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Adaptation and Initial Validation of the Passion Scale in a Portuguese Sample

Adaptación y validación inicial de la Escala de Pasión en una muestra portuguesa

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Passion is defined as a strong inclination to engage in an activity that people like, that they find important, and in which they invest time and energy. As no specific measure to assess levels of passion in the workplace in Portugal is available, the aim of this study was to adapt the Passion scale into Portuguese and validate it. The scale was translated from English into Portuguese using the forward-backward translation method and administered to a sample of 551 Portuguese workers. Exploratory factor analyses were conducted to test the replicability of the scale. The results confirmed the expected two-factor structure: harmonious passion and obsessive passion. However, the initial criterion of the replication of the factorial structure based on item factor loadings was not fulfilled. Criterion-related validity was tested by correlations with passion and job satisfaction. Regarding internal consistency, adequate alpha coefficients were obtained for both factors.

Key words: Passion Scale; Job Satisfaction; Exploratory Factor Analysis; Positive Psychology.

La pasión se define como una fuerte tendencia hacia una actividad que las personas gustan, que consideran importante y en la que están dispuestas a invertir tiempo y energía. Dada la falta de instrumentos específicos para medir niveles de pasión en el trabajo en Portugal, el objetivo de este estudio es adaptar y validar la versión portuguesa de la Escala de Pasión. Tras la traducción del inglés al portugués mediante el método forward-backward, la escala fue aplicada a 551 trabajadores portugueses. Mediante análisis factoriales exploratorios se comprobó la replicabilidad de la escala. Los resultados confirmaron la estructura bifactorial esperada: pasión armoniosa y pasión obsesiva; no obstante, no se cumplió el criterio básico de replicación de la estructura factorial, basado en las cargas factoriales de los ítems. La validez de criterio fue comprobada a través de correlaciones entre pasión y satisfacción en el trabajo y, en relación a la consistencia interna, se obtuvieron adecuados índices de fiabilidad para ambos factores.

Palabras clave: Escala de Pasión; Satisfacción en el Trabajo; Análisis Factorial Exploratorio; Psicología Positiva.

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Negative emotional states are popular in Psychology; however, an important change is currently taking place in this area from the perspective of a new “positive psychology”. The emerging positive psychology transforms the focus on weakness and malfunctioning to human strengths and optimal functioning (Seligman & Csikszentmihalyi, 2000; Seligman, Steen, Park & Peterson, 2005). According to Seligman and Csikszentmihalyi (2000), the question is how people’s lives can be worth living. According to Vallerand and colleagues, the concept of passion represents one answer to the above question (Vallerand et al., 2003; Vallerand, Paquet, Philippe & Charest, 2010).

Passion can fuel motivation, enhance wellbeing, and provide meaning in everyday life. However, passion can also arouse negative emotions, lead to inflexible persistence, and interfere with achieving a balanced, successful life. In the work context, harmonious passion occurs when individuals freely accept work as important for them without any contingencies attached to it (Marsh et al., 2013; Vallerand et al., 2003, 2010). Obsessive passion, by contrast, can eventually take disproportionate space in the person’s identity and cause conflict with other activities in the person’s life (Marsh et al., 2013; Vallerand et al., 2003, 2010). It could have negative consequences such as burnout and workaholism (Aziz, Uhrich, Wuensch & Swords, 2013; Carboneau, Vallerand, Fernet & Guay, 2008; Vallerand et al., 2010).

The influence of passion makes it a challenge for researchers to measure it. In this sense, Vallerand et al. (2003) developed the Passion scale focused on general activities. Later, Marsh et al. (2013) demonstrated that the Passion Scale is appropriate for assessing passion across a wide variety of activities, including work, in its English and French versions. As there is no adaptation of this instrument for the Portuguese-speaking countries, this study aims to contribute to the adaptation and to the validation of the Portuguese version of the Passion Scale.

A dualistic model of passion

In recent years, an increasing amount of research in psychology has been delayed with providing a better understanding of what makes people’s lives more fulfilling. Although several concepts have been found useful for shedding light on what leads to a better life, ten years of research has shown that the concept of passion represents one important answer to this question (Snyder & López, 2009; Vallerand et al., 2003). People who wake up in the morning with a smile on their face “because today is football day” or people who work hard for a cause, all have passion that makes their lives worth living.

According to Vallerand et al. (2003), passion can be defined as “a strong inclination toward an activity that people like, that they find important, and in which they invest time and energy” (p. 757). Thus, for an activity to represent a passion for people, it has to be significant in their lives, something that they like,

and something at which they spend time on a regular basis. It should be noted that the source of a passion could be oriented toward an activity (e.g., playing the piano, working), a person (e.g., one’s romantic partner), or an object (e.g., a football card collection) (Marsh et al., 2013; Vallerand et al., 2003).

Vallerand et al. (2003) propose that there are two types of passion, obsessive passion and harmonious passion, that can be distinguished in terms of how the passionate activity is internalized into one’s core self or identity. Identity refers to an individual’s relevant features, characteristics, and experiences, and how these are interrelated, as well as the social and self-regulation functions that such features serve (Schlenker, 1985). According to Vallerand et al. (2003), certain activities could be so self-defining that they represent central features of one’s identity.

On the other hand, internalization represents the process through which individuals transform socially sanctioned values and behaviors into personally endorsed ones (Deci & Ryan, 2000). When the internalization process is autonomous, people voluntarily recognize these principles as important, assimilate them into their identity, and, thus, fully accept them as their own. However, when the internalization process is controlled, people are compelled to identify with these principles; thus, behaviors and values may either remain external or be only partially internalized in the identity (Marsh et al., 2013). In the same vein, Vallerand et al. (2003) proposed that these two types of internalization should take place for sources of passion and these processes should be conducive to harmonious passion and obsessive passion, respectively.

Harmonious passion results from an autonomous internalization of the activity into the person’s identity. It refers to a strong desire to freely engage in the activity (e.g., work). Such internalization process occurs in contexts where the person willingly accepts his or her passion as important, instead of feeling internally or externally pressured to do so (Vallerand et al., 2003). With this type of passion, the activity occupies a significant but not overpowering space in the person’s identity and is in harmony with other aspects of the person’s life. People with a predominant harmonious passion should thus experience positive outcomes not only during (e.g., positive affect, concentration, flow) but also after task engagement (e.g., general positive affect, psychological adjustment) (Marsh et al., 2013).

Obsessive passion refers to an uncontrollable urge to partake in the passion and results from a controlled internalization of the passion into one’s identity (Marsh et al., 2013; Vallerand et al., 2003). This process originates from interpersonal and/or intrapersonal pressure because particular contingencies are attached to the passion, such as feelings of social acceptance or self-esteem, or because the sense of excitement derived from activity engagement becomes uncontrollable. Although individuals like the activity, they feel compelled to engage in it because of these internal contingencies that come to

control them. Because activity engagement is out of the person's control, it eventually takes disproportionate space in the person's identity and causes conflict with other activities in the person's life (Marsh et al., 2013; Vallerand et al., 2003, 2010).

Whether a passion will foster positive affect and healthy persistence depends on whether it is harmonious or obsessive. With respect to affective outcomes, harmonious passion should lead to greater positive affect and less negative affect than obsessive passion during task engagement. This is because the autonomous internalization of the activity leads the person to engage in the task in a more flexible manner and thus to experience task engagement more fully. Such a flexible form of activity engagement should facilitate better concentration and the experience of positive affect, absorption, and flow. Such is not the case for obsessive passion, because a controlled internalization breeds an internal compulsion to engage in the activity, leading to a more rigid and conflicted form of task engagement (Deci & Ryan, 2000; Vallerand et al., 2003, 2010).

Furthermore, harmonious passion should also contribute to the experience of positive affect and minimize the experience of negative affect after task engagement. This is because with harmonious passion, people are in control of the activity. They can decide whether or not to engage in the activity, as well as when the engagement occurs. This results in very minimal conflict between the passionate activity and other activities in the person's life. On the contrary, obsessive passion leads the person to engage in the activity even when he or she should not, causing conflict between the passionate activity and participation in other tasks. For instance, the person could feel guilty for having holidays when he or she was supposed to work on the last project in the company (Stenseng, 2008).

The Passion Scale

This dualistic model of passion is the theoretical framework on which the Passion Scale (Vallerand et al., 2003) is based. This questionnaire was designed to measure both obsessive and harmonious passion. Obsessive passion refers to a controlled internalization of an activity in one's identity that creates an internal pressure to engage in the activity that the person likes. Harmonious passion refers to an autonomous internalization that leads individuals to choose to engage in the activity willingly and engenders a sense of volition and personal endorsement about pursuing the activity.

Empirical findings support this conceptualization of passion. Exploratory and confirmatory factor analyses supported the two-factor structure of the Passion Scale (Carbonneau et al., 2008; Marsh et al., 2013; Schellenberg, Gaudreau & Crocker, 2013; Vallerand et al., 2010) in the French and English versions. The Passion Scale has shown high levels of internal consistency as well as predictive, discriminant construct, and external evidence in diverse activities (Marsh et

al., 2013; Stenseng, 2008; Vallerand et al., 2003). Test-retest correlations over a 3-month period, revealed moderately high stability values (Stenseng, 2008). Furthermore, results using this scale revealed that both harmonious and obsessive passion were positively correlated with each other and with measures of the perceived value of the passion measures of the activity being perceived as a passion, and inclusion of the passion in the person's identity (Smith, 2008; Stenseng, 2008; Vallerand et al., 2003). The review of empirical literature conducted by Vallerand and Verner-Filion (2013) describes that passion facilitates the experience of flow, positive experiences during task engagement, psychological well-being, physical health, and the quality of the relationships in the workplace.

However, the two types of passion are differentially associated with various outcomes. Overall, empirical research has showed that harmonious passion comprises positive outcomes such as enhanced psychological well-being and positive emotions (Philippe, Vallerand, Houliort, Lavigne & Donahue, 2010), flow in the workplace (Lavigne, Forest & Crevier-Braud, 2012), job satisfaction (Carbonneau et al., 2008), and affective commitment toward work (Forest, Mageau, Sarrazin & Morin, 2011). This form of passion can also prevent professional burnout (e.g., emotional exhaustion) and conflict with other life activities (Carbonneau et al., 2008; Vallerand et al., 2010). On the other hand, obsessive passion leads to outcomes such as negative affect over time, rigid persistence, shame, anxiety, and burnout (Carbonneau et al., 2008; Vallerand et al., 2010), as well as workaholism (Aziz et al., 2013) and higher levels of conflict with other life contexts (Marsh et al., 2013).

In line with the aforementioned, passion seems to play a major role in people's well-being and, in the long run, on organizational success and competitive advantage (Carbonneau et al., 2008; Marsh et al., 2013; Snyder & López, 2009). Furthermore, there is no current scale adapted into Portuguese that measures the passion (harmonious and obsessive) construct in the workplace, making it impossible to study in Portuguese-speaking countries and companies. In this sense, the aim of this study is to adapt and validate the Passion Scale into Portuguese.

Method

Participants

The sample consisted of 551 Portuguese workers from companies and entrepreneurial organizations across Portugal. Sampling was nonprobabilistic; the participants were reached through two ways: online questionnaires by email and paper-and-pencil questionnaires to the companies. Participants were required to have a minimum of one year's experience in their professional positions.

As for the sample's socio-demographic characteristics, 59.5% were women. The average age of the sample was 39.45 ($SD = 8.17$), ranging from 19 to 64 years old. 78.7% of the

participants were married and 54.1% held an undergraduate degree. According to Hofstede's (2001) job types, 30.09% were unskilled or semiskilled manual workers, 21.18% were generally trained office workers or secretaries, 20.56% were vocationally trained workers and technicians, 14.39% were academically trained professionals, and 11.78% were managers.

Measures

Participants completed two psychological scales and some socio-demographic variables previously presented in the Participants section. Specifically, they completed the following:

Passion. To measure passion in the workplace, we utilized the Passion Scale (Vallerand et al., 2003). The Passion Scale consists of 14 items, with no inverse items, distributed into two sub-scales: harmonious passion (items 1-7) and obsessive passion (items 8-14). Responses are given on a Likert-type scale from 1 to 7, where 1 signifies "not agree at all" and 7 "very strongly agree". Scores of reliability on the Passion Scale have ranged from .78 to .88 (Marsh et al., 2013). In the process of adaptation, we solicited the authorization of the original questionnaire's author, which was duly granted.

Job satisfaction. Job satisfaction was assessed with the Job Satisfaction Scale (Lima, Vala & Monteiro, 1994). It contains 8 items assessed on a 7-point Likert scale. High scores reveal a high presence of job satisfaction in the employees. The internal consistency (Cronbach's Alpha) in this study was .82.

Procedure

The first step to conducting this study was to back-translate the items of the Passion Scale into Portuguese in accordance with Hamblinton, Merenda and Spielberger's procedure (2006). We first sought the collaboration of three university professors in the field of psychology and motivation who did not participate in the study. They translated the questionnaire from English to Portuguese independently of one another, focusing on the workplace. We subsequently compared the

three translations and debated the differences between them until reaching a consensus about each item, thereby obtaining a single version of each in Portuguese.

The next step was to translate the Portuguese version obtained from the original questionnaire back into English. This process was done by a professional translator whose first language is English and who had nothing to do with the first translation. We later compared the two English versions, the original and the translation of the Portuguese version, analyzing the translation's quality by seeing what items coincided in the two questionnaires, making modifications when necessary (Carretero-Dios & Pérez, 2005; Hambleton et al., 2006).

To analyze the validity of the newly created Portuguese scale, each item was evaluated by expert judges (Balluerka, Gorostiaga, Alonso-Arbiol & Haranburu, 2007). We sought the participation of three experts, two on the construct being assessed and one on constructing scales. In order to effectively carry out the assessment, they were provided with the concept of passion, along with the dimensions that comprise it. They were subsequently given a list of all the items and the judges' task was to classify each into the dimensions to which they thought it belonged. They were asked to give their opinions about whether the number of items was sufficient to measure each dimension. Finally, they were asked to evaluate how clearly the items were written clearly (Balluerka et al., 2007). The resulting expert judgment yielded very favorable results in that all three judges correctly classified all items. They also agreed that the dimensions could be perfectly measured by seven items.

The outcome of the steps described above was the Portuguese version of the Passion Scale, made up of 14 items and including 7 for each component of passion: harmonious passion and obsessive passion. As in the original questionnaire, responses were given on a Likert-type scale from 1 to 7, with 1 corresponding to "not agree at all" and 7 "very strongly agree". Table 1 presents the English version as well as the Portuguese version.

Table 1
English and Portuguese version of the Passion Scale.

English version	Portuguese version
<i>Harmonious passion</i>	<i>Paixão harmoniosa</i>
1. This activity allows me to live a variety of experiences	1. Esta atividade permite-me viver uma variedade de experiências
2. The new things that I discover with this activity allow me to appreciate it even more	2. As coisas novas que eu descubro com esta atividade
3. This activity allows me to live memorable experiences	3. Esta atividade permite-me viver experiências memoráveis
4. This activity reflects the qualities I like about myself	4. Esta atividade reflete as qualidades de que eu gosto em mim
5. This activity is in harmony with the other activities in my life	5. Esta atividade está em harmonia com outras atividades na minha vida
6. For me it is a passion, that I still manage to control	6. Para mim é uma paixão, que ainda consigo controlar
7. I am completely taken with this activity	7. Estou completamente envolvido com esta atividade
<i>Obsessive passion</i>	<i>Paixão obsessiva</i>
8. I cannot live without it	8. Não consigo viver sem ela
9. The urge is so strong. I can't help myself from doing this activity	9. A ânsia é muito forte. Não consigo evitar realizar esta atividade
10. I have difficulty imagining my life without this activity	10. Tenho dificuldade em imaginar a minha vida sem esta atividade
11. I am emotionally dependent on this activity	11. Estou emocionalmente dependente desta atividade
12. I have a tough time controlling my need to do this activity	12. Eu tenho dificuldades em controlar a minha necessidade de realizar esta atividade
13. I have almost an obsessive feeling for this activity	13. Eu tenho um sentimento quase obsessivo por esta atividade
14. My mood depends on me being able to do this activity	14. O meu estado de espírito depende da minha capacidade de realizar esta atividade

Once the Passion Scale was translated into Portuguese, we proceed to data collection. The Passion Scale was administered between February and June 2013. Two answer modalities were offered: written and electronic format (online survey). Both modalities explained the aim and the conditions of the study. All the participants took part voluntarily and gave informed consent. They were asked to think about work in their lives before answering the questionnaire.

Cabrera-Nguyen's (2010) recommendations for scale development and validation was followed. Cabrera-Nguyen (2010) expressed that the first step is to start with exploratory factor analysis to assess the underlying factor structure and refine the item pool. Exploratory factor analysis should be followed by confirmatory factor analysis using a different sample (or samples) to evaluate the exploratory factor analysis-informed, a priori theory about the measure's factor-structure and psychometric properties (Cabrera-Nguyen, 2010; Costello & Osborne, 2005; Henson & Roberts, 2006).

Data analysis

The statistical package SPSS 20.0 was employed to carry out data analyses. The scale's psychometric properties were explored through item analysis, exploratory factor analysis, internal consistency, and criterion-related validity.

Item analysis. Means, standard deviations, and skewness were calculated for each of the items used to assess passion in the workplace, as well as for the sub-scales scores.

Exploratory factor analysis. In order to examine the dimensionality of the questionnaire, exploratory factor analysis was used. According to Osborne and Fitzpatrick (2011), exploratory factor analysis allows us to know whether a solution (or evident factor structure) within a particular data set is likely to be observed within another, similar data set. Stronger replicability gives more confidence that a particular scale will behave as expected in data subsets or a new sample. In this study we utilized internal replication, in which the single data set was split into two samples by random assignment.

For exploratory factor analysis replication, which is to examine whether the factor structure and magnitude of the loadings are generally congruent, it is necessary to examine: (a) whether items are assigned to the same factors in two analyses, and (b) whether the individual item factor loadings are roughly equivalent in magnitude. To check if the factor loadings are roughly equivalent, Osborne and Fitzpatrick (2011) advocate for simply subtracting the two standardized (rotated) factor loadings for congruent item, and squaring the difference. These authors suggest that once the squared differences achieve a magnitude of .04, indicating a difference of |.20|, factor loadings and the item should be considered as volatile.

For the exploratory factor analyses, we decided to carry out the same procedure used in the development of the original scale. A Maximum Likelihood Analysis using an Oblimin rotation was carried out on the two random samples. To

determine the number of factors to retain, we used the analysis of eigenvalues (Cattell & Vogelmann, 1977).

Internal consistency. The internal consistency of the scale was further investigated by Cronbach's Alpha and corrected item-total correlations.

Criterion-related validity. Criterion-Related validity was established by correlating both harmonious and obsessive passion with job satisfaction, using Pearson and Zero-order correlations.

Results

Item analysis

Descriptive statistics are presented in Table 2. The mean score of the items used to assess harmonious passion and obsessive passion in the workplace ranged from 5.03 to 3.99, and from 2.79 to 1.52, respectively. All item standard deviations were higher than 1. None of the items had absolute skewness greater than 1, except item 6 from the harmonious sub-scale "For me it is a passion, that I still manage to control/Para mim é uma paixão, que ainda consigo controlar", with a coefficient of 1.46. Items from harmonious passion were slightly skewed toward the negative, yet items from obsessive passion were slightly toward the positive.

Table 2

Skewness, corrected item-total and mean for the Passion Scale.

Items	Skewness (SE = 0.11)	Corrected item-total	α if item deleted	Mean (SD)
Harmonious ($\alpha = .92$)				
Item 1	-.83	.75	.90	5.03 (1.01)
Item 2	-.62	.81	.89	4.71 (0.87)
Item 3	-.35	.79	.90	4.28 (0.91)
Item 4	-.73	.83	.89	4.67 (0.88)
Item 5	-.46	.68	.91	4.19 (1.32)
Item 6	-.32	.79	.90	3.99 (1.05)
Item 7	-.43	.55	.92	4.25 (0.84)
Obsessive ($\alpha = .93$)				
Item 1	.39	.76	.92	2.75 (0.78)
Item 2	.63	.82	.91	2.38 (1.23)
Item 3	.42	.81	.91	2.78 (0.87)
Item 4	.75	.86	.91	2.28 (1.03)
Item 5	.95	.85	.91	1.96 (1.01)
Item 6	1.46	.80	.92	1.52 (0.81)
Item 7	.36	.57	.93	2.79 (0.97)

Note. SE: Standard Error; α : Cronbach's Alpha Coefficient; SD: Standard Deviation.

Exploratory Factor Analysis

Using Sample 1 ($n = 275$), we performed an exploratory factor analysis on the Passion Scale items with Maximum Likelihood estimation and Oblimin rotation. Prior to the analysis, the Kaiser-Meyer-Olkin measure of sampling adequacy and the Bartlett sphericity test were calculated. The Kaiser-Meyer-Olkin index showed a value of .92, which may be considered acceptable, and the Bartlett test proved to be

statistically significant, $\chi^2(91) = 2915.34, p < .001$. Therefore, the factor analysis was considered appropriate.

The first eigenvalues of the correlation matrix were 7.51, 2.46, 0.82, 0.59, and 0.48, suggesting a two-factor solution. The first factor (obsessive passion) accounted for 53.69% of the variance, and the second factor (harmonious passion) accounted for 15.51%. The Table 3 shows that, as expected, the first seven items were saturated on factor 2 (harmonious passion), and the last seven items were saturated on factor 1 (obsessive passion). All the items showed factor loadings higher than .400, ranging from .525 to .903.

A second exploratory factor analysis was conducted with Sample 2 ($n = 276$). The Kaiser-Meyer-Olkin index and the Bartlett sphericity test were calculated. The Kaiser-Meyer-Olkin index showed a value of .92, and the Bartlett test proved to be statistically significant, $\chi^2(91) = 2971.77, p < .001$. Thus, the factor analysis was considered appropriate.

The first eigenvalues of the correlation matrix were 7.55, 2.39, 0.76, 0.58, and 0.49, suggesting a two-factor solution. The first factor (obsessive passion) accounted for 51.33% of the variance, and the second factor (harmonious passion) accounted for 15.25%. Table 3 shows that the first six items were saturated on factor 2 (harmonious passion), and the last eight items were saturated on factor 1 (obsessive passion). All the items showed factor loadings higher than .400, ranging from .583 to .903.

Replication of this scale fails to meet the initial criterion, structural replication. Specifically, looking at the factor loadings in Table 3, item 7 (PS7) had the highest factor loading on Factor 2 (harmonious passion) in the first analysis and on Factor 1 (obsessive passion) in the second analysis. This item ("I am completely taken with this activity / Estou completamente envolvido com esta atividade") is probably not a good one, and

it would benefit from revision or deletion. With regard to the squared loadings, they ranged from 0.0000 to 0.0121, indicating an adequate factor loading with the exception of item 7 (PS7).

Internal consistency

Internal consistency of the 14-item Passion Scale was evaluated by calculating Cronbach's Alpha for the harmonious and obsessive passion factors. The Alpha value of .92 and .93, respectively, indicated good reliability. All the corrected correlation coefficients between item score and dimension exceed .30 (Nunnally & Bernstein, 1995). Overall, the internal consistency of the scale and its items may be considered adequate.

Criterion-Related validity

Criterion-Related validity was established by correlating passion in the workplace with constructs theoretically linked to passion in the literature. Specifically, passion was related to job satisfaction, as detailed in the Method section. Preliminary analyses were performed to ensure no violation of the assumptions of normality, linearity, and homoscedasticity. There was a strong relationship between harmonious and obsessive passion ($r = .52, p < .001$). Job satisfaction was related to harmonious passion ($r = .50, p < .001$) and to obsessive passion ($r = .32, p < .001$).

Zero-order correlations were used to explore the relationship between harmonious and obsessive passion and job satisfaction. There was a strong positive correlation between harmonious passion and job satisfaction ($.48, p < .001$) when the influence of obsessive passion was controlled. In contrast, there was no significant relationship between obsessive passion and job satisfaction when the influence of harmonious passion was controlled ($.09, n.s.$).

Table 3

Two Factor Passion Scale Replicability Analysis, Maximum Likelihood Extraction, Oblimin Rotation with 25 max iterations.

Items	Sample 1 (<i>n</i> = 275)			Sample 2 (<i>n</i> = 276)			Squared Difference
	Communality	Factor Load		Communality	Factor Load		
	Extract	1	2	Extract	1	2	
PS1	.713	.273	.832	.678	.301	.813	0.0004
PS2	.719	.401	.848	.744	.431	.863	0.0002
PS3	.771	.421	.878	.681	.475	.823	0.0030
PS4	.700	.414	.837	.700	.416	.836	0.0000
PS5	.588	.421	.764	.476	.373	.689	0.0056
PS6	.713	.576	.818	.674	.577	.795	0.0005
PS7	.447	.556	.592	.412	.583	.527	Failed
PS8	.685	.811	.535	.694	.830	.484	0.0003
PS9	.723	.848	.467	.762	.873	.459	0.0006
PS10	.766	.870	.500	.738	.856	.489	0.0002
PS11	.815	.903	.425	.797	.892	.406	0.0001
PS12	.774	.879	.392	.819	.903	.402	0.0006
PS13	.678	.816	.296	.741	.858	.374	0.0018
PS14	.277	.525	.235	.404	.635	.341	0.0121
<i>Eigen value</i>		7.516	2.461		7.186	2.390	
<i>Minimum</i>	.277			.404			
<i>Maximum</i>	.815			.819			

Discussion

The purpose of this study was to examine the psychometric properties (validity and reliability) of the Portuguese version of the Passion Scale. This scale showed adequate psychometric properties; factor analyses and Cronbach's coefficient supported the internal validity and the reliability of the instrument. However, structural replication criterion could not be confirmed in this study.

The Alpha coefficients of both harmonious and obsessive passions were above .70, and all the corrected correlation coefficients between item score and dimensions exceed .30 (Nunnally & Bersntein, 1995). Furthermore, as revealed by the item analysis, the scale and each single item followed a normal distribution, with the exception of one item from the obsessive factor. The 14-item Portuguese version of the Passion Scale showed similar psychometric coefficients coherent with the studies conducted by Stenseng (2008) and Vallerand et al. (2010).

Our results revealed that the bidimensionality of the scale was also observed in the Portuguese context, but our results did not support structural replicability. The item "I am completely taken with this activity / Estou completamente envolvido com esta atividade") had the strongest loading on harmonious passion in the first analysis and on obsessive passion in the second analysis. If any items fail this criterion, there is therefore little reason to expect factor structure to replicate in any basic way in future samples. This item might need revision or deletion. Also, this result is consistent with the ones obtained by Vallerand et al. (2003). In the exploratory factor analysis performed by these authors, item 7 showed the lowest factor loading in harmonious passion of all the items, suggesting that this item could be problematic in nature. Is it possible that the item's content is too ambiguous, the translation is not precise or the content related to this item could be applied to both harmonious and obsessive passions. Further studies should be conducted to validate the content of the Portuguese version of the items.

However, our results are consistent with the scale's factor structure found in several past studies (Marsh et al., 2013; Stenseng, 2008; Vallerand et al., 2003, 2010), supporting this dualistic model of passion. Harmonious passion and obsessive passion can be differentiated in terms of how passion for any kind of activities, including work, has been internalized into one's identity. Harmonious passion refers to a strong desire to freely engage in the work and results from an autonomous internalization of the passion into the person's identity (Marsh et al., 2013). Harmonious passion is related to intrinsic motivation and engagement in the workplace. While this phenomenon leads to passion becoming part of the person's identity, individuals with an obsessive passion come to develop ego-invested self-structures toward the source of their passion. Obsessive passion overwhelms other aspects of the person's life, such as workaholism. Obsessive passion for work and

workaholism include obsessive-compulsive tendencies, associated to excessive working and an incapacity to acquire satisfaction from others areas of life (e.g., health, leisure activities, relationships) (Aziz et al., 2013).

The criterion-related validity was supported by the relationship between passion in the workplace and job satisfaction. Both harmonious and obsessive passion correlated with each other and with job satisfaction, but the relationship between obsessive passion and job satisfaction disappeared when harmonious passion was controlled. These results are in line with the ones observed by Vallerand and colleagues (Vallerand et al., 2003, 2010). Also, harmonious passion has been associated with job satisfaction (Carbonneau et al., 2008; Vallerand et al., 2010). Carbonneau et al. (2008) observed that harmonious passion predicted enhanced job satisfaction and this, in turn, decreased conflict and prevented burnout symptoms over time. These findings provide encouraging evidence for the role of passion in predicting workers' psychological well-being.

Results using the Passion Scale revealed that both harmonious and obsessive passions were positively correlated with each other and with measures of the perceived value of passion (Marsh et al., 2013; Smith, 2008; Stenseng, 2008). However, the two types of passion are differently associated with various outcomes. Harmonious passion is positively related with positive emotions and flow during activity engagement. Employees who experience positive emotions and work engagement tend to express higher levels of job satisfaction (Schaufeli & Bakker, 2004; Simpson, 2009). On the other hand, obsessive passion is positively related with the experience of conflict between one's passion and with obsessive-compulsive behavior, such as work addiction (Aziz et al., 2013; Vallerand et al., 2010).

The Portuguese version of the Passion scale is the first instrument that assesses the passion levels in the workplace. Nevertheless, it is important to warn of the study's limitations. The exploratory factors analyses carried out allow us to explore the structure of the Portuguese version of the Passion Scale, so we cannot confirm the structure. However, exploratory factor analysis can be used as a replication test for exploring the nature of the scale and the items inter-relationships. Another limitation is the size of the sample. Sample size benefits the robustness of an exploratory factor analysis (Osborne & Fitzpatrick, 2011), so future research should focus on obtaining more data from more specific and diverse professional groups and organizations (e.g., public versus private).

Moreover, the results of the present study have implications for future research. Confirmatory factor analyses should be implemented in order to validate the underlying structure resulting from the replication study, specifically items' loadings in harmonious passion and obsessive passion. We also think it is necessary to conduct additional studies analyzing the relationships between passion and other workplace variables (i.e., workaholism, engagement). Finally, in future studies,

temporal stability should be explored in Portuguese samples.

In summary, the Portuguese version of the Passion Scale seems to be an accurate instrument for assessing passion for work levels in organizational contexts, analyzing it in relation to other variables in companies. It is an easy-to-apply tool requiring minimal time to complete, and it could be useful in designing models and strategies for increasing employees' passion for work levels.

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