability	Number of items	1	3	2	3	2	
	Correct answers	1	2	2	2	2	11
	Percentage	50	66,6	100	66,6	100	
Initiative	Number of items	3	2	2	2	2	
	Correct answers	2	2	2	2	2	11
	Percentage	66,6	100	100	100	100	
Taking advantage of opportunities	Number of items	2	2	2	2	2	
	Correct answers	2	2	2	2	2	10
	Percentage	100	100	100	100	100	
Facing and seeking challenges	Number of items	1	2	2	2	2	
	Correct answers	1	2	2	2	2	9
	Percentage	50	100	100	100	100	
Aversion to activities which require repetitive behaviors	Number of items	2	2	2	2	3	
	Correct answers	2	1	2	2	2	11
	Percentage	100	50	100	100	66,6	
Emotional control	Number of items	2	2	1	2	2	
	Correct answers	2	2	1	2	2	9
	Percentage	100	100	50	100	100	
Kappa		0,85	0,94	0,91	0,97	0,91	

In accordance with the values obtained by the Kappa analysis, the agreement rate considered excellent (over .75) was obtained by all the judges. In the same table, we can still highlight the fact that, in categories such as 'significant change for the company', 'benefits/improvement (product/process/working method)', 'capacity/use of communication' and 'taking advantage of opportunities', all of the judges adequately evaluated the items in relation to the characteristic initially thought by the researchers. In the other categories, the success rate ranged between 50 and 66.6%. The judge who had the greatest margin of error was a PhD student (Judge 1).

As of the obtained results, both the analysis of agreement percentage as well as the quality of the judges' answers pointed to the existence of content validity evidence of the created instrument. The results are discussed below.

Discussion

Although the number of studies on creativity has gained space in the scientific scenario throughout recent decades, there is still little research that address its application in the organizational context (Nakano et al., 2011), specially targeting identify the employees' creative potential and studies focused on the development or adaptation of instruments for use in this specific context (Crespo, 2004; Nakano & Wechsler, 2007; Zanella & Titon, 2005).

Scientific literature has been showing that this area is still in a novice state, since most of the existing jobs are "practical" manuals on how to become more creative, and there are sparse scientific studies on the topic (Bruno-Faria et al., 2008). Therefore, the study reported, involving the construction process and search for validity evidence for a psychological test, acquires scientific importance given the shortage of appropriate instruments to assess the construct (De La Torre, 1991).

After the creation of items which compose the instrument, the first study was developed with the goal of investigating its content validity evidence. According to literature, this evidence has to be administered before the instrument is applied to the projected population, considered as a primary procedure in the construction of new measures (Alexander & Coluci, 2011; Acharya, Sharma, & Baptista, 2011; Beckstead, 2009).

Overall, results indicated positive validity evidence of the scale, in order to confirm the content suitability of the scale to the construct that it intends to assess. In all areas selected previously, the judges have classified the majority of items according to the expected, with achievement concordance rates exceeding 80% in the first round of review.

Some items showed lower value of concordance, inferior to the desired value in different categories: 'innovation/putting ideas into practice' (two items), 'openness to new experiences/new possibilities of action' (two items), 'problem-solving' (one item), 'curiosity' (one item), 'aversion to repetitive behaviors' (one item), flexibility' (one item) and 'boldness and courage' (one item), 'sensitivity to change /adaptability' (one item). Given the distribution of items in different categories, we did not work with the hypothesis of problems related to a specific definition of a category.

The second analysis had as objective, the quality analysis of the judges' assessment. The results showed indexes considered suitable for all judges, and none stood out negatively. Some categories had their items judged correctly by all the judges and

other categories, such as "sensitivity to change/adaptability", demonstrated a greater difficulty of judgement by the experts.

As previous studies have shown, the result of this analysis confirms the existence of some similarities in the description of some creative characteristics, for example, fluency, flexibility and originality (Clapham, 1998; Moraes & Azevedo, 2009; Nakano & Primi, 2012). With the instrument presented here, such a situation may have happened in relation to categories, for example, as originality, curiosity and non-conformity. The presence of one of them could end up leading to another, making it harder to differentiate between the terms. The researchers work with the possibility that this fact may have had some influence on the results.

The results presented in this study confirmed content validity evidence of the scale, and the judges exercised properly their role of analyzing the creativity model represented within the contents of the items. Therefore, one can consider that the scale, the way it was composed after the results of this study, is suitable for application to subsequent studies when searching for other types of validity evidence. Some studies have already been conducted with the instrumental, after the elaboration of the research reported here. They involved the investigation of the factorial structure of the instrument and its reliability (Spadari, Nakano, & Peixoto, 2017).

Conclusions

The research had, as a general objective, the aim to present the process of construction of a creative potential scale at work, as well as the results of the first study of investigation of its psychometric properties. The data provided preliminary evidence to suggest the adequacy of the items that were created for this instrument.

Considering that content validity should involve a rigorous assessment process, the obtained information from this process displays an invaluable quality of the newly developed instrument, as so, we can consider that the study has achieved its goals. Some limitations, like the number of judges, their qualifications, as well as their previous conceptions of creativity may have had an influence on judgments made. The researchers could also have invited the judges to judge the relevance of the item for the construct and for the proposed characteristic.

Future research will have to continue to explore other psychometric evidence of the instrumental, involving, for example, other sources of validity evidence and accuracy, based on empirical data.

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